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College of Engineering and Technology
Department of Architectural Engineering and Environmental Design

AN INVESTIGATION TO THE FULFILLMENT OF HUMAN NEEDS IN CAIRO's GATED COMMUNITIES

By

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DECLARATION

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الملخص

لقد شهد النسيج العمراني للقاهرة و امتدادها تغيرا ملحوظا في العقدين الماضيين و ذلك نتيجة اتجاه الشريحة الفوق متوسطة من سكان القاهرة الى البحث عن تحسين مستوى معيشتهم في سكن المجتمعات العمرانية المغلقة التي انتشرت في اطراف القاهرة. لذلك اصبح من الضروري دراسة الإحتياجات الإنسانية ومدى تحقيقها داخل تلك المجتمعات المغلقة من أجل خلق بيئة متجاوبة مع إحتياجات السكان المعيشية.

من أجل ذلك، سيستعرض الجزء النظري من البحث كلا من التصنيفات المختلفة للمجتمعات العمرانية المغلقة و تاريخها وبداية ظهورها في مصر، كما يستعرض ايضا النظريات المختلفة المتعلقة بالإحتياجات الإنسانية. بناءا على ذلك، سيتم دراسة المجتمعات السكنية عمليا في ضوء النظريات السابقة من حيث مدى اشباعها للاحتياجات الانسانية. سيتم ذلك عن طريق دراسة نموذج محلي باستخدام منهجية التحليل النوعي مع استبيان رأي شارك فيه ٤٣ شخص من السكان المحليين للمجتمع. و أخيرا، تهدف كلا من النتائج النظرية والعملية الى مساعدة متخذي القرارات التصميمية و التنفيذية في خلق بيئة متجاوبة مع الاحتياجات الانسانية و تحسين مستوى البيئة المعيشية للسكان على المستوى العام لتلك المجتمعات المغلقة.

الكلمات الدالة: الاحتياجات الانسانية– المجتمعات المغلقة– المجمعات السكنية– القاهرة ، مصر.

ABSTRACT

In the last two decades, Cairene upper middle class residents have sought different living patterns to improve their quality of life. Since then, Cairo's outskirts witnessed a major expansion in residential gated communities, in a way that has significantly influenced its general urban fabric. Therefore, it is necessary to examine the satisfaction of human needs within these gated communities, towards the accomplishment of more responsive living environments.

To do that, the theoretical framework of this research first studies the backgrounds, classifications and evolution of these gated compounds in Egypt. The research then investigates the different theories of human needs. Residential gated compounds are consequently examined in terms of satisfying human needs, with reference to previously investigated theories.

Hence, the theoretical findings are examined empirically in the context of a selected local case study to learn about the satisfaction of the human needs in the studied gated community. Towards this objective, the study employs in-depth qualitative analyses, together with a brief survey that involved 43 local residents, to investigate their perception to the satisfaction of human needs in their compound.

At last, both theoretical and empirical findings are synthesized towards helping decision makers and designers in promoting better living environments, and enhancing the overall quality of life.

Keywords: Human needs- gated communities - residential compounds- Cairo, Egypt,

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CHAPTER ONE

INTRODUCTION

1.1: Inception

The gated communities in Cairo's peripheries are being widely spread where a large portion of the well-to-do Cairene residents are moving to these communities. According to Abaza (2006), these walled or gated communities; e.g.: qattamiya heights and Beverly Hills' cater towards the notion of leading a healthy, luxurious and unpolluted life through campaigning for a 'dream ' villa' incorporated in a larger condominium unit including a swimming pool, a fitness center and a golf course. Hence, a great number of investments are being allocated towards this particular scheme of living making its urban influences widely in question. Therefore, the current research examines the contemporary gated communities in Cairo's outskirts from the scope of the human needs theories.

It is important to assert that the need to relate between theory and practice has been an ongoing issue in urban design. Theories in urban design are many especially those tackling the gated communities whether conceptually on the scale of space and place as: Henri Lefebvre conception of space, and those classifying the different types of gated communities towards a better understanding of its features. On the other hand, the number of gated communities has been increasing in Cairo's peripheries as previously mentioned. Hence, one way of relating between theory and practice is through integrating the human needs theories and its interpretation in the physical environment of the gated communities. This promotes for creating responsive living environments for the users and helping decision makers and designers to enhance the quality of life of these gated communities.

Meanwhile, this research is a continuity of previous researches in the scope of exploring and enhancing the quality of life in the gated communities. Previous researchers have been investigating the lower and middle class residences being a reflection of the social and cultural improvement of any city, rather than those of the upper middle class strata (Tawfik, 2000). However, the researches which tackled the upper middle class were trying to trace their characteristics from early times till contemporary times referring only to the fulfillment of the basic needs.

Therefore, the current research tackles the gated communities of the upper middle class strata. Their built environment is expected to consist of a complexity of urban design elements following "local planning of buildings and design codes" with focus on physical measurements

rather than socio-cultural aspects which are projected towards enhancing the quality of life from the designers 'point of view' (Wheeler, 2004; Eisenberg & Yost, 2004: 193-198). Hence, their physical built environment needs to be examined versus a solid base of human needs theories as an approach to understand the contemporary needs of the Cairene upper middle class residents and its fulfillment towards the sustainability of the built environment of these gated communities.

1.2: Problem Definition

Recent changes in Cairo's urban fabric have taken place as a result of several factors. The Cairo's outskirts are undergoing physical, cultural and social changes with the evolution of the gated communities. The characteristics and the marketing strategies of the gated communities provide attractive new living conditions, where users choose to move seeking a better quality of life in those new communities. Some of these gated communities showed to be more preferable than others. This strongly calls for an investigation why some gated communities are being favored and successful than others and whether the present settings of gated communities are a good urban solution to Cairene residents, particularly with their large dedicated investments.

1.3: Research Aim

Based on the above problem, and as a step towards understanding the urban phenomenon of gated communities, the present research is intended to examine the fulfillment of **human needs** within the **gated communities** as an existing and growing phenomenon that influences Cairo's urban structure.

1.4: Significance of the Study

This study examines the gated communities as a growing urban phenomenon in relation to satisfying the human needs in gated communities. This is expected to enhance the sense of belonging of the citizen to his/her community contributing towards healthier social relationships. Meanwhile, this aims at creating opportunities for the individuals to be "the best they can" where they take part in their community development more effectively and in developing the country on a wider scale.

On the other side, the study is intended to enhance the quality of experience within the gated communities with an attempt to promote sustainable patterns of development with reference to

Cairo's urban/sub-urban structures. This draws attention to the importance of enhancing the sense of safety and security as a basic need that would reflect positively upon the social and economic domains. This caters for extending designers and investors' awareness of designing built environments that better responds to genuine human needs. Hence, this helps on creating a link between the theory of human needs and the practice of designing gated communities. Also, the study is expected to reflect upon capitalizing the economic revenues of real-estate investment, as embodied by the large number of gated communities surrounding Cairo. This is done towards creating sustainable patterns of development for the welfare of the human being.

1.5: Objectives

In order to respond to the aforementioned research problem, the following objectives are formulated.

- **Review and analyze** the different approaches and theories of human needs.
- **Provide** a deep insight into the gated communities' phenomenon through understanding and analyzing its classifications**.**
- **Learn about** the means for gated communities to respond to human needs.
- **Examine** the theoretical findings empirically upon a selected Cairene case study.
- **Conclude** to possible means for making Cairene gated communities more responsive to genuine residents' needs.

1.6: Methodology

The research examines **the fulfillment of the human needs in Cairene gated communities** via an **analytical- case study approach**. Hence, the research will be divided onto **two parts: theoretical and empirical study**. The research will start with the **theoretical part** which encompasses the review and analysis of the human needs theories. Then, it is followed by a **discussion of the different approaches of classifying the gates communities** analyzing the characteristics of each with reference to some relevant examples in Cairo's gated communities.

The synthesis of the theoretical part will conclude to a **framework** for responding to **human needs** in the **gated communities**. This framework will be employed in an **empirical**

examination to **one chosen Cairene gated community**, following **case study approach**. This empirical part examines the **fulfillment of human needs** in the studied compound using **qualitative analyses** together with a **brief survey** that involved 43 residents to investigate their perception to the fulfillment of human needs in the compound they reside.

In conclusion, **findings** are to discussed based upon the previous discussions and analysis aiming at providing an insight onto the satisfaction of the human needs in the gated communities' realm. This is synthesized towards helping decision makers and designers provide **a better living environment** for the local residents of the gated communities promoting **responsive sustainable living environments** towards **enhancing community development and the overall quality of life.**

1.7: Limitations of the Study

The current study concerned with the examination of the satisfaction of human needs in gated communities is applicable within some limitations. First, the study empirically employed a mixed research strategy approach to validate the findings of the theoretical part. It primarily depended on qualitative interpretive analysis supported by basic quantitative investigation of the residents' perception in order to validate the findings. It is likely that using other methods may yield to different results. Meanwhile, the applicability of the findings is mainly associated with the studied sample / case, with a potential to draw to larger populations within recommended methodological limitations. At the end, it is important to note that accessibility, finance and time have collectively set limits to the scale of the research, where accessibility here denotes the difficulty to obtain information in highly secured gated communities.

1.8: Research Structure

The main concern of the research is examining the fulfillment of human needs in the gated communities with reference to Cairo, Egypt. Thus, for the benefit of the research, it is divided into **two parts**: **Part one** is the **theoretical study of the research** consisting of **four main chapters** and **part two consists of two chapters** concerned with the **empirical examination of the case study**. This is followed by the final chapter, **chapter seven** presenting the **conclusion and findings** of the research.

Part one of the research is divided into **three chapters**. **Chapter One** is the "**Introduction".** This chapter presents the inception of the research, problem definition, and significance of the study, objectives, and the methodology of the research. **Chapter Two** entitled "**Theories of Human needs"** where different theories of human needs are theoretically reviewed each with its own commentary so as to conclude to the theory that will be applied in the subsequent parts of the study. As for **Chapter Three**, entitled "**Classifications and characteristics"**, it is divided into **two main parts**; the **first part** presents a **background of the evolution of gated communities in Cairo, Egypt**, while the **second part** reviews the different **classifications of the gated communities** in literature with reference to recent examples in Cairo, Egypt as well. The synthesis of both chapters two and three will lead to **chapter four** entitled **"The fulfillment of human needs in gated communities**", concerned with **applying the human needs model onto** the social and physical built environment of the **gated communities.**

On the other hand, **part two** consists of **two chapters**. **Chapter five** entitled **"Empirical research design",** presenting the methodology of the research design in terms of selection criteria of the case study, sampling method, survey design and the method of analyses of the results. As for **Chapter Six** entitled **" Case study: analyses and discussion"** presents the **empirical examination** and analyses of the **selected case study in Cairo's peripheries** based upon the theoretical framework presented in chapter four and the results of the research design tools discussed in the previous chapter. In conclusion, **chapter seven entitled "Conclusion and findings"** presents findings towards enhancing the quality of the built environment of this type and relevant types to this gated community in Egypt as a step towards promoting community development.

CHAPTER ONE: INTRODUCTION

PART ONE

THEORETICA FRAEMWORK

CHAPTER TWO: THEORIES OF HUMAN NEEDS

CHAPTER THREE: AN INTRODUCTION TO GATED COMMUNITIES

CHAPTER FOUR: THE FULFILLMENT OF HUMAN NEEDS IN THE GATED COMMUNITIES

PART TWO

EMPIRICAL STUDY

CHAPTER FIVE: EMPIRICAL RESEARCH DESIGN

CHAPTER SIX: CASE STUDY: ANALYSES AND DISCUSSION

CHAPTER SEVEN: CONCLUSION and FINDINGS
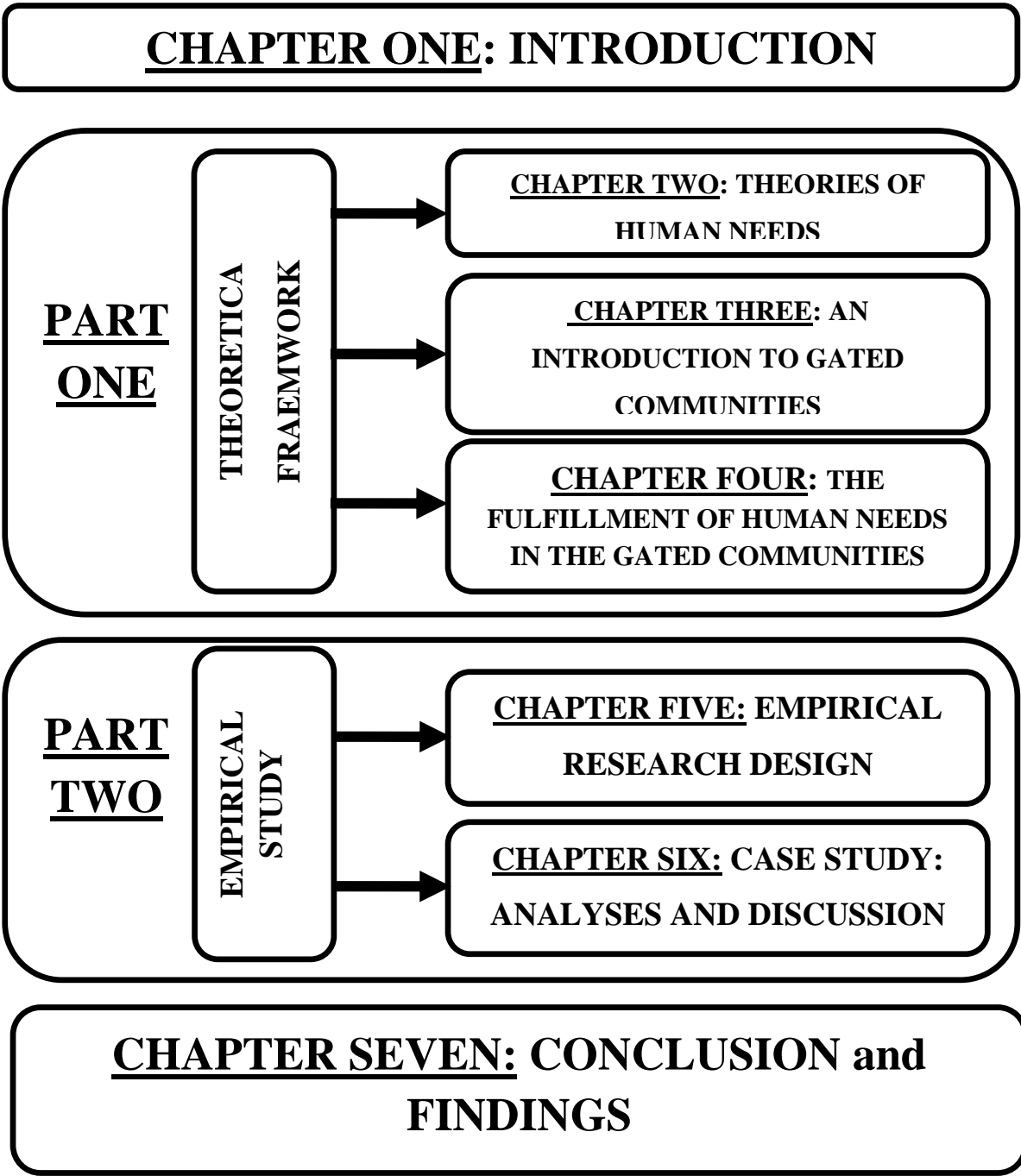
Figure (1.1): Research Structure

PART ONE

THEORETICAL FRAMEWORK

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CHAPTER TWO

THEORIES OF HUMAN NEEDS

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2.1: Introduction

The humanistic approach in psychology has been devoted to understand the individual within his/her environment. Several theorists have developed models to understand human needs and their reflection onto behaviors. Since the main aim of the research is to study the Cairene gated communities in relation to the fulfilled human needs, it is indispensable to review a spectrum of the major human need models. This is done to set an appropriate foundation for the pursuit of the study.

Therefore, the study first presents a background to the approaches to human needs theories. Then, a review of some of models of the human needs will be clarified accordingly along with a discussion for each. The theories to be presented are; Henry Murray's theory of human motivation, McClelland achievement motivation theory, Malinowski's model of human needs, Abraham Maslow's hierarchy of human needs, ERG theory and Leighton's scale of essential striving elements.

2.2: Approaches to Human Needs Theories

Several studies in psychology have been devoted to develop theories and models understanding the individual within the environment he lives in. The humanistic approach is based on the assumption that the behavior of the individual must be understood in terms of his subjective experience where he is the only one whom can explain the meaning of a particular behavior (Glassman & Hadad, 2004). Thus several theorists created models of human needs focusing on understanding the human behavior in the scope of his/her environment."All models attempt to explain "internal forces" –physiological and psychological, conscious and unconscious- and types of needs from the most basic to the loftiest." (Lang, 1987, p.85). Meanwhile, understanding the human needs and the resulting behavior is crucial to the success of the design, where Rappoport (2005) considers the design to be 'user oriented' as it should be based upon an understanding the human behavior. The following section will discuss some of the human need models that attempt to present several approaches to human needs.

2.3: Henry Murray's theory of human motivation

Henry Murray is said to be one of the early theorists of the basic human needs, being a student of the prominent psychologist Carl Jung (Champoux, 2011). According to Murray (1938) behavior is driven by an internal state of disequilibrium, by a 'lack of something, or in other words a 'deficit'. Hence, the theory is considered a process theory of motivation which focuses on understanding the process of behavior itself towards a goal. Murray made some assumptions about human beings and their behaviors, where the theory views people as being adaptive when facing a dynamic and changing environment (Champoux, 2011). He asserts that needs internally and externally direct human behavior.

The need is considered the driving force behind motivation. According to Murray, a need is a "potentiality or readiness to respond in a certain way under certain given circumstances, also it is a noun which stands for the fact that a certain trend is apt to recruit as it also organizes action by compelling a person to do what is necessary to fulfill the needs" (as cited in Larsen and Buss, 2002, p. 230). Thus, the needs were classified into two basic types; primary (physical) needs concerned with the satisfaction of the basic physical processes of human body; e.g.: food, water, air and avoidance of pain and psychological needs focus on emotional and mental satisfaction; e.g.: social interaction, achievement, recognition, reaching difficult goals (Murray, 1938; Champoux 2001). The psychological needs were further classified into eight different types of needs;

- Needs associated with inanimate objects (acquisition, conservance, construction, order, retention)
- Needs associated with ambition and desire for accomplishment (superiority, achievement, exhibition, recognition)
- Needs associated with defending status and avoiding humiliation (inviolacy, avoidance, defendance, counteraction)
- Needs associated with exerting or yielding power (autonomy, contrarience, dominance, deference, similance)
- Needs associated with the sado-masochistic dictomy (aggression, ababsement)
- Needs associated with inhibition (biam, avoidance)

- Needs reflecting affection for people (affiliation, rejection, nurturance, succorance, play)
- Need to ask and tell (cognizance, exposition)   (Fleet, 2008)

It is important to note that these needs are directed through motivational factors. Each of these needs is associated with: a specific desire or intention, a particular set of emotions, specific action tendencies where each person is expected to have a unique set of hierarchy of needs (Larsen & Buss, 2002, pp. 231-232).

In conclusion, the previous theory presents one of the basic theories of human needs. **The former theory was being was criticized by several critics for being too broad and subjective** (Fleet, 2008; Triplet, 1992). Yet, the theory was a base for subsequent theories; e.g.: the achievement motivation theory presented in the next section.

2.4: Achievement Motivation Theory

David McClelland and his associates built up their theory on the works of Henry Murray. They suggested three types of needs namely; need for achievement, need for power and need for affiliation/intimacy. The theory considers human motivation "a recurrent concern for a goal state or condition as measured in fantasy which drives, directs and selects the behavior of the individual" (as cited in Boyatzie, 2000, p.2). This is why this theory is named achievement motivation theory.

2.4.1: Need for Achievement (n Ach)

McClelland and his associates have set a definition for the term 'achievement' in order to facilitate setting the characteristics of the high 'n Ach' people. Achievement was defined as " the desire to do better, to be successful, feel competent, energized by the incentives of challenges and variety, accompanied by feelings of interest surprise and a subjective state of being curious and exploratory" (as cited in Larsen and Buss, 2002, p.p.236-237). From the previous definition, some characteristics to identify or evaluate people high in 'n Ach' were deduced for example:

- Finding means to overcome obstacles
- Wanting to succeed and taking risks with preference to non routine/challenging tasks
- Setting moderate goals for themselves

- Seeking tasks with clear feedback for their performance

(Boyatzis, 2000; Larsen & Buss, 2002).

These characteristics were tested by McClelland during his researches and were applied in several organizations to evaluate workers and motivate them in their working environment. Yet the researchers criticized the researches done on n Ach stating that it could be tied up to the primary motives of Murray's theory through conceptual approaches (Dyal, 1962).

2.4.2: Need for Power (n Pow)

The need for power is defined as "readiness or preference to have an impact on other people, it is assumed to energize and direct behavior when the person is in opportune situations for exerting power" (as cited in Larsen and Buss, 2000, p. 240). Based on that, Winter and McClelland have both set the following characteristics for the high 'n Pow' people;

- Argumentative, being elected in high positions
- Takes high risks and likes to control and influence others
- Behaves assertively and actively in a small group setting
- Acquires 'prestige possessions'
- Prefers positions where they can have impact on others.
- Accompanies non popular friends so as not to pose a threat to himself

(Boyatzis, 2000; Larsen & Buss, 2002; Champoux, 2011).

These characteristics were used to examine and motivate people in working environments as well. The last need to be presented by McAdams, an associate of McClelland is the need for affiliation/ intimacy.

2.4.3: Need for Affiliation/ Intimacy (n Aff/n Int)

It is defined as "recurrent preference or readiness for warm, close, and communicative interaction with others. People high in 'n Int' want more intimacy and meaningful human contact in their everyday lives than do those who are low in 'n Int' " (as cited in Larsen and Buss, 2002). Based on that, McAdams and McClelland have set some characteristics for the high individuals in 'n Aff/ n Int' " as follows:

- Establish, maintain and restore positive affective relations with others
- Seek the approval of others and prefer the company of others; friends and families

- Prefer to have a few close friends than to be a member in a crowded group
- Prefer collaborative activities

(Boyatzis, 2000; Larsen & Buss, 2002; Champoux, 2011).

In conclusion, McClelland and associates' work is said to be a progression of Henry Murray's theory. They were tested and verified through researches and observation as well as applied on working environments in particular. **Critics states that McClelland and associates' needs theory relates to entrepreneurship and that dismissing the 'culture' as an important factor in defining achievement is indispensable** (Kapp, 2003; Redmond & Churchich, 2014). Thus, its application onto the field of humanistic psychology was further developed specifically onto motivating business workers in their working environments. However, other theorists have developed models for human needs that incorporate culture as an important factor such as Malinowski's model discussed here under.

2.5: Malinowski's Model of Human Needs

Malinowski's theory of the seven basic needs is another approach for understanding the human needs in the society. It integrates culture and institutions as key ingredients in order to satisfy the human needs within societies. Malinowski believes that culture, needs, institutions and basic activities are all interrelated in the society where the basic needs associated with the cultural forms like (legal, economic, political and educational) require human to form primary institutions (material, perceptual, organizational) to carry out the basic activities (food getting, forming kinship groups, satisfying body comforts, survival defenses, release of motor tensions, training for institutional roles, maintenance of health) (Applebaum, 1987). Hence, the society is viewed as a set of interrelated units that function to fulfill seven basic needs of his theory which were said to be unified for all cultures

Based on the previous discussion, Malinowski assumed that all people have the same needs; thus they fulfill them using the same principles of act. This was the assumption which made this model a 'convenient approach' to understand needs in different cultures. He suggested that the seven basic needs are controlled and organized by the cultural forms of each society:

- **Metabolism**-met through food and drink
- **Reproduction**- controlled by cultural systems of marriage and kinship
- **Bodily comforts**- controlled by housing and clothing

- **Safety-** met through protection techniques e.g.: armies, magic.
- **Movement-** met through recreation and activities controlled by cultural forms
- **Growth-** met through training
- **Health-** met through hygiene and controlled by knowledge, belief about the human body, causes of disease and curing systems (Grunlan & Marvin, 1979).

Malinowki's model was controversial around whether the elements of culture do not survive unless they serve a need or it could last for centuries after they had ceased any function "cultural lag" (Firth, 1975). Hence, **the theory was criticized for being fragile and difficult to apply to understand cultures.**

2.6: Abraham Maslow's Hierarchy of Human needs

In continuity of the researches in understanding human behavior through human needs models, Maslow has set his model of human needs as continuity for Murray's work. Maslow proposed that the wants of man develop in a **sequential order**; from 'lower wants' to 'higher want' in a **hierarchal form** (Maslow, 1943). He also asserts on being the needs put in hierarchy from the most important to human survival (physiological needs) to the most flourishing state of human cognitive state of mind (psychological needs) which corresponds to all the stages of the human development .

The following figure (2.1) –left, demonstrates the hierarchy of needs starting with the needs for survival; physiological needs (food, water, etc…) followed by security needs (shelter, etc…). These needs are followed by the psychological set of needs starting with belongingness needs followed by esteem needs and self actualization needs at the top of the hierarchy. However, this hierarchy was modified in the 1970's by Maslow to include further psychological set of needs as seen in figure (2.1) - right, where the psychological needs start with the belonging needs, followed by esteem needs, cognitive needs, aesthetic needs, self- actualization needs and transcendence needs at the top of the hierarchy.

Each of these needs will be demonstrated below with a brief description of each.

Maslow's hierarchy of human needs	Maslow's hierarchy of human needs
Self actualization needs	Transedence needs
Esteem Needs	Self actualization needs
Belongingness needs	Aesthetic needs
Security needs (shelter, etc..)	Cognitive needs
Physiological needs (food, water, etc..)	Esteem Needs
	Belongingness needs
	Security needs (shelter, etc..)
	Physiological needs (food, water, etc..)

Figure (2.1): Redrawn model of Maslow's hierarchy of basic human needs - Source: **(Maslow, 1943; Maslow, 1970a)**.

2.6.1: Physiological Needs

Physiological needs resemble the most basic needs to all human beings like the need for food, air, sleep, etc…. These needs are linked to survival, where a person who is lacking food, for example… would possibly hunger for food than anything else, hence when these needs are satisfied, they act as active determinants of behavior (Dyal, 1962; Krech & Ballachey, 1962). So, in order to proceed to a higher set of needs, these basic needs should be met. These physiological needs are characterized for being relatively independent of each other, and are usually identified with a specific location in the body. Maslow (1943) described it as 'a constant, normal state of the blood stream maintaining right content of water, salt, sugar, protein, fat, calcium and oxygen in the blood, acid base balance as well as realizing constant temperature of the blood.

The importance of satisfying these basic needs primarily lies in its significance for survival, where Maslow has put it as follows "It is quite true that man lives by bread alone- when there is no bread" (cited in Glassman and Moorhead, 2004). When the set physiological needs are

satisfied, another set of needs emerge which is so-called the quasi-psychological set of needs or the security needs.

2.6.2: Security Needs

Security needs are depicted as a quasi-psychological need for that they follow the satisfaction of the psychological needs. Security is considered to be the need for protection against threat and danger in terms of:

a) Physical/ personal safety, e.g.: freedom from danger, adequate housing and clothing

b) Psychological/emotional safety: freedom from worry, anxiety and stability (Glassman & Hadad, 2004; Griffin & Moorhead, 2008).

The satisfaction of this need does not only rely on the human being himself as a single entity, but also extends to the role of the society in general. Maslow states that the normal fortunate adult is largely satisfied on his security needs where a 'good' society ordinary keeps its members safe from wild animals, temperature extremes, criminals, murder, etc… (Dyal, 1962). Hence, it is important to note that the satisfaction of this need requires dual entity for its satisfaction. Meanwhile, the satisfaction of the physiological and the security needs leads to satisfy the psychological set of needs.

2.6.3: Belongingness Needs

Belongingness needs or the social needs are considered to be the potent need for the individual who satisfies his/her physiological and security needs. "Humans are by nature social species, where a great portion possesses strong needs to belong to groups (families, sororities/ fraternities, churches, clubs, teams, etc...)" (Larsen & Buss, 2002). This set of needs requires the human to interact and socialize with the surrounding in order to satisfy this set of needs. The satisfaction of the belongingness needs leads to the need to satisfy the esteem needs.

2.6.4: Esteem Needs

In fact, the esteem needs are based upon belongingness needs to a great extent. According to Maslow (1943) and Lana & Ronsow (1956), the individual tries to attain admiration of other's and oneself based on the society's values, once satisfying the safety and belongingness needs. They assert on the existence of two subsidiary sets of esteem:

a) Being able to master the surrounding difficulties to attain achievement and confidence to face the world.

b) "The desire for prestige" and recognition of achievement by other people

Thus, esteem as a psychological need is based upon people's recognition of the individual's achievement and his ability to prove that, he can master the difficulties. In other words, much of the activity of adult daily life is geared toward achieving recognition and esteem from others and bolstering self confidence (Larsen & Buss, 2002). The resulting self confidence and recognition of oneself can act as a step towards self actualization which is in the peak of the Maslow's hierarchy of human needs.

2.6.5: Cognitive Needs

Cognitive needs refer to the need to know, understand and explore as stated by Maslow (1971). He also described the cognitive needs in terms of a process as: "Even after we 'know', we are impelled to know more and more. This process has been phrased by some as the search of meaning, "we shall then postulate a desire to understand, to systemize, to organize, to analyze, to look for relations and meaning and to construct a system of values" (Maslow, 1970a, p. 50). Hence, the cognitive needs become a subjective experience that evolves from the human himself/ herself where it includes the desire to be in continuous search for knowledge. This set of needs could be satisfied through educational products or experiences and experiential patterns of activities or services based upon mutual interaction between human and a setting or an organization (Lantos, 2011).

2.6.6: Aesthetic Needs

Maslow (1970b) has asserted on the human need of a beautiful 'imagery and aesthetically pleasing environment to continue to self actualization. 'Beautiful' imagery is a subjective term that is assessed differently among people. Also, Maslow (1970) addressed the aesthetic needs in terms of desire for symmetry, order and beauty. These needs could be satisfied in various ways in the built environment some of which are found in the artistic areas in music, art, poetry and items designed to make people and their homes more attractive (furniture, furnishings, etc…) (Lantos, 2011). Hence, the aesthetic needs require the human to desire to be in continuous search for beautiful imagery and activities in the built environment.

2.6.7: Self-actualization Needs

Self actualization is the higher set of the human potent needs. According to Maslow (1971), it is said to be a complex process that includes several layers of self recognition of one's abilities and achievements where the human owns the desire to become everything he is capable of becoming. Maslow has set fifteen characteristics of self- actualized people as follows;

- More efficient perception of reality
- Acceptance (of self, others and world)
- Spontaneity and naturalness
- Problem centered rather than ego-centered
- Need for privacy and being detached from situations
- Independence from both cultural and environmental influences
- Freshness of appreciation of all experience
- Having mystical or peak experiences
- Feeling of kinship to others, ability to give more than receive
- Deep relationships with others
- Democratic attitudes
- Distinguishing between mean and ends, good and evil
- Philosophical , not hostile, sense of humor
- Self actualizing forms of creativity
- Forming attitudes and values independently of culture

   (Maslow, 1943; Lana & Rosnow, 1956; Larsen & Buss, 2002; Glassman & Hadad, 2004)

Attaining one or some of the previous characteristics sets the individual in the self actualization process. The individual should work on oneself to attain what he/she sees is capable of achieving according to his own abilities.

2.6.8: Transcendence Needs

Maslow proposed the transcendence needs above the self actualization needs. This took place when the hierarchy was criticized for not being applied for people whom sacrifice their lives for the welfare of others (Redmond & Churchich, 2014). Transcendence needs include helping others towards achieving self actualization and realizing one's potential as stated by Maslow

(1971). This accentuates the fact that the self actualization process is a complex process which might extend to higher levels according to every one's potentials.

In conclusion, Maslow's model of human needs has set a clear hierarchy of criteria to identify the human needs. Moreover, being in a hierarchal form facilitates its application in the context of human needs within their environments. As stated by Lang (1987, p. 85): "The built environment provides for human physiological needs, such as shelter, for safety needs, physical and psychological security; for belonging and esteem needs, through environmental symbolism as well as specific sets of activities; for actualization needs, through the freedom of choice; for cognitive needs, through the access to opportunities for development; and for aesthetic needs, through formal beauty."

However, as culture is one of important factors stated by Maslow (1971), yet several experiences through history show that cultures fails to actualize the needs (McLeod, 2007; Redmond & Churchich, 2014). This was further supported by researchers work by examining cultures where some needs exist without satisfying the pre-potent ones which stregthens the fact that universal needs do exists regardless of the cultural differences (McLeod, 2007) .

Meanwhile, many critics consider Maslow's model intuitive in nature,focusing on the individual's own constructs and experiences, which facilitated its application by practitioners (Redmond & Churchich, 2014). Thus, the applicability to generalize the theory onto several cultures made this model applicable to understand the human needs in their environments.

2.6.8: Developments to Maslow's model of Human Needs

Before Maslow presented his theory in 1943, several researchers focused on factors as achievement and power, yet Maslow presented his theory of ascending needs based on deficiency and growth needs which set the base for successor theorists to examine and criticize the model whether by clarifying, elaborating upon or presenting strengths and deficiencies of the model. Hence, it is indispensible that Maslow's work was an important contribution to the field of behavioral sciences and psychology. Meanwhile, being intuitive in nature and in a hierarchal order as asserted by Lang facilitated its application in relation to environmental concerns. Yet, it is needed to note that Maslow (1943) has stated some characteristics to clarify the set of needs. For example, he asserts that lower needs might become dominant again after moving to higher needs due to their deprivation as well as the ability of the human to work on

satisfying multiple needs at the same time corresponding to growth periods. These characteristics has facilitated and clarified the ease of movement within the hierarchal form of needs facilitating its application in the built environment as well.

Yet, the model was recently criticized for focusing on social inclusion rather than social interaction where the relations with other people, society and culture are said to be 'autonomy' preferring 'solitude', 'privacy' and 'detachment' from the surrounding environment (Heylighen, 1992; Jeanotte, 2008). Although it could be considered that Maslow could have presented an approach to social interaction when modifying the model by adding the self transcendence needs, yet it was not appropriately clarified in the psychological needs. However, social interaction is one of the fundamental human factors to be clarified in the application of Maslow's model of human needs onto behavioral sciences.

In fact, Maslow tried to address several issues through his model. Meanwhile, the latter interpretations of the model emphasize on the validity of the model for being appropriate in examining the human needs. Yet, in order to relate the model to the built environment, it is needed to address several physical, social and behavioral issues as well.

On the other hand, being the model in a hierarchal order was judged differently among following researchers; like Wahoo and Bridwell (1975), Lawler and Suttle (1972) and Bradley (2010) who did not support the existence of the hierarchy presented by Malsow. Franken (2001) advised that asking people about their needs and how they would be met would be better to understand the human needs (Ifedeli & Ifedeli, May 2012). Also, Chung (1969) presented the concept of 'interchangeability among needs' asserting on the concept of 'holism' of the multidimensional needs, where satisfying a need does not necessarily lead the individual to satisfy the upper need yet not necessarily the next one. On the other hand, other researchers presented other interpretations of presenting Maslow's hierarchy of human needs with an aim of enhancing the application of the model. Dick (2001) proposes Maslow's hierarchy is to be regarded as a 'hierarchy of stages' rather than a 'hierarchy of needs' which allows for more practical implications in the field of enhancing the individual's self esteem. More recently, Green and Burke (2007) presented 'selfless actualization' beyond 'self actualization' needs reflecting upon creativity as a human need which enhances the generation of new ideas being at the very heart of human nature. Thus, the recent works of researchers was set towards a better understanding

of the human needs through Maslow's model, yet interpreting the hierarchy have presented differently for a better application of the model onto behavioral fields.

Meanwhile, Maslow's model of human needs was set as a base for further recent researchers to work and elaborate upon according to the modern society needs. He has spurred a collection of competing, dedicated or complimentary models focusing on human needs; as Glassman's "Choice theory' in 1998, and Revich's 'Three Fundamental Needs' in 2005 where the former is said to be in line with the new age and consumerism and the latter reverts to a more simple and universal model based on Maslow's five needs (Ward & Lasen, 2009).

2.7: Existence-Relatedness-Growth (ERG) Theory

One of the developments to Abraham Maslow's model of human needs is that of Alderfer's ERG theory of motivation. Alderfer's theory corresponds accordingly to the needs of Abraham Maslow's model in a more compact form. The initials ERG stands for:

- **E- Existence**: those needs required for basic human survival
- **R- Relatedness**: those needs involving the need to relate to others
- **G- Growth:** those needs required to be creative and productive, use skills and develop additional capabilities (Champoux, 2011; Griffin, 2008)

The theory was related to Abraham Maslow's as follows; the **physiological needs and safety needs** of Maslow's model correspond to the **Existence needs** of the ERG theory, **belongingness and esteem needs** in Maslow's model correspond to **Relatedness needs** in the ERG theory, and the **self actualization/ transcendence needs** in Maslow's model correspond to the **Growth needs** in the ERG theory.

Meanwhile, according to Champoux (2011), moving to higher levels in the ERG theory after satisfying the preceding set of needs is so-called a "satisfaction – progression" pattern of movement leading to "Enrichment cycle" which was addressed in Maslow's model. While, people who fail to realize higher needs tend to regress to preceding levels leading to "Deficiency cycle". This "frustration-regression" pattern was not addressed in Maslow's model.

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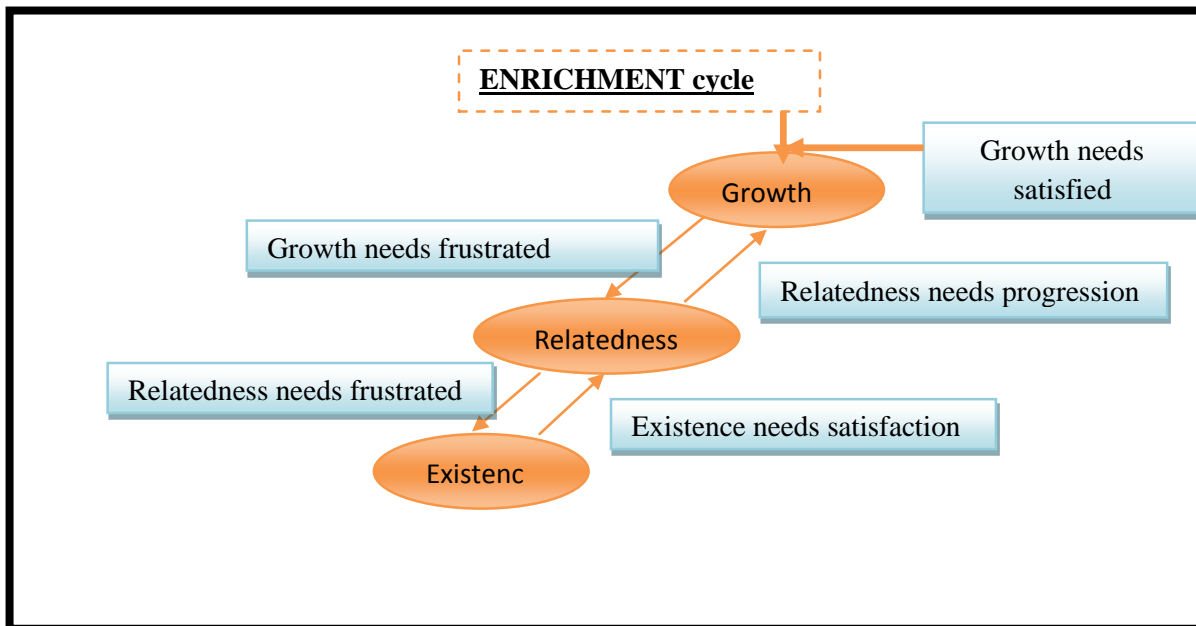
Figure (2.2): The Existence, relatedness and growth theory -Source: (Champoux, 2011)

In conclusion, Alderfer's ERG theory seems to present a more compact form of Maslow's model of human needs. Yet, critics viewed the 'dynamic' nature of the theory where the human can move freely among the different layers as a dual critique. **Being dynamic in nature addresses the reality of how human respond to the changes in their environments without any hierarchy which will be time consuming in research** (Hunter, et al., 1990; Redmond & Churchich, 2014).

2.8: Leighton's Scale of Essential Striving Sentiments

In continuation of Maslow's model, Leighton presented ten striving sentiments of human needs to clarify how the built environment influenced human beings.

> "He proposed a model of the manner in which communities affect the individual…He posited the existence of ten striving sentiments which included: physical security, sexual satisfaction, expression of hostility, expression of love, securing of love, securing of recognition, expression of spontaneity, orientation in terms of one's place in society and the places of others, the securing and maintaining of membership in a definite human group, a sense of belonging to a moral order and being right in what one does" (Hirt, 2012, p.125)

Leighton's model is not designed to be in a specific arrangement in order to state which striving sentiment is said to be more important than the other. This flexibility in ordering of the striving

sentiments eases the application of the model in examining different societies as stated by Lang, yet **it is difficult to be used to assess human beings within the same society.** Leighton's model is a simple organization of the essential striving elements from his own point of view with an attempt to clarify the human needs presented earlier by Maslow.

2.9: Manfred Max-Neef Model of Human Needs

Manfred Max-Neef human needs model is said to be a continuation to Maslow's model of human needs as well where. Max- Neef and his colleagues developed a matrix of human needs based upon the relation between nine human needs which are; subsistence, protection, affection, understanding, participation, recreation (in the sense of leisure, time to reflect, or idleness), creation, identity and freedom and its satisfiers (showing how these needs are satisfied) in terms of four categories; being, having, doing and interacting (Max-Neef, et al., 1990). This results in a 36 cell matrix filled up with examples of satisfiers of those needs [figure (2.3)]. Meanwhile, these needs respond to Maslow's model of human needs where; subsistence resembles physiological needs, protection resembles safety, affection resembles belongingness needs and identity resembles esteem needs (Max-Neef, 1991).

Fundamental Human Needs	Being (qualities)	Having (things)	Doing (actions)	Interacting (settings)
subsistence	physical and mental health	food, shelter work	feed, clothe, rest, work	living environment, social setting
protection	care, adaptability autonomy	social security, health systems, work	co-operate, plan, take care of, help	social environment, dwelling
affection	respect, sense of humour, generosity, sensuality	friendships, family, relationships with nature	share, take care of, make love, express emotions	privacy, intimate spaces of togetherness
understanding	critical capacity, curiosity, intuition	literature, teachers, policies educational	analyse, study,meditate investigate,	schools, families universities, communities,
participation	receptiveness, dedication, sense of humour	responsibilities, duties, work, rights	cooperate, dissent, express opinions	associations, parties, POW*, neighbourhoods
leisure	imagination, tranquillity spontaneity	games, parties, peace of mind	day-dream, remember, relax, have fun	landscapes, intimate spaces, places to be alone
creation	imagination, boldness, inventiveness, curiosity	abilities, skills, work, techniques	invent, build, design, work, compose, interpret	spaces for expression, workshops, audiences
identity	sense of belonging, self-esteem, consistency	language, religions, work, customs, values, norms	get to know oneself, grow, commit oneself	places one belongs to, everyday settings
freedom	autonomy, passion, self-esteem, open-mindedness	equal rights	dissent, choose, run risks, develop awareness	anywhere
*POW - Place of worship				

Figure (2.3): Max-Neef model of human needs- Source: **(Ekins & Max-Neef, 1992)**

Max-Need and his colleagues proposes that these human needs are seen as an interrelated, interactive system and constant through all human cultures and across historical time periods where the only change lies in how these needs are satisfied, in contrary to the conventional notion that "wants" are infinite and insatiable (Max-Neef, 1991). Hence, human needs do not follow a specific hierarchy in contrast to Maslow's model of human needs. In fact, Max-Need's model was criticized for its limited application onto a small group, lack of hierarchy and being more complicated than that of Maslow's model of human needs (McGregor, 2015; Ekins & Max-Neef, 1992). Moreover, it was criticized for not considering the 'transcendence' needs (values/spirituality) which was arguable by Max-Neef (1992) and modified by other theorists later on.

2.10: Conclusion

Several models of human needs were reviewed with an aim of understanding the human behavior. Each of the previous models had its positive and negative critics, yet they were all an attempt to understand the different human needs. Each model was clarified along with its

criticism. Murray's theory of human needs was criticized for being broad and subjective, Achievement Motivation theory was criticized for dismissing the cultural factor, Malinowski's model of human needs was criticized for its difficulty in applying to different cultures, Maslow's model of human needs was criticized for its hierarchal form which was falsified in some aspects, Existence-Relatedness- Growth theory was criticized for being time consuming in research , Leighton's scale of striving sentiments was criticized for lacking hierarchy and its inapplicability within a society sharing the same culture and Max-Neef's model which was also criticized for lack of hierarchy, applicability onto small groups being more complicated than that of Maslow's model of human needs and dismisses the 'transcendence' needs.

Meanwhile, the previous discussion concludes that many models are clear elaborations of Maslow's model to study the human needs, with different additions and shortcomings. Maslow's model of human needs was the most relating to human nature and environmental concerns due to being intuitive and as stated earlier by Lang (1987). Moreover, the recent developments introduced to Maslow's model assure that it can accommodate different interpretations to meet the modern society needs. Therefore, the application of Maslow's model brings a new significance when combined with later theoretical developments (Kenrick, et al., 2010). Since the main scope of this research is exploring the fulfillment of human needs in the Cairene built environment, with particular reference to gated communities, the use of Maslow's model seems to be the most appropriate model for the benefit of the study as highlighted in the following table (2.1).

Table (2.1): Comparison between different models of human needs –Source: Author

THEORY NAME	CRITICISM / SHORTCOMINGS
Henry Murray's Model	•BROAD and SUBJECTIVE
McClelland's & his associates Model	•Dismissing the 'cultural' factor limits the application of the model onto a broader scope of human needs • Its application was developed among business workers
Malinowski's model	•No specific hierarchy for the seven categories
Abraham Maslow's Model	•Being in a hierarchal form and intuitive in nature facilitates its application by practioners
Clayton Alderfer's Model	•Grouping of categories may dismiss information •Application difficulty in some kinds of studies
Alexander Leighton's Model	•Lacking hierarchy •Does not apply within a society sharing same culture
Manfred Max-Neef Model	•Lacks hierarchy •More complicated than Maslow's model •Applicability onto small groups •Dismiss 'transcendence' needs

The next chapter will address the different classifications of the gated communities in literature with reference to Egypt since early times. The aim of this review is to set an appropriate understanding of the characteristics of the gated communities which will be reflected upon in the analysis of the case study in the subsequent sections of the research.

CHAPTER THREE

AN INTRODUCTION TO GATED COMMUNITIES

3.1: Introduction

The previous chapter presented some human needs models with an aim to set the framework for the examination of the Cairene Gated communities. Also, it is important to review the classifications of the gated communities in literature along with prominent features. This chapter will first present a historic background of gated communities discussed in literature with reference to Egypt. Then, the classifications of the gated communities will be reviewed as an approach of clarifying their different types.

3.2: Historic Background of Gated Communities

A housing trend so-called 'gated community' competes with the primary role of the city in the development of the society. It has been known that the city fosters businesses in important products and services, provide entertainment and leisure activities, and allows interaction between people and free exchange of ideas that result in a synergy to improve the standard of living of all citizens (Firestone, 2004). Yet, this concept has been intervened by the appearance of the 'gated communities' which attracted several people away from the city which used to be the 'center of the society'.

This concept involves the people with local neighborhood issues resulting in less social involvement at the city level, withdrawal of the government from the provision of community services being replaced by private groups (Champlin, 1998). Hence, according to Champlin (1998), rules based on Constitution and political ideals will be replaced by privileges based on income status and property wealth. This might cause other problems concerned with involvement/ disinvolvment with the metropolis issues, esteem and well being issues.

Similarly, theories against alienating conditions of everyday life have been produced as a continuation to the Marxist theory in literature. These theories tend to see urban space as 'social center' where many elements and aspects of capitalism intersect in space. Henri Lefebvre is one of these Marxist theorists whom presented three dialectic modes for the 'social production of space' where space becomes a social product (Lefebvre, 1991; Stanek, 2011). These three modes are; perceived space' ('le percu') of everyday social life and spatial practices, 'conceived space' ('le concu') of cartographers, urban planners or property speculators and 'lived space' ('le vecu') of the imagination which has been kept alive and accessible by the arts and literature

based on values and meanings (Lefebvre, 1991). Moreover, Lefebvre (1991) argues that this social production of urban space is important the reproduction of society, hence of capitalism itself. Moreover, his work had a great impact on late 20th century study of space as well.

Meanwhile, by late 20th Century, fortified enclaves 'gated communities' have become a dominant feature of postmodern urban pattern of cities which became more defensible where older neighborhoods closed off some streets to enhance their local security (Blakely & Snyder, 1997 a; Newman, 1995). Hence, gating became a means of isolation from the outside problems looking for security, escape from overpopulation of the city or other needs. Meanwhile, the trend of gating itself segregates between two portions of the residents of the city affecting sides, outsiders and insiders. The insiders will become overwhelmed with the problems of their inner society and forget all about the bigger metropolitan city (Champlin, 1998). This increases the gap between the residents of the gated communities and the city outside on one hand.

Gated communities is a physical phenomenon which can be found within the urban poor, the 'shrinking' middle classes and the upper ones increasing the gap between each social strata (Davis, 1992; low, 2001). Each of the previous social strata looks for a gated community that best fits its needs. The urban fears of crime and seeking exclusion from the social problems have been the ultimate method by which markets targeted their users onto the gated communities (Kennedy, 1995). This results in negative impacts on the society as for example gating for the sake of protection of crimes relocates the crime outside the gates and within adjacent non-gated communities according to Le Goix (2003).

The need to address the socio-cultural attributes in gated communities; privacy, decision making, alienation, social space and social homogeneity within the frame of the consumer needs becomes a necessity to provide a responsive environment for the users. This is due to having weak social ties within the gated communities, where property values and security were considered more important, in the meantime residents seek anonymity and privacy causing 'segregation within segregation' as a social problem (Blandy & Lister, 2005) . Hence, it is important to address the user's needs within their gated community.

In fact, not only the pre-existent fear was the tactic used by the market developers to attract the users to the gated communities, but also the decline of the government of housing as well as selling the ideas about status, privacy, social homogeneity, investment and the pursuit of utopian

aspirations through privatizing the public space have collectively promoted the expansion of gated communities (McKenzie, 2006). Hence, the creation and the development of urban space are shaped by the marketing developers rather than the consumer best needs. White in Barnes (2008) better describes that the socio-spatial controls are shaped by 'commercial' decisions and corporate selling tactics where the construction of urban spaces becomes about commerce and property interests rather than the involvement of the consumers to make 'legitimate' claims about their own spaces. Thus, problematic issues might arise where social attributes; governance and privatization of space need to be addressed to promote democratic decision making (Barnes, 2008).

On the other hand, the real estate developers marketing strategies play a big role in the attraction of the residents to these gated compounds. This took place through promoting for 'competitive enviroments; sense of community, identity, security, family life, sports, etc…(Le goix 2005, Blakely, 1999) Thus, residents are more assured that these gated communities will satisfy their needs.

Based on the above discussion, a gated community could be defined as being a housing pattern enclosed from the public by physical barries, be it walls, fences or gardens that limit public access. Thus they are spatially defined residential communities with shared facilities providing an appropiate environment for creating social networks between residents (Blakely & Snyder 1997, Webster 2002). They are said to be an escape from the outside environment by the means of a physical barrier . These gates or barriers indicate that insiders exclude themselves for security concerns ; protection from crimes, traffic, loss of sense of community, fear of mixing and a trial to protect their property values and neighborhood amenities (Helsely & StrangeW, 1999; Shouse & Silverman, 1999; Low, 2001). The following section will review the historic background of gated communities in Egypt.

3.2.1: Gated Communities in Egypt

Egypt witnessed a rich tranformation in its urban and architecture throughout ages. This goes back to the fact that it ' has sprung out of colonial, modern and globalized processes and practices' (Kuppinger, 2010). These processes include the 'Arab socialism' , the 'laissez faire-economic liberalization' and the new concepts of neoliberism ideology in the 21st century. This

section will review some of the relevant examples of gated communities in Egypt throughout different eras since early history.

3.2.2:Early History

Egypt's pharaonic era was rich in its art and architecture which is still evident until nowadays. This era was known for its social discrimination which was reflected upon the design of the cities. In general, the social strata was divided onto the upper class (Aristocratic) and the nobles, Priests and Pharaoh followed in hierarchy by the middle class or the civic workers and at last the peasants whom were working for the nobles. This was reflected upon its cities, for example: Tel El Amarna city where it was divided onto two cities by a solid high wall; one for nobles and the other for workers (علام, et al., 1993).

By the start of the islamic conquest (641-764), AL Fustat (641) was built as the first settlement in the area of old Cairo followed by Al-Askar (751) which was introduced by the Abbasid rule (780-868 A.D.) as a settlement for army officers and then Ahmed Ibn Tulun (869-905) founded Al Qata' (figure 3.1) (Marcel, 1848; Abu-lughod, 1971; Abouseif, 1971). Then, Jawhar Al Siqilli (fatimid era) founded AL- Qahira as the city of the ruler himslef. Its name was the message behind its architecture, where it contains seven gates, walls, eastern and western palaces, etc… some of them are still existent till nowadays (figure 3.2) (Abu-lughod, 1971). .Meanwhile, one of the prominent examples of the walled archicture is the citadel of Cairo which was the seat for the governer in several successive eras as well.
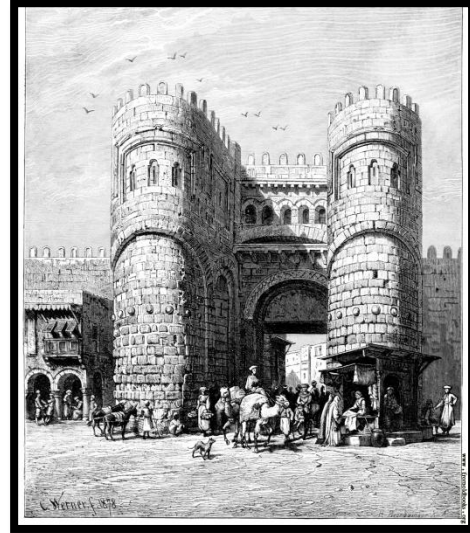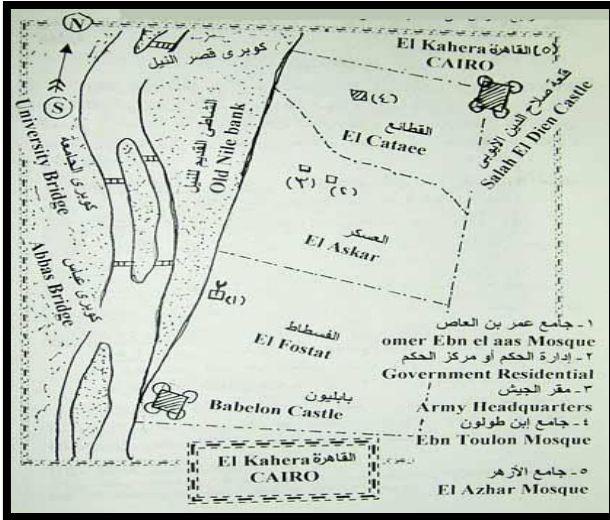
Figure (3.2): Bab El Fotouh - Source: Egypt-
www.fromoldbook.org

Furthermore, the concept of the Hara was the most related in meaning to the concept of gated community which appeared by the time of the French expedition on Cairo (1798-1801AD). Cairo was divided into 53 Hara's, where the Hara is said to be an administrative unit controlled by gates containing homogenous groups sharing same occupational and ethnic values whether rich or poor strata of people having a 'shaykh Al Hara' governer (Abu-lughod, 1971; Raymond, 2001). The relevance of the hara concept to the gated community phenomenon lies in the physical characteristic of gates and the social homogenity of the community. Yet, the 'hara' as an urban unit did not continue to spread all over Cairo, but the social structure was changed due to further political and social reasons after the 1950's.

3.2.3: Socialism and Open Door Policy Era

There was an accelerated rate of population growth in the following years where Cairo's population Cairo's population has increased from 15.9 million to 30 million in 25 years (Raymond, 2001). This was caused by the migration from the country side to the city which took place in Nasser's era due to the policy of industralization. This affected the social structure of the society, where terms "mutawasit" middle , "fuq-mutawassit" upper middle and "fakher" luxury appeared (Sims, 2010). Meanwhile, there existed relevant examples of gated communities designed for workers; e.g.: railway workers community in Abu-Za'bal in Qulyubia which was famous for quarriers and the iron and steel companies and the Aluminum complex in Nag' Hammadi, Quena (Amin, et al., 2013). Hence, the design for a specific social strata of the society was not a new concept to Egypt's history, as residing the workers in the residential quarter has facilitated the move from and to their work .

By introducing the 'Infitah' open door policy in the mid 1970's in El Sadat's reign, there was a major transformatio in Cairo's structure. It started with the migration of residents to 'Gulf countries' resulting in the change in the pattern of social behavior (consumerism/ materialistic values/ less prized promises/pride/ personal integrity), decline of the middle calss and the appearance of the nouveaux riche class (Amin, 2002; Abaza, 2006). This change in the social characteristics had its effect on Cairo's urban landscape as well. The appearance of residential tower blocks, new hotels and office complexes ,6th of October bridge , appearance of (Nasr city, Nuzha, Madinet Al Salam, Ain shams districts) and the first metro line (1980's) was introduced within this era (Sims, 2010). However, the increase in the overpopulation rate continued to emerge.

3.2.4: After Open Door Policy Era

 The overpopulation and the massive investments have played a great role in shaping Cairo's urban form as seen nowadays. Plans for meeting the accelerated population growth have been set as early as 1976 and their effect has continued till nowadays. The plan was put to meet 16 million residents (projected for 1990's) as follows (Raymond, 2001):

- Construction of Satellite cities (6th of October city- 15th of May- Obour city as industrial zone) each includes gated communities; e.g.: Golf city in Obour city
- Construction of Independent Cities (10th of Ramadan city- Badr city- al Sadat- Al Amal)

- Infrastructure development (45 bridges, roads, viaducts and overpasses) including the expansion of the metro line and the Ring road infrastructure (1990's-2000's) which had a great effect by connecting Cairo and its peripheries.Hence, facilitating the construction of several gated commnuities; e.g.: El Soliymania in Cairo-Alexandria desert road, EL Rehab and Mina gardens in new Cairo.

The ring road infrastructure promoted the invesments to move onto the peripheries of Cairo to distribute Cairo's population creating a major shift in the existing demographic distribution in Cairo's social strata. Figure (3.4) shows some of the developments of the gated communities in Cairo's peripheries which attracted the middle and the upper social strata included several real estate developments, e.g. : EL Rehab city, Madinaty, Beverly Hills compound (Abaza, 2006; Sims, 2010).
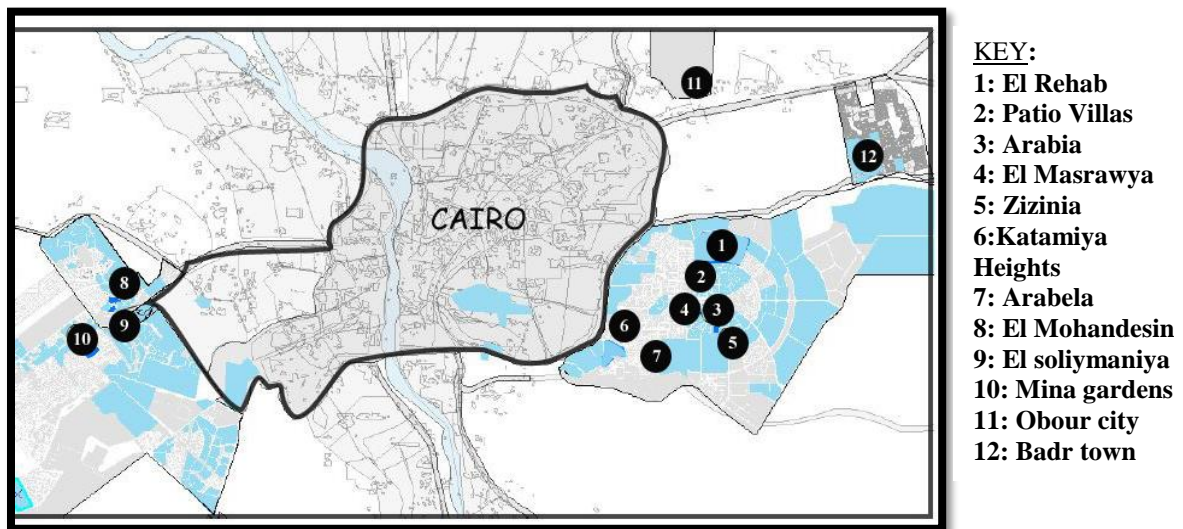
Figure (3.4): Examples of the new cities and gated communities within Cairo's peripheries. Source: Collected by the author based on (Fahmi & Sutton, 2008, Ibrahim, et al., 2013)

3.3: Classifications of Gated Communities

The previous section demonstrated a brief historical background of the gated communities with reference to Egypt. Several examples of gated communities were traced along with its interpretations in the built environment. This section introduces different classifications of gated communities in literature. The variation lies in addressing the size of the community, location form the city, residents' types, physical and social characteristics, etc… Each approach either focuses on one of these elements or groups some of them together. This is further demonstrated throughout the following discussion of the classifications of the gated communities.

3.3.1: Blakely & Snyder's General Classification of the Gated Communities

The importance of Blakely and Snyder's approach lies in presenting a comprehensive study of the diverse types of the gated communities embedding both physical and social characteristics at all income levels. These types represent ideal types serving particular markets in theory, while in practice the communities might show a combination of the mentioned types (Blakely & Snyder, 1997 a). They classified the gated communities onto three major types namely; **lifestyle communities**, **prestige communities,** and **security zones**. These types are discussed with the major sub-categories and characteristics here under.

- **Lifestyle communities**

In lifestyle communities, "shared public space is *privatized* and *controlled* more as a social statement than a safety device", sub-types include: **retirement**, **golf/leisure** and **suburban new town** communities (Hook & Vrdoljak, 2002, p.198). These communities provide a communal life behind its gates through common amenities and shared activities more than a focus on security issues. Thus, developers focus on 'co modifying community' in order to attract residents searching for identity, and a shared lifestyle (Hillier & McManus, 1994). It is considered a major feature of the lifestyle community to have a golf course or a 'club' where residents might share interests. Examples relevant to Egypt are: <u>**retirement communities**</u> : *El wafaa and El Amal and Fouad Habib Associations with no relevant examples of communities of that type in Egypt*, <u>**golf and leisure communities**</u>: *Golf city El Obour and Katamiya Heights in New Cairo* and <u>**Suburban new towns**</u>: *Rehab city and Madinaty in New Cairo*.

- **Prestige communities**

This type of communities focuses on providing an **image** and a **signage of wealth**. As Blakely and Snyder (1999) states that the gates in this case symbolize distinction, secure place on the social ladder, protect an image, current investments and housing values as they present a controlled aesthetic (ornate gates) to add exclusivity to design. The prestige communities were classified into three subtypes based on the 'affluence of the residents'.

According to Blakely and Snyder's classification (1997 a); they are classified into the **enclaves of rich and famous**; provide privacy and seclusion for professional athletes, financiers and celebrities; those who reflect a desire to avoid contact with public and present a significant fear of crime. These communities offer foremost high quality of security and attractive landscape with seldom interest in developing amenities to enhance sense of community. The second type is the **Top-fifth developments** which provide options for the well to do professionals and business people with few amenities seeking privacy and exclusivity through attractive gates and well to do projects. Its promotional materials focus on security without discussing gates and the exclusivity of the addresses which is considered a 'mark of prestige' in its local context. In Cairo, *Katamiya heights, Mountain View and Mena Garden city* could be considered top fifth development according to the previous description as they are mostly known for its executive address and signage of wealth in its physical and aesthetical characteristics. At last, the **executive middle-class** which provide prestige communities with few amenities such as: a gated entry, perimeter fence, and a pool or tennis court, yet they are more expensive than open suburbs. Italian District and Degla Gardens are examples of the executive middle class communities in Sixth of October city in Egypt.

As for the **Security zone communities**, they put **security** in first place where **residents, rather than developers, erect the gates** to secure the community and sometimes even hire guards for protection. These gates / walls are supposed to protect the residents against crime, limit traffic which is altered to accommodate street closures and maintain property values through preventing outsiders from accessing neighborhoods. Although these communities are said to be less secured than those of the wealthy communities, yet they are a trial to secure a group of residents against crimes and maintain closure (Blakely & Snyder, 1997). The security zone communities are classified onto three types according to Blakely and Snyder (1997 a, 1997 b); as follows; the **City perch**'s neighborhoods are of 'particular character' or 'exclusive' homes

located within the city, where gates attempt to protect property and property values against crimes e.g.: Poor/ Rich inner-city neighborhoods and public housing projects use security guards, gates, and fences for protection; such as: *old neighborhoods of Old Cairo* as discussed earlier. The **Suburban perch** includes neighborhoods located on the urban periphery where gates are installed by residents as once quiet suburbs urbanize while the **Barricade perch** are grid layouts within the city that turn into 'cul de sac' streets where residents take permission to enclose themselves by installing gates to limit the access to the residents only; this is widely spread in the new communities as a sign of protection against crimes and limit the outsider access. Relevant example is enclosing some streets with gates in several areas in *El Obour* city. The three previous types share the concept of being gated for the sake of protection against the crimes, traffic, drug dealers, etc. and most importantly being gated by the residents and not by the developers as an attempt to increase sense of community (Blakely & Snyder, 1997 b).

In conclusion, the classification of Blakely and Snyder of the Gated communities reflect the need for safety, exclusivity, privacy, etc… dependent on the type of the community. Hence, according to table (3.1) proposed by Blakely and Snyder (1997 b); the **lifestyle communities** attract residents seeking separate, private services and amenities in the first place , stability and exclusion comes as secondary characteristics and sense of community comes as a tertiary characteristic. As for the **prestige communities**, stability comes as a primary need followed by exclusion as a secondary characteristic and sense of community and privatization comes as tertiary characteristics of the community. While the **security zone communities**

	Lifestyle	Prestige	Security Zone
Sense of community	Tertiary	tertiary	secondary
Exclusion	secondary	secondary	Primary
Privatization	primary	tertiary	Tertiary
Stability	secondary	primary	secondary

Table (3.1): Classification of gated communities in reference to physical and social characteristics- Source: (Blakely & Snyder, 1997 b)

provide seclusion as a primary characteristic followed by sense of community and stability as secondary characteristics and privatization comes as a tertiary characteristic of the community.

3.3.2: Luyme's Classification

Luyme's approach was more focused on the 'synthetic' factors rather than the formal ones of the gated communities. The classification was based on two major elements as per Luyme (1997), the **control of access** and the **level of perimeter impermeability.** The control of access ascends from the symbolic gates or gatehouses at entrance, unguarded control gate-electronic operation, 24hour guarded control gate to gatehouse and double gated neighborhood within gated community. As for the level of perimeter impermeability, it ascends from symbolic entry discontinuous walls, open fences and/or vegetation buffers, low (<2m) decorative perimeter walls to high (>2m) solid and continuous security walls.

As per Luyme (1997), **the increasing level of both factors**; the level of access of control and the level of perimeter impermeability, **increases the perceived level of security and neighborhood status**. For example, Double gated neighborhood within gated community with high (>2m) solid and continuous security walls provides a high increasing level of security and neighborhood status (figure 3.5).
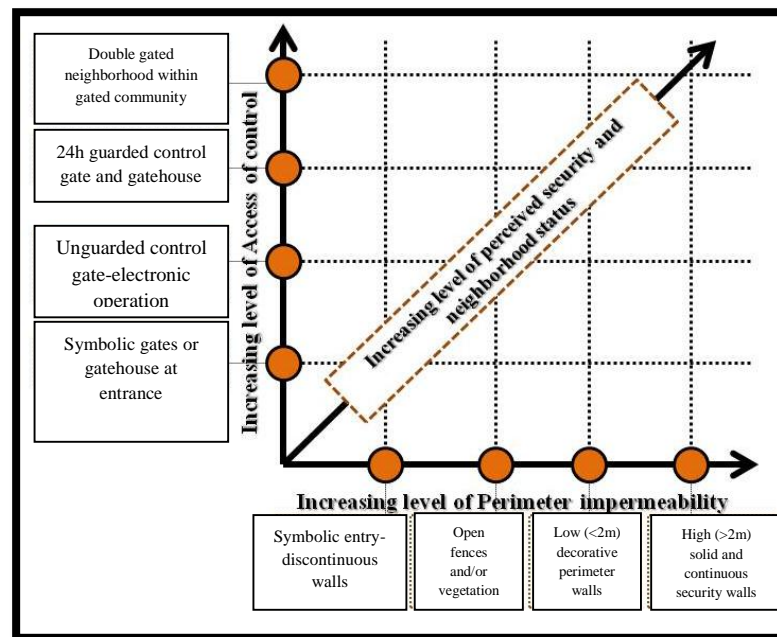
Figure (3.5): A typology of enclave neighborhoods organized around the variables of the level of access of control (gates) and the level of perimeter impermeability (walls) - Source: (Luymes, 1997).

Luyme's classification embedded the concept of security based upon the physical characteristics of gates and walls as a base factor for the classification

of the gated communities. However, this classification was criticized for its narrow application on master-planned communities (Gülümser & Levent, 2009).

3.3.3: Burke's Classification

Mathew Burke's classification of gated communities is an elaboration of Blakely and Snyder's classification. He classified the gated communities into five types based upon the physical attributes, social characteristics and geographic location (Burke, 2001 in Levent & Gülümser, 2007). The five proposed types of the gated communities are: **urban security zone, secure apartment complexes, secure suburban estates, secure resort communities and secure rural residential estates**. In terms of Burke (2001), the first two types: **urban security zone** and **secure apartment complexes** block the unwanted pedestrian and vehicular traffic. The former one aims at reducing social problems like those of the new cities surrounding Cairo's peripheries, *Rehab city* for example. While the latter as per Burke (2001) do not have facilities or outdoor spaces for socialization blocking the entry for the non residents only such as *El tawfikiya Building in El Nozha el Gedida and El Obour Buildings in Cairo*. However, the other three types; **secure suburban estates, secure resort communities** and **secure rural residential estates** differ in their location from the city as well as the degree of existence of lifestyle and resort features. Where, the **secure suburban estates** mainly are composed of low rise villas or townhouses including a small pool or gym such as *Mena garden city in 6th of October*. While as the **secure resort communities** and **secure rural residential estates** includes lifestyle features; lake, golf course and resort style living; gardens, well lit pathways, etc… *Mountain View Hyde Park* is considered a relevant example of the secure resort communities in Cairo under Burke's classification which is also classified as a top-fifth development under Blakely & Snyder's classification.

In fact, this classification focuses on the specific nature of the community; urban, suburban or rural. Also, other classifications of gated communities based upon Blakely and Snyder's classification are to be reviewed as well.

3.3.4: Grant and Mittelsteadt Classification

This classification is developed by Grant and Mittlesteadt (2004) based on Blakely and Snyder's classification. However, the base of this classification is the concept of 'enclosure' where the gated communities are classified into eight types from the '**fully symbolic/psychological**' to the '**fully physical**' as follows:

- Ornamental Gating; with no marked boundaries where gates show the subdivision names to give identity to the area.
- Walled Subdivision; with open opaque fence or wall where cars and pedestrians may enter.
- Faux-Gated entries; with narrow entries and removable chains and guard house to discourage uninvited vehicles from entering featured with opaque fence or wall
- Barricaded streets; controlled by fences, planters or concrete barriers creating cul de sac streets to control vehicular movement.
- Partially gated roads; controlled by lift or swing arms to limit vehicular movement with no walls.
- Fully gated roads; controlled by lift or swing arms being surrounded by natural or manmade elements (water or ravine) to limit access.
- Restricted entry boundaries; gates with video or telephone system for access where the community is surrounded by a wall/ fence or natural elements
- Restricted entry guarded area; gates that control access with security guards where the community is surrounded by a wall/ fence or natural element.

However, these eight classifications of gated communities; ornamental gating, walled subdivisions, faux-gated entries, barricaded streets, partially gated roads, fully gated roads, restricted entry bounded and guarded area focus generally on the physical attributes **on the expense of the social attributes** of the community. Hence, it focuses on the boundaries rather than the content.

Thus, this classification could contribute to a more profound understanding of gated communities if applied in association with other models that address a wide variety of variables of the gated communities' characteristics.

3.3.5: Time and Place Classification

This approach addresses the classification of gated communities in terms of their geographic location and occupation times. Its importance lies in providing a wide range of variables for comprehending the gated communities. According to Touman (2005); the gated communities are classified into:

- **Geographically**

The gated communities are either situated **within the town**; where they are gated for security reasons; e.g.: high crime rates with constructed walls and controlled access by residents themselves or situated **out of the town** where they are said to be a refugee from the pollution.

- **Occupation times**

This approach classifies the gated communities into **permanent residences**; where they are located within town limits or country sides and characterized by luxury residences for the elites, as seasonal resorts. The **seasonal occupied gated communities** are further sub-classified into either **weekly occupied gated communities** located within 100 km radius around big towns or **vacation gated communities** being away from the city for entertainment purposes.

Permanent residences are like **El Rehab city**, the **seasonal gated communities** are like **Marina** on Egypt's north coast. However, the drawback of the seasonal gated communities targeting the upper middle class as per Gunten (2001) is having the number of residences exceeding the needs, thus some of the units being built are either vacant or suffering from depreciation. This does not apply in all countries. Meanwhile, these types are considered to paralyze billions of dollars represented in the large residential units and their infrastructure for the use of 90 to 100 days per year (Touman, 2005).

In conclusion, the previous classification addresses the gated community with a focus on their location from the city and occupation times while referring to some security features, residents' types and facility types. Yet, it dismisses some physical and social characteristics. This requires the research to adopt a more elaborate and profound classification of gated communities.

3.3.6: Size-based Classification

The classification of the gated communities in terms of size is one of the important approaches of defining gated communities which is presented by Grant and Mittlesteadt (2004) as well. They classified the gated communities into four major types; **small developments** containing few houses with few amenities, **medium size developments** which encompasses dozens of homes with few facilities as a club or a swimming pool, **village sized developments** with limited commercial uses and a **town or city sized developments** encompassing full suite of facilities where they could act as municipal units (Levent & Gülümser, 2007; Ajibola, et al., 2011; Ronnes, et al., 2011). Upon reflection onto the Cairene gated communities, **Golf city club** in EL Obour city is said to be a **medium sized development** as it contains few facilities; clubhouse, **Opera city** in 6th of October city is considered a **village sized development** with commercial uses whereas **El Rehab city** is considered a city sized development.

However, the level of interaction of the residents and the security features provided varies according to the size of the development. The larger the community, the larger the public are separated from public life outside as asserted by Grant and Mittlesteadt (2001). This goes back to the ratio of dependency of the community on the surrounding services and the provided facilities within and outside its borders.

This classification has addressed the gated communities in terms of size-based in relation to the ratio of facilities provided. In relevance to the study, the medium sized development and the village sized development are the most relevant to the scale of the expected case study to be addressed. This is due to their moderate size of encompassing housing, commercial uses and faculties which enables to address a wide range of human need aspects.

3.4: Conclusion

Gated communities as an urban phenomenon was not new to Egypt's culture, it existed since early times. Meanwhile recent re-presentation has been influenced by several socio-cultural factors like: overpopulation, exclusivity, escapes from pollution, protection from crimes, etc…The previously discussed classification present different approaches for understanding the gated communities. Some addresses broad aspects of physical and social characteristics, while others focused on one single aspect. The main aim is to understand the features of these

communities and its relevance to the Cairene gated communities. This will aid in the analysis of the case study addressed later on. For this purpose, the following table (3.2) was developed to identify the model that will be devised in the subsequent sections of the study.

Table (3.2): Comparison between different classifications of the gated communities in literature – Source: Author

Classification elements		Classification Type	Blakely & Snyder	Luyme's	Burke's	Grant & Mittlestedt	Time and Place	Size-based
	1	Security features	●	●	●	●	●	●
	2	Physical Characteristics (Including functions of enclosure and facilities provided)	●	●	●	●	●	●
	3	Social Characteristics (including residents types)	●		●	●	●	
	4	Geographic location from the city)	●		●		●	
	5	Sense of community	●		●			●

Based on the previous table, it is concluded that Blakely and Snyder's classification as well as that proposed by Burke best cover the general social and physical characteristics of gated communities, although some types do not apply to Cairo. Yet, it was indispensable to review other classifications with a focus on a specific feature as well. For the benefit of the research, **Blakely and Snyder's** model is more specific in terms of **analyses and classification** in comparison to that of Burke's. Hence, the study will adopt **Blakely and Snyder's model** in the analysis of the case study

The next chapter's aim is to link between the model of human need of Maslow and its interpretation in the built environment of the gated communities according to Blakely and Snyder's classification of gated communities. This will set a springboard for the empirical analysis of Cairene gated communities to follow in the empirical part of the research.

CHAPTER FOUR

THE FULFILLMENT OF HUMAN NEEDS IN THE GATED COMMUNITIES

4.1: Introduction

The previous chapters reviewed different models of the human needs models where Maslow's model showed to be the most comprehensive. Also, the different classifications of gated communities were reviewed and discussed, in relation to the Cairene context. It was concluded that Blakely and Snyder's model was the most addressing to the physical and social characteristics of the gated communities.

This chapter investigates the different means for the built environment to respond to human needs as structured by Maslow's model. Hence, the physical and the non-physical attributes of the built environment will be addressed in terms of physiological, safety, sense of belonging, esteem, cognitive, aesthetic, self actualization and transcendence needs. This will set the base for the examination of the fulfillment of the human needs in the empirical examination of the chosen case study of the Cairene gated community in the chapters to follow.

4.2: Physiological Needs

This is the basic set of needs as presented by Maslow where they resemble the needs required for proper functioning of the mind and body (McHarg, 2007). They refer to survival needs as discussed earlier, including; **food, water, air and shelter** at a primary level as asserted by Maslow (1943). Maintaining these elements is essential for the human health and wellbeing towards the sustainability of the community.

Several researches in the field of **public health** have been devoted to promote healthy built environments. **Healthy built environments** are those environments that include healthy food access, community gardens, walkability, bikability, etc… (Renalds, et al., 2010; Carlson, et al., 2012). The application of these aspects in the built environment is to be discussed below.

4.2.1: Thermal Comfort

Maslow's basic definition of the physiological needs showed that human thermal comfort is required for attaining this set of needs. According to ASHRAE (2013), thermal comfort is a **subjective assessment** carried by the human being based on the **objective interaction with the built environment.** The **factors** that influence the thermal comfort are divided into two types;

environmental factors which are conditions of the thermal environment (air temperature, radiant temperature, air velocity and humidity) dependent on the location and time and **personal factors** which are characteristics of the users themselves (clothing insulation and metabolic heat exerted through the rate of activity exerted) (Haruna, et al., 2014).

The appropriate interpretation of the previous factors in the built environment enhances the satisfaction of the thermal comfort. Some of the architectural requirements to improve the thermal comfort in the built environment are presented below:

- **Proper orientation of buildings** to reduce the effect of solar radiation, rain, etc…where frequent used rooms are to be oriented towards east-west dimensions to lessen heat in summer and diffuse it in winter time
- **Proper ventilation** where the use of cross ventilation is preferable, positioning walls and vegetation elements away from the building to enhance air flow through openings.
- **Use of shading devices**; overhangs- horizontal projections to block off sunrays in summer and allow some in winter time- use of double pane windows with tinted glass- growing of deciduous trees to block sun rays from reaching the buildings in summer and allowing them in winter where the trees loose 60% of their leaves.
- **Planting/ Shading the roofs** of the buildings through removable canvas.
- **Proper use of colored paints** where the light colors of walls and roofs reduce heat gain
- **Maintain the surrounding micro-climate of the building** through exploration of the adjoining trees and sceneries

(Haruna, et al., 2014)

The previous architectural treatments are expected to enhance the thermal comfort of the built environment for sustaining human comfort towards satisfying the physiological needs.

4.2.2: Food Provision

Good health is attained through access to **healthy foods**, **grocery stores** and **fresh food retailers**. Communities which don't have access to healthy food retailers often have easier access to fast food restaurants and convenience stores which contribute to unhealthy living conditions (Jacobson, et al., 2011). Hence, it is important to have proximity to grocery stores,

food retailers, farmer's markets, supermarkets associated with fresh fruit and vegetable intake (Dearry, 2004). This can also be promoted by organic products and community gardens.

In fact, **Community gardens** are one form of fresh food provision that has positive effects on the community wellbeing (Wakefield, et al., 2007). These gardens could range from small scale home gardens to larger community gardens Hence, proper education of landscaping and vegetation elements is encouraged (Litt, et al., 2011). This is done towards improving **sense of wellness** and **overall health of the individual and community**.

Based on the previous, adequate provision of healthy food retailers, grocery stores and community gardens within the neighborhood promotes public health of the individual. This by turn influences the water quality and the air quality of the built environment as well.

4.2.3: Water Quality

Tackling the environmental benefits of the community gardens shows the importance of **maintaining the water and air quality**. It is important to properly maintain the existent fresh water where the available amount for human consumption from underground sources is less than 1% (Government, 2007). Hence, proper maintain of the existent water quality is important to sustain its use in the built environment.

Changes in land use and **development patterns** through human intervention in the built environment have decreased the water quality. As development in the built environment increase and construction of impervious surfaces (driveways-parking lots) , less rain falls in the natural environment leading to less water being absorbed directly into earth's groundwater system (Williams & Wright, 2007). This is highly evident in **low density suburban sprawl areas** where more paved roads and large lawns require **excessive use of water** to irrigate the golf areas in **comparison to higher density areas** as referring to Frank et al. (2005). This affects negatively the ratio of the available water resources.

On the other hand, increased roadway and vehicular use contribute to water pollution through contaminants that are washed away on the impervious surfaces to contaminate the water sources and groundwater system (Frumkin, et al., 2004; Frank, et al., 2005). This affects the vegetation as well as the water quality as well.

Hence, proper maintenance of the existent water supply and quality is important which might take place through: **regulating buffers around watersheds decrease the ratio of the impervious surfaces, using green roofs in new buildings and providing enough green space to allow for natural hydrological system to work out** (Williams & Wright, 2007). This will **preserve the natural resources of the water** towards satisfying the psychological needs.

4.2.4: Air Quality

Sustaining the air quality within the built environment as a psychological factor is closely related to the previously discussed factors. Some of the strategies to maintain thermal comfort such as to **provide effective design for cross-ventilated areas** in relation to their location as well as providing a **micro-climate with effective use of vegetation** as referred by Haruna (2014) play a role in maintaining an appropriate air quality. Also, introducing the concept of **natural treatments into the built environment**, such as the **community gardens, watersheds and natural ventilation treatments** enhance the air quality as referred earlier.

Moreover, land use patterns and zoning regulations determine the location of residential areas, lot sizes and where other types of development are located which affects the air quality (Frumkin, et al., 2004). Developments located close to busy traffic routes are more exposed to the adverse effects of the air pollutants. The wind patterns and other climatic conditions play a role in carrying these pollutants in the air over long distances as referred by Williams et al. (2007). Hence, **appropriate vegetation of dense trees** play a role in purifying the air quality releasing more oxygen into the atmosphere as well as control the wind patterns when planted in the south.

Meanwhile, **mixed land uses** where neighborhoods of homes, workplaces and shops **results in shorter travelling distances** for people **in comparison to low density development** which require longer travelling distances as asserted by Ewing et al. (2006). Longer travelling distances require more dependency on vehicular usage in comparison to shorter trips.

Dependency on vehicular movement has several adverse effects on the air quality. It enhances the **accumulation of greenhouse gases** in the atmosphere and **overall release of air pollutants** causing a **change in the air temperature** (EPA., 2001; Holtzclaw, et al., 2002).

This contributes to the occurrence of the **heat island effect**. It takes place due to the large ratio of dark surfaces (asphalt, paved roadways and parking lots) which enhance the absorption of the sun heat during day time to be released at night causing a rise in the air temperature (Solecki, et al., 2005). Hence, **promoting non-vehicular transportation or more appropriate transit systems** within gated communities and its adjacent areas; e.g.: bicycling, walking produces virtually no air pollution as referred by Williams et al. (2007).

In conclusion, **thermal comfort, food provision, water quality and air quality are highly interdepende**nt where the **appropriate maintenance of these factors promotes the satisfaction of the psychological needs**. **Physical factors that categorize the classification of the gated communities as per Blakely and Snyder's model** such as: proximity to the city center, size, and location from the city, density, amenities and facilities provided **meet the psychological needs differently.** This is reflected upon in the analysis of the case study as an example in the chapters to follow.

4.3: Security Needs

Security needs are considered a quasi-physiological need according to Maslow, where a safe environment is expected to provide a better opportunity for the fulfillment of the physiological needs in terms of food, water, air quality and health. According to Foucault (1997), gated communities are so-called the 'architecture of control" which reinforces the need for security. Meanwhile, security needs is said to be fulfilled on two levels; physical and perceived security where both play a role in attaining security needs as discussed below.

4.3.1: Physical Security

The security features/ barriers so called- **gates/walls** are an important feature of defining a gated community. These gates vary according to the 'nature of the boundary of the communities. Blakely and Snyder (1997) has defined some features of the gates per type of gated community where for example; the **top fifth development** community gates are said to be physically high and non-permeable as they house exclusive businessmen community. While the **Barricade perch** are said to have symbolic gates; simple lifting arms gates/ speed bumps, most of them erected by the residents.

Meanwhile, Luyme's (1997) has asserted on the **relationship between the characteristic of the security boundary** (symbolic gates to 24 hour guarded gates and high walls) **and the level of security induced**. Hence, the desire for a physically defined community plays a role in convincing residents that boundaries are an important feature for **protection and prestige** while **featuring a market for the real estate projects** (Greinacher, 1995).

Designing the street and the sidewalks to maintain physical security is an important factor for the users. As for the **street design**, it is important to address s**afety measures within the new neighborhoods.** This is elaborated upon by Frank et al. (2005), Ewing et al. (2006) and Williams et al. (2007) whom proposed some **treatments of the streets** as follows:

- Increase the surface parking to the ratio of on-street parking
- On-street bicycle facilities, roundabouts, pedestrian signals and refuges
- Provide an appropriate street shoulder width in urban areas by creating a distinct aesthetic streetscape edge (trees, concrete planters, sign supports) along roadside to reduce the number of accidents and provide motorists with a recovery zone in rural areas
- Create speed humps to reduce traffic and speed
- Appropriate light use through light poles

As for the **sidewalks design**, it is important to note that the **existence of casual activities** for users enhances the sidewalks safety. Hence, Ewing et al. (2006) and Ghonimi et al. (2010) have proposed some **treatments of sidewalks** as follows:

- Increase the ratio of the sidewalks and its width where the windows overlook the sidewalks
- Locate the parking behind the residential units or an underground one
- Existence of an appropriate vertical clearance between sidewalks and objects above the street (barriers, seating, planters, etc…)
- Creating bike lanes and remove barriers
- Addition of trees between street and sidewalks to avoid distraction causing accidents

The appropriate treatment of streets and sidewalks as elaborated upon maintains the physical safety of the built environment towards satisfying security needs.

4.3.2: Perceived Security

Attaining the physical security attributes plays a role in meeting the perceived security. Researchers asserted that the engagement of the residents in the physical activity particularly those whom perceived the paths and surrounding environment to be safe have doubled the satisfaction of the perceived security (Butterworth, 2000). This is further enhanced through **maintaining appropriate treatments of streets and sidewalks** to enhance pedestrian movement as discussed earlier. Hence, it is important to use light elements to provide active night life, speed humps to induce safety against accidents, clear marking of entrances and exits and on-street parking when needed (C. Ray, 1977; Crowe, 2000). These security measures induce perceived security by users for on-street engagement.

Hence, **designing for active life of casual activities** on sidewalks (roads fronted with commercial spaces, street corners meetings) accounts for **continuous presence of people with 'eyes on the street'** as referred by Jacobs (1961). This enhances people out onto the streets towards **perceived security fostering the community trust** as well.

Meanwhile, the **density of the neighborhood** accounts for the perceived security of the community. According to Bray et al. (2005), **low density residential areas** are characterized by abandoned buildings which can be a cause of **vandalism and crime**. Hence, **design for mixed land uses** accounts for a significant public **engagement in on-street activities** by users.

Meanwhile, the **design of the neighborhood** plays a role in maintaining **perceived safety** of its users. The grid design is expected to reduce the distance needed to travel to a destination through providing more points of connects for ease of movement by walking or cycling in comparison to the cul de sac neighborhoods (Williams & Wright, 2007). Through **appropriate design of streets and sidewalks as presented above while preserving permeability of the block design,** it expected to sustain the perceived security of the community.

In conclusion, it is important to note that the degree in which each community applies the security measures differs. In elaboration on Blakely and Snyder's classification of gated communities, security measures ranking differs according to the type of the community. For example, **security zone communities** put safety against crimes as a primary factor while

prestige communities' puts security measures as a secondary factor**.** Yet, it is important to assert that security factor is important as a major feature of gated communities.

The following section tackles the psychological needs which are dependent upon the fulfillment of the physiological and security needs.

4.4: Belongingness Needs

According to Maslow, human is a very social species with a need to socially interact and to belong to a group, kinship, club, etc…The concept of '**community'** refers to a town, a neighborhood or a city which reflects the 'symbolic interaction' in which people use physical aspects of the built environment to communicate together (Butterworth, 2000). These physical aspects are expected to be planned to enhance the **social capital** of the community and its sense of belonging. **Social capital/ interaction** of a community relates to **the feelings of belonging, trust and social networks and ties** (Putnam, 2000). It depends on the **provision of different settings in the public realm** for developing connections between people. This is enhanced through the different types of spaces within the community as it will be discussed below in terms of **formal networking settings** and **informal interaction spaces**.

4.4.1: Formal Networking Settings

Formal spaces are one form of network settings where interaction between people takes place. **Formal networks** take place between users through **engagement in groups, civic association, political organizations; bowling league, neighborhood groups, social clubs, playgrounds, parks, recreational facilities, health care services, and facilities for seniors, support services etc...** (Putnam, 2000; Williams & Wright, 2007; Lawrence, et al., 2011). The participation of the individual in these setting requires interaction with others which enhances their sense of belonging.

These formal settings are expected to provide **opportunity for engagement within a group** for entertainment, interaction, maintenance services, problem solving issues, etc… All these aim at the **active participation** of the users in the decision making of their environment. Participation of users in all phases of designing, building, using, maintaining and renewing promotes the

sense belonging and ownership, increases the effectiveness of the planning process and its outcomes, improves the quality of design and validate decision creating living cities (Titman, 1994; Butterworth, 2000).

Hence, some types of **gated communities include formal networking** settings within the community with an aim to create social relationships within its users. Blakely and Snyder (1997) have presented relevant classifications of gated communities where the existence of formal networking spaces is provided. For example, **golf and leisure communities** where it encompasses a social club including several activities most importantly the golf; such as: Golf city in Obour where the club acts as a social hub to its residents.

4.4.2: Informal Interaction Spaces

Informal interaction spaces are expected to take place between users not necessarily in a pre-set designed area. Yet design articulations could be done to enhance interaction taking into consideration that people go to **public open space** for satisfying immediate needs (get a drink of water or eat lunch in a sunny area) or to rest, need for a change or exercise (Carr, et al., 1992).

They take place in a form of **casual meetings among neighbors or strangers on sidewalks or while grocery shopping, frequent shoppers at the same corner, activities that takes place in the public realm** such as picnics, public gatherings, etc... (Lawrence, et al., 2011; Putnam, 2000). Thus, it is important to assert on the need to provide a level of **active use of the sidewalks** either through proper design for pedestrian use and commercial activities provided along the walkways.

Moreover, the appropriate provision of **different settings of spaces**; public, semi-public, private within the built environment is important for enhancing social interaction. This is interpreted in the urban setting through provision of **private v/s open spaces**, e.g.: streetscapes, corresponding / open verandahs overlooking streets/ gardens, low v/s high fences, etc… (Bentley, et al., 1985).

Hence, the **high dense developments** where **mixed land uses** enhance engagement with the surrounding environment **promote high sense of belonging** (Lawrence, et al., 2011). This is due to the active use of outdoor spaces and the active design elements as discussed earlier.

Similarly, the **interpretation of these elements in the design of the gated communities promotes the sense of belonging** of the residents to their community; e.g.: **open gardens with active design elements ; seating, shaded areas, kids playgrounds**, etc…, **appropriate design of street corners, interaction through terraces and windows overlooking the active spaces.** These are further enhanced through **conducting open space inventory** to identify areas which lack open space, **ensure ongoing maintenance and upkeep of open spaces**, **placing parks in safe areas**, **exerting fewer barriers on resident's properties, improve street lighting and width, enhance physical and social amenity of neighborhoods, etc…** (Williams & Wright, 2007; Rappaport & Zimmerman, 1988).

These design interpretations discussed is expected to reflect upon attaining the belongingness needs in the built environment. The following section will discuss the esteem needs and its interpretation in the built environment.

4.5: Esteem Needs

Maslow has classified the esteem needs onto two sets including **the need to hold oneself in high esteem** (desire for strength, competence, mastery of knowledge, material possessions, control of one's life) and the need to the **need to be held in esteem by others** (recognition, achievements and external rewards) (Maslow, 1987). These sets are interprete in the built environment through the provision of opportunities for learning, testing and self-testing while being self rewarding. **Lang** (1994) has provided **three sets of opportunities for attaining the esteem needs in the built environment** where the need to hold oneself in high esteem and being held in esteem by others are interrelated in each. These opportunities include; opportunities for development of abilities, opportunities to display skills and opportunities for the display of the symbols of success to oneself and others. Each of these sets will be discussed in the lights of its application in the built environment.

4.5.1: Opportunities for Development of Abilities

Provision of settings where the abilities of the users is tested and developed is important to attain esteem needs in the built environment. Lang & Moleski (2010) states that the integration of the **educative settings** in the built environment, such as: playgrounds, university/institution, club,

open spaces with specific nature of activity, etc… is expected to provide for the development of abilities.

Meanwhile, it is important to note that the **provision of mixed land use** within the design of the neighborhood is important for satisfying the esteem needs. The appropriate **design of close juxtaposition of open spaces and transparency allows for developing of abilities**; e.g.: spaces overlooking workers on site, spaces overlooking adventurous playgrounds, open air theatres, etc… (Lang, 1994). Hence, people are provided with different formal and informal settings where development of skills occurs intentionally and unintentionally through the design variables of the built environment.

4.5.2: Opportunities to Display Skills

Displaying skills in the built environment requires **the user to perform and participate in the process of the public display** towards attaining recognition from others and oneself as well, as referring to Maslow (1987). Provision of opportunities to display skills could be attained through **formal and informal settings** in the built environment. Some of these settings include; **classrooms, offices, theatres, athletic fields, pavilions, kitchens, parks and almost any place in the built environment that has the potential to display skills** (Lang, 1994). In fact, comprising different settings within the built environment of the gated communities to display skills reflects positively upon esteem needs.

Moreover, **personalization** of the built environment plays an important role in the messages conveyed by the users about themselves to others whether to gain recognition of one or from others. It communicates the users' tastes and values to themselves and to others through **personalizing their private homes and public spaces**; e.g. private/ public boundaries, thresholds, etc... Thus, it is asserted that the design is to accept these acts of personalization to avoid eroding the balance of the patterns of the built environment (Bentley, et al., 1985). These acts are expected to enhance the esteem needs of the users within the gated communities built environment.

Also, it is needed to assert that the urban design policies need to provide opportunities for a wide range of displaying skills. In fact, new communities focus on formal settings for displaying skills and provide few informal settings within its built environment (Lang, 1994). This

accentuates on the need to integrate formal and informal settings for displaying skills in the design of the new gated communities.

4.5.3: Opportunities for Display of the Symbols of Success to Oneself and Others

The display of **symbol of success** to oneself and to others takes place through concepts of community, meanings and values integrated in the qualities of the built environment and its associations to the people who inhabit it (Lang, 1994). People tend to choose their residential environments for several reasons. These reasons include instrumental ones (close to work, facilities, etc…) and status reasons where some choose environments below their purchasing powers and others overextend them as asserted by Lang (1987). **Status of a residential area** depends on the type of houses, shops, facilities provided, vegetation quality, aesthetic quality and the privacy provided for residents. Moreover, the **status** is not only physical, yet it could be in a form of an exclusive name of a community in addition to the physical aspects which awards the community its status among others.

In fact, Blakely and Snyder's classification addresses some of these strategies among its types, for example the prestige communities focuses on **image** and **signage** of wealth as an integral element of its design. Thus the 'name' of the **exclusive community communicates messages** about the users and to the users about the **status of the community** which enhances the **esteem** of the residents as a symbol of success.

4.6: Cognitive Needs

Cognition, by default is a human need that requires the individual needs to be aware of his built environment. According to Lang (1994), people are expected to have **three sets of cognitive needs**; those necessary for **achieving instrumental ends** as doing a job for example, those concerned with **the need to learn for its own sake** and those involving **expressive actions**. Hence, continuous interaction between the different variables of the built environment and the individual is needed for fulfilling the cognitive needs. In other words, the **cognitive systems** of the built environment are those processes rich in 'interacting adaptive components' including human beings interaction with the cognitive entities of the physical entity of the built

environment where **sufficient awareness** of the environment is expected (Ujam & Stevenson, 1996). Therefore, **achieving the cognitive needs** will be discussed in terms of the following sets: opportunities for learning towards instrumental ends, opportunities for expression and opportunities for learning for its own sake.

4.6.1: Opportunities for Learning towards Instrumental Ends

Provision of opportunities for learning towards instrumental ends in the built environment **enhances users' need to develop and maintain competence** through the need to learn to do a job (Lang, 1994). This is expected to allow the individual to **acquire knowledge and develop skills** to deal with the surrounding entities towards promoting the cognitive needs.

Healthy communities are expected to offer a mix of spaces to achieve pleasure and choices. The **learning takes place** through several **settings**, such as: direct instruction in a classroom, learning an activity on-location, radio, and internet, or through self-instructional, schools and educational facilities, adventure playgrounds, athletic facilities, cultural center, museum, , etc… (Tiesdell & Carmona, 2007; Lang & Moleski, 2010).

Legibility of these settings in the built environment is important for best recognition of spaces towards cognitive needs. Hence, Appleyard in Evans et al. (1982) has identified some characteristics of the built environment where the individual recall specific features to enhance his cognitive abilities. Some of these **characteristics of spaces that promote legibility of learning towards instrumental ends** are: **size** (vertical height of the building) - **shape** (complexity of shape ranging from simple, block to more complex and multiple shapes) - **use intensity** (extent of building/ space use) - **use singularity** (Uniqueness of building/ space function)- **significance** (cultural, political, aesthetic or historical importance of the building/ space) and **quality** (physical maintenance and upkeep of the structure/ space) .

Provision for cognitive needs in the built environment of the gated communities is important to acquire the users with skills to compete and deal with his surroundings. **Gated communities are expected to provide learning environments** through the provision of appropriate design of **interactive playgrounds, cultural center, clubs that provide for athletic facilities, etc…**

These types of spaces is relevant in golf and leisure communities, sub-urban new towns and the top-fifth developments as referring to Blakely and Snyder's classification (1997).

4.6.2: Opportunities for Expression

Self expression is one of the behavioral patterns in the built environment that promotes the cognitive needs. According to Lang (1994), opportunities for expression take place through the performance of enjoyable acts anywhere. **People tend to express** themselves in several ways; whether through **graffiti** (which could be a piece of art), **drawing**, and **physical actions** such as running for the joy of it, art work, dance, body language, etc…

Expressive acts in the built environment tend to be **promoted through some design treatments**. For example, **provision of jogging lanes** could promote the act for running for those who enjoy it, providing **adventurous playgrounds** for children enhances their expressive acts, while providing a pleasant view for the passersby (Lang, 1994).

Provision for legible environments where expressive acts could take place is important. The environment generates **specific behaviors**, **cognitive processes and modes** where people tend to cognitively organize and conceptualize cities contributing significantly to the daily life systems, the arrangement of these spaces mentally and description of these places and the reactions to them (Lynch, 1960; Abdel Hadi, et al., 2012).

The design of the gated communities tends to provide for pre-set designed environments to provide for some expressive acts which are controlled by management policies. The current design of new communities are considered '**highly manicured environments'** that tend to **reduce the opportunities for expressive acts** through **overdesigned manicured environment** in which activities are managed through policies favoring hard surfaces (Lang, 1994; Lang & Moleski, 2010). This is relevant in the advertisements of the new gated communities where there is much evidence for slogans as: living in a park, enjoy jogging in a safe environment, being rest assured for your children playing, etc… all these images demonstrate well designed environments to promote expressive acts in specific settings solely set by the management.

4.6.3: Opportunities for Learning for its Own Sake

Opportunities for learning for its own sake allow the users to **satisfy one's curiosity about places and ideas without any reward** (Lang, 1994). These settings include process of the need to know and learn using an indirect way of instruction. Examples of settings include cultural institutions, theatres and films introducing people to the life of others, non-permanent educative settings such as: circuses, fairs, agricultural shows, posters and plaque, etc… (Alexander, et al., 1977; Tiesdell & Carmona, 2007). These settings allow users **to learn about a new culture, language, ideas, values, lifestyles, places, etc…** to satisfy their curiosity about learning.

The design of the built environment is expected to provide opportunities for learning for its own sake for its residents towards satisfying the cognitive needs. Lang (1994) demonstrated some **design treatments** which **contributes to these settings in the built environment**. Some of these treatments are:

- **Street and block patterns design** that afford a variety of behavior settings; street corners, window shopping, etc…
- **Mixed use** in close juxtaposition with each other
- Existence of **buildings of different eras**
- Access to **natural spaces** which enhances **sensory experiences** whether in the form of natural elements of the landscape or artificial sources
- Places to **watch neighborhood activities** from safe areas; watching workers on site, playground experience for children)
- Provide sites for **occasional activities** ; e.g.: circuses and fairs

Also, it is needed to assert on the need to design for legible built environments where users tend to conceptualize the built environment. In elaboration to the **characteristics of the built environment which enhances the user cognitive abilities** presented earlier by Appleyard in Evans et al. (1982), **movement** and **contour** are important features that contribute to cognitive needs. Where movement includes the amount of persons and other objects moving in and around the building and contour demonstrates the clarity of building ranging from blurred partially obscured to free standing as per Evans et al. (1982).

In conclusion, **satisfying the cognitive needs** in the built environment require the user to have the **need to know and learn**. These needs are interpreted in the built environment based on

three sets as prior discussed. Each set provides for different experiential activity depending on the end result of **learning and knowledge**. The following section demonstrates the aesthetic needs which are interrelated to the satisfaction of the cognitive needs.

4.7: Aesthetic Needs

Maslow asserted that the people need beautiful settings to enrich one self, and to continue to the higher levels of self actualization. Having a pleasing environment promotes the fulfillment of physiological needs, safety needs, esteem and cognitive needs at most. The word "**aesthetics'** is derived from *aisthanesthai'* (to perceive), and '*aistheta'* (things perceptible), where according to Aristotle it was composed of three essential components; **wholeness** (*integras*), **harmony** (*consonantia*) and **radiance** (*claritas*) which emerged concepts as; **Golden Mean**, **harmony**, **proportion** and **order** (Porteous, 1996). These concepts where incorporated within architecture and urban design as a means to 'beautify' the environment and create rational designs as revealed in the Pharaonic, Greek and Roman ancient buildings.

Meanwhile, philosophers have developed theories in order to research the 'aesthetical quality of the environment'. This aesthetical quality is supposed to stimulate the **five bodily sense**s of: sight, sound, smell, taste and touch in order evoke a 'pleasurable emotional response' which promotes positive **affirmation of oneself** and **identity** within the surrounding environment towards the **well being of the individuals** (Philipp, et al., 1999). Aesthetics is not only about the '**beautiful imagery'** but also it includes the **meanings perceived** by the individual.

Based on that, it is important to examine the built environment physically and the meanings it evokes through its physical attributes. "Spaces, places and buildings are more than just props in people's lives; they are imbued with **meaning** and **resonance** as they symbolize people's personal histories, interpersonal relationships and shared events' in people's extended relationships, families, communities and wider culture" (Butterworth, 2000, p. 2). These events and meanings that the places evoke take places over a series of time. According to Kevin Lynch, '**change'** provides 'sensory' pleasure to the users and provides an opportunity for the history to be traced through the artifacts of earlier periods (Gjerde, 2010). Hence, the **time** factor plays an important role in the quality of the aesthetics of the environment. Based on the previous definition and interpretation of aesthetics in the built environment, it could be said that the

aesthetical quality of the built environment could be perceived through two main attributes; **formal** and **symbolic** aesthetic. Each will be discussed below along with the concepts it evokes in the built environment.

4.7.1: Formal Aesthetics

The formal aesthetics focus on the structure of the forms in the built environment. They involve the **geometrical character** of buildings and spaces; **Gestalt law of visual organization, order**, **symmetry**, **visual appropriateness**, **richness**, **personalization** of spaces, **variety**, **rhythm**, **spatial relations, complexity**, etc. (Gjerde, 2010; Lang, 1994; Bentley, et al., 1985). These concepts were examined and clarified using different theories whether in design and psychology.

In fact, researches have presented three variables that relate the aesthetic response to the human experience in their physical built environment. These variable include; **enclosure** (openness, spaciousness, density, mystery), **complexity/ diversity** (visual richness, ornamentation, information processing) and **order** (unity, clarity, familiarity, legibility) (Wohlwill, 1976; Kaplan & Kaplan, 1989). These variables are incorporated in the design through different treatments.

Enclosure was elaborated upon by Kaplan and Kaplan (1989) stating that some research suggests that people prefer defined open spaces to wide open space or enclosed spaces . Meanwhile, **Complexity/ diversity** promotes choice for the individual through provision of activities through mixed land use, affordable spaces to house these activities and encouraging positive interaction through design elements (Bentley, et al., 1985). Also, applying concepts of **visual richness** using hierarchal forms, contrasting surfaces and connective design of environments, while incorporating the five senses provokes the **sensory aesthetics** of the individual through design elements such as: color, surface textures, light, etc…

The **order** of the built environment refers to the degree in which the elements of the environment make sense all together through **design concepts** (familiarity, rhythm, order, symmetry, etc…) where the individual becomes familiar of their environment through the experience of similar elements and relationships. (Kaplan & Kaplan, 1989). The use of order in the built environment

reveals a specific configuration of elements towards attaining aesthetic needs such as the application of the concept of the golden section.

Previous research concluded to some variables which demonstrate design elements to attain the formal aesthetics. Some of these **socio-culturally bound variables** include:

- **Spatial configuration of the space:** in terms of volume, degree of enclosure, proportions, consumption of space (higher status people are expected to inhibit larger settings than those of the lower rank), diffuse versus dense space, delineated/ contained versus open space, verticality versus horizontality, right and left in horizontal plane and up and down in vertical planes
- **Materials:** the type of the material artificial or natural has different associations for people depending on their culture
- **Nature of illumination:** including the effect of source, color and level of illumination whether it is natural or artificial type. For example, in rich settings the degree of artificial light use is much higher than that of moderate ones
- **Pigmentation:** the color of buildings and surfaces conveys messages which are translated differently among different cultures. Lang (1994) states that the use of **colors** is expected to have **behavioral implications** in the built environment where the warm colors (yellow to red) are considered as arousing and exciting colors while cool colors (greens, blues and violets) are said to be soothing ones.

Applying the previous design variables is expected to enhance the formal aesthetics in the built environment. However, it is important to assert that these variables also convey messages about cultures of the society through formal aesthetics. Hence, its application becomes culture bound.

4.7.2: Symbolic Aesthetics

Symbolic aesthetics provide users with symbols in the built environment that evoke meanings within themselves. Some of the socio-culturally bound variables that evoke symbolic aesthetics include; **naturalness**, **upkeep or maintenance**, **intensity of use** and **style** as referred by Nassar (1988a, 1988b). Some researchers suggest that the use of **natural elements** within the built environment is preferred to the artificial ones, thus it is recommended to enhance the urban settings with **natural urban scape elements**; trees, shrubs, water elements, etc… to enhance

preference and relaxation (Kaplan & Kaplan, 1989). For example, the **use of water element** water evokes a 'tranquil, contemplative ambience' adding a **vital dimension to gardens**, **courtyards and patios** through sound and movement symbolizing **prosperity** and **attracts ch'I** (the invisible life energy force whose flowing, unimpeded passage is essential to create a harmonious, healthy and happy environment) (Stocken, 1998). Also, Stocken adds; water features are beautiful in any season providing a constant play of rippling reflections, of light and shade especially when set against a background of luxurious plants or mysterious stones.

Another relevant example of the **use of natural elements** is the **Zen gardens**. They provide a good example of symbolism in landscape architecture where each of its elements have an imbued meaning. For example, the organization of the gravel into a pattern reflects upon recalling waves or rippling water which adds to the aesthetical quality (Van Tonder & Lyons, 2005; Sinclair, 2013). However, it is important to note that the concept of Zen garden is cultural bound, where it cannot be perceived in that sense except to a specific culture. Also, the proper **up-keep and maintenance** of the elements of the built environment preserves the aesthetical of the built environment. Yet, it should take place through enhancing the **individual's ownership** and **sense of place** as well.

In addition, the **intensity of use** of the space creates symbolic meanings where a serious of recurrent events within the same place **generates meanings.** At last, the **style** used in design of the built environment is expected to relate to the **vernacular style** of the culture associated, as it facilitates the conveyed meanings in the relationship between the individual and the surrounding environment (Nassar, 1988b).

Moreover, it is important to note that some **meanings** in the built environment go beyond the physical aspect to an **intellectual level of thinking**. Aesthetic needs might refer to **status and aspirations** as discussed earlier and for some people to the understanding of the designers logics where it is an "**intellectual level of aesthetic appreciation**" dealing with "moral and aesthetic judgments as a phenomenon of the mind" (lang, 2005; Tiesdell & Carmona, 2007). This includes appreciation of the built environment which is a result of fulfilling the cognitive needs as well.

In conclusion, provision of **participatory 'picturesque' landscapes** within the built environment offers the person opportunities for engaging in some activities where the project is

seen as a part of the whole. This takes place by **interpreting both, the formal and symbolic attributes** of the aesthetical quality of the built environment towards **attaining aesthetic needs**.

4.8: Self Actualization Needs

Maslow (1971) has defined this set of needs as a **complex non-ending process** of self enrichment and experiences. The individual is to be 'fully functioning' within his environment with a sense of fulfillment and a '**quest for knowledge**, **understanding, peace, self-fulfillment, meaning in life, or beauty'** however only few people reach this stage of maturation (Lang, 1987). In fact, self actualization is attained in every stage of needs presented by Maslow. There is continuous **quest for discovery.** This **process of self discovery** involves three major components; having a desire, seeking out the desire and finding meaning in life (Lang, 1987).

Meanwhile, **meeting self actualization needs** is highly dependent on providing a rich environment of learning opportunities, self expression and appreciation for the individual's own sake. According to Lang (1994), being self actualized **'inner-centered'** accounts for little implications in the physical built environment. '**Intentionality'** is needed where the individual tends to become the quality he seeks; e.g.: beautiful buildings within exclusive surroundings tend to improve the individual morally and spiritually by the **ownership** of the absorbed virtues from the setting (Botton, 2006).

Meanwhile, Maslow has identified some basic features of the self actualized people which are presented in the **Being Values**. Embodying the **being values qualities** (honesty, reality, unity, integration, order, spontaneity, change, individuality, intricacy and wholeness) in the built environment is expected to enhance the sense of **self actualization** (Gewirth, 1998; Botton, 2006)**.** The **Being values** are classified into **three categories**, namely: **Designing with revelation**, **choice and sensual experience** and **symbolic experience of intangible values**. Each of the previous sets will be discussed below.

4.8.1: Designing with Revelation

It includes the need to reveal what is yet to be discovered through the experience of the built environment. Hence, concepts of design such as **unity, organization, creativity,**

uniqueness, expression, authenticity, playfulness, wholeness, beauty when revealed through the elements of the built environment promotes the relationship between the individual and the meanings evoked from these values within (Botton, 2006). These variables of design focus on the way the individual perceives the elements of the built environment to reveal meanings within him.

As an example of designing of revelation in architecture, the design of the foundation Querini Stampalia in Venice, Italy where **playfulness and movement** were revealed (Murphy, 1988). This was done through providing **discomfort in the design of the steps through varied heights and twisted orientation** which forces the user to pay attention to the transition as referred by Murphy (1988). Hence, the user experiences the space through movement which reveals playfulness within.

4.8.2: Choice and Sensual Experience

The concept of providing concept of 'choice' within the built environment promotes the **sense of control** and **ownership**. It includes providing **complexity** and **contrasting design elements** to promote the individual's potentialities through providing the choice of using different elements in his surrounding environment, as well as different sensual experiences (Lang, 1987). The 'freedom of choice' of the elements within the built environment promotes the individual's self actualization each time a **choice** is made.

It was elaborated earlier upon the importance of the active participation of users within the decision making of their environment. In fact, the process of participation itself in all phases of design promotes the **sense of ownership** and **territoriality** of his surrounding environment (Butterworth, 2000). It upholds the **notion of choice** through active participation in the decisions taken for the built environment.

Moreover, people tend to perceive the fine details of the built environment using their eyes, heads, and bodies through experience and regular interaction with the physical environment as referring to Lang (1987). As an example for choice in the built environment, the choice to use a car excludes the individual from the sensual experience of **active engagement with nature** which is provided through the use of pedestrian walkways.

4.8.3: Symbolic Experience of Intangible Values

The **symbolism of the built environment** provides the users to **connect with something beyond themselves through a representation of immaterial feature** (Botton, 2006). These ideas of symbolism were strong in Greek, gothic and roman architecture where their architectural works represented a mean at its end. For example, the gothic architecture used the **architectural features (space, light, line, geometry)** in the form of rib vaulting, pointed arches, flying buttresses on the outside to **symbolize the vision of heaven as the goal** within the inside (Trachtenberg, 2002). Hence, the structure appears to stand solely attaining its symbolic vision

Moreover, other architectural treatments are used to provide symbolic meanings in architecture. For example, **material integrity and exposing the inner structure of the buildings symbolizes truth in design** (Gewirth, 1998). Hence, symbolism becomes a mean to merge the values of self actualization in architecture and urban design.

 In conclusion, when assessing the qualities of the being values in the newly built communities it is important to consider the **cultural aspect** and the **factor of time**. Individuals tend to **interpret the environment based upon their own culture,** developing beliefs and attitudes towards the built through socialization experiences. Hence, the designed environment could change in the attitude and values which in turn influence the culture of the individuals (Lang, 1987). Meanwhile, urban designers face difficulty in attaining self actualization attributes in new communities because some of these **meanings are only attained over time.** These communities dismiss **historical associations** which provide a **significant meaning of the place** through high intensity of use and symbolic meanings attained through time (Lang, 1994). Thus, it is important to consider both factors of **culture and time** when addressing the attainment of self actualization in gated communities.

4.9: Transcendence needs

Transcendence needs are presented as a continuation to self actualization by Maslow. The transcendence needs include the people whom provide helping others towards realizing one's potential with no materialistic reward (Maslow, 1970a). Hence, it includes providing services to others, devotion to an ideal such as truth or art, social justice, scientific pursuit and the desire

to be united with what is perceived as transcendent (Koltko-Rivera, 2006). This was further elaborated upon in the fulfillment of the esteem needs which leads the individual to engage in **mutual-help groups, grassroots organizations, volunteer agencies, and other community service** roles that promotes the self actualization and transcendence needs on one hand and allows the individual to engage in the problems and relate to the environment of the outer community on the other hand.

4.10: Conclusion

The current chapter examined Maslow's model of human needs within the built environment with reflection upon gated communities. Each of the components of the model; physiological needs, safety, psychological needs: sense of belonging, esteem, cognitive, aesthetical and self actualization and transcendence needs were discussed along with their physical and non-physical implications in the built environment. It was deduced that these needs are interrelated in its application onto the built environment where the self actualization and transcendence needs are said to be subjective in its application.

The previous discussion has set the base for the examination of these needs in the gated communities' environment. The next part presents the empirical part of the research where the chapters to follow address the research design and the case study analysis of the chosen Cairene gated community.

PART TWO

EMPIRICAL STUDY

CHAPTER FIVE

EMPIRICAL RESEARCH DESIGN

5.1: Introduction

The previous chapters have set the base for the theoretical framework of the study. The synthesis of chapters two and three concluded in Maslow's model of human needs and Blakely and Snyder's classification of gated communities to guide the study. Chapter four addressed physical and soico-cultural attributes of the built environment of the gated communities which can promote improved fulfillment of human needs in gated communities. Hence, this theoretical framework is to be applied onto chosen Cairene case study using defined research design strategy.

The empirical study employs **an integrative mixed research strategy approach**. The study is based on two main pillars. **First** is the **qualitative analyses** of the selected case study, based on **field observation and documentation and supported by the findings of part one of the theoretical framework.** The **second pillar** is the **questionnaire survey**, which was **designed for the purpose of seeing through the residents' perception to the fulfilled and unfulfilled human needs in their own gated communities**. This questionnaire has undergone basic qualitative analyses, which was interpreted and discussed in the light of the theoretical findings and researcher's field observation. Also, this chapter introduces the **selection criteria** of the case study followed by the **case study background**. Then **methods of analyses** are discussed demonstrating the **questionnaire survey design, sampling** and **data analysis** technique used.

5.2: Selection Criteria

The **selection criteria of the Cairene case study** which will be examined against Maslow's model of human needs is based Blakely and Snyder's model. For the benefit of the study, only one relevant example will be examined. Hence, **the relevancy of each of the classifications of gated communities presented by Blakely and Snyder's need to be considered according to its relevancy to the Cairene gated communities. It is important to mention that the community could be relevant in several types of categories presented in the classification according to its characteristics** as referring to Blakely and Snyder (1999).

As previously discussed, Blakely and Snyder (1997a) has presented 3 major categories of gated communities, each divided into three sub- types. The first type is the **lifestyle communities**

which encompass the retirement, golf and leisure and suburban new towns. The **retirement communities are not relevant to the Cairene context** where the existing relevant examples (Dar Fouad habib, for example) are **much undersized than a scale of a community**, hence it will be excluded. As for the **golf and leisure communities**, there exist **several relevant examples in the Cairene context** where communal life is provided behind gates through provision of facilities and amenities with most importantly a golf club. Some of these examples include: **Al Rabwa compound in Sheikh Zayed, Golf city in Obour and Kattamiya Heights in New Cairo**. Likewise, there exist **several relevant examples of the suburban new towns in the Cairene context** such as: **Dreamland in sixth of October**. However, **the scale of a town is larger than that needed for examination in the case of the research**, hence it will be excluded.

The second category of Blakely and Snyder's classification is the **prestige communities** which encompass three sub-types as well. The first type is the **rich and famous** which **is not relevant to the Cairene** context due to the lack of communities specified for rich and famous people solely as they mingle in between the gated communities. The second type is the **top fifth developments** where several relevant **examples exist in the Cairene context**, such as: **Al Rabwa compound, Jeera compound in Sheikh Zayed and Mountain View Hyde park in new Cairo**. As for the last type, the **executive middle class,** some **relevant examples exist in the Cairene context** also such as: the **Italian district.** However, they contain no amenities except for a gated entry; hence they will be **excluded from the study**.

As for the **security communities** which resemble the last category of Blakely and Snyder's classification, they also include three sub- types. It is important to recall the fact that these **communities are gated by the residents themselves not by the developers** as referring to Blakely and Snyder (1997a). Hence the first two sub-types, **city perch and sub-urban city perch are not relevant to the gated communities in the Cairene context so far.** As for the last sub-type so-called the **barricaded perch**, there exists several articulations to close off some streets within newly built communities such as some streets in **el Obour city**. However, the **scale of the community will be undersized to address in the scope of the recent stud**y.

Based on the above analysis, the following table (5.1) was devised to highlight the relevancy of the different types of gated communities as presented by Blakely and Snyder to the scope of the study and the Cairene gated communities context.

Table (5.1): Significance of choosing El Rabwa compound as the case study –Source: Author

Type of GC (as per Blakely & Snyder)		Relevancy to the scope of the study/ Cairene gated communities context
Lifestyle	Retirement	The scale of the existing examples are NOT RELEVANT to Cairo
	Golf and Leisure	Relevant- Communal life behind gates with amenities and shared activities; e.g.: El Rabwa compound, Golf city, erc…
	Sub-urban new towns	Relevant- Larger scale than that needed for examination- e.g.: Dreamland
Prestige	Rich and famous	NOT RELEVANT to Cairo
	Top-fifth developments	Relevant- Focus on security and mark of prestige – few amenities dependent on community ; e.g.: El Rabwa compound- Jeera compound, etc…
	Executive middle class	Relevant- Gated entry- No amenities; e.g.: Italian district
Security	City perch	NOT RELEVANT to present time in Cairo
	Suburban city perch	NOT RELEVANT to Cairo
	Barricade perch	Relevant- Smaller scale than that needed for examination; e.g.: streets in some parts of el Obour city

Based on the above, it is concluded that **Al Rabwa compound in Sheikh Zayed** fits among **two sub-types** in Blakely and Snyder's classification, the golf and leisure communities and top-fifth developments which provides a wide scale of exploring opportunities of the built environment. Also, its scale and the facilities and amenities provided within will help in providing an appropriate scale of comprehensive analysis for the examination of the fulfillment of the human needs in the gated community realm for the benefit of the study. However, it is important to state that the same selection criteria apply to several other cases in Cairo, like Al Jeera, Mountain View, Golf City in Obour and many others. Yet, choosing of Al Rabwa out of these was primarily referred to convenience – for that the researcher had contacts in that particular project, which made it easier to get access and contact residents, particularly with the security difficulties following the 2011 and 2013 revolutions in Egypt.

5.3: Case Study Background

Al Rabwa compound is one of the **golf and leisure lifestyle, secure suburban estates** compounds in sheikh zayed that was founded by Talaat Moustafa real estate developers. It mushroomed towards the west of Cairo, proximately 15 min off Lebanon square- Mohandessin [figure (5.1.)]. Moreover, it lies close to several important destinations and facilities; e.g.: Dandy Mall, Hyper marker, Misr Science and Technology University, Manor House school, etc…
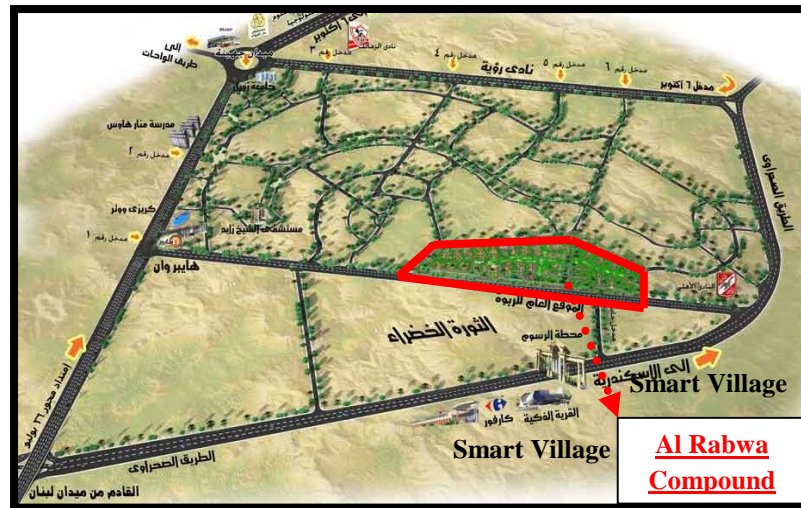
Figure (5.1): Location of Al Rabwa compound-Source: **(Real estates, 2006)**

The compound was campaigned for being " Life as it should be" where it promises its residents with a better quality of life through the provision of a 'stylish and all-comprehensive' compound over an area of 505 feddans (2,137,828 m^2) lying 140 m above sea level. The design of the compound is said to take the shape of a palm of a hand [figure (5.2)] forming finger-like 'cul de sac'. The compound is for housing several types of villas and townhouses, with over 41% of the total area by green open spaces. The compound many **facilities and services** for the residents, like.: club house, by golf course, market, mosque and secured gates in addition to being surrounded by a 24 meters wide horse track. Electricity is provided through the main network of Sheikh Zayed city and water is supplied through a station for water distillation and a reservoir that supply the whole compound for 36 hours.

Figure (5.2): General Layout of Al Rabwa Compound-Source: (**Real estates, 2006**)

The compound construction is carried on two phases [figure (5.2)]: **Al Rabwa I** and **AL Rabwa II** as per Talaat mostafa Group Holding Company statistics for 2015. AL Rabwa (I) covers an area of 1,318,800 m^2 consisting of 648 villas, a shopping center (under construction), 9 hole golf course and sports pavilion. The Al Rabwa (I) is fully sold. As for Al Rabwa (II), it covers 118,320 m^2 and consists of 386 villas with an interlinking 9 hole golf course as well where 92% of the villas are already sold. The approximate number of population existent is 4,965.

5.4: Method of Analyses

The **method of analyses** used in the study is an **integrative multi-dimensional qualitative approach.** It **integrates two major tools of analyses**, an **in-depth qualitative study** approach and a **questionnaire survey**. The **qualitative study focused on observation and photographic documentation carried out by the researcher in the field of study** as well as **content analysis of the theoretical framework discussed earlier in the previous chapters**. Also, a **questionnaire survey** was designed as an **integrative tool** to measure **the satisfaction of human needs** in terms of its different interpretations in the physical built environment of Al Rabwa compound [Appendix]. The survey allows getting first hand data from the respondents' to formulate conclusions that **support the qualitative and content analysis carried on**. The **questionnaire survey** along with its **design, sampling** and **data analyses** are discussed in the following sections of the chapter.

5.5: Questionnaire Design

The questionnaire survey was **developed based on the literature and theoretical framework** reviewed earlier in chapter four. Respondents were asked to **rate the statements within each set** presented in the questionnaire **from the most accomplished feature where the number (1) resembles the most accomplished one. Each set/ sets investigate the satisfaction of the physical features existing within the compound that respond to a need of Maslow's model of human needs** [figure (5.3)]. Statements in each set were written using simple terminologies to ease understanding and were concise to ask about a specific feature to avoid inaccuracies among respondents. At the end of the questionnaire, the **respondents were asked to rate the human needs presented by Maslow in terms of their fulfillment in Al Rabwa compound** [figure (5.4)]. Respondents were provided with confidentiality of their identity and they were assured that the data gathered would be used for academic purpose

Set (A)	
Adequate weather for enjoying the outdoor and the activities; e.g.: jogging- horseriding	
Food availability within the compound	
Sufficient water supply	
Good air quality with minimal pollution	
Housing quality that is up to aspirations	

Figure (5.3): Caption of the psychological needs set in the questionnaire survey- Source: Author

Set (J)	
Physiological needs; e.g: Breathing, food, water, balance	
Security Needs; e.g.: bodily safety, secure of basic needs, secure of health and family, secure ownership	
Belongingness Needs; e..: friendship, family ties	
Esteem Needs; e.g.: trust, achievements, respect of others and from others	
Cognitive Needs; e.g: need to know, understand and explore the surrounding environment	
Aesthetic Needs	
Self-Actualization Needs; e.g.: invention, solving problems, accepting facts	
Transcendence Needs; e.g.: providing service to others	

Figure (5.4): Caption of the last set of the questionnaire where it was required to rate the fulfillment of the human needs within the compound- Source: Author

5.5: Sampling

This questionnaire is based on **random sampling technique**. A **random sample from the residents** was relied upon for answering the questionnaire survey where this technique of

sampling is to be a 'truly representative of the larger population' as referring to the sampling technique presented by Groat and Wang (2002). The sample chosen is said to be a **balanced sample of 43 respondents** of the residents of the compound. The questionnaire survey was distributed among the residents of the compound among several visits by the researcher to the compound. The respondents were given appropriate time to answer the survey for the maximum advantage of the results.

5.6: Data Analyses

The data that resulted from the questionnaire survey were recorded and updated by the researcher as responses are received. The results were **recorded using Microsoft Excel spreadsheet**. The data is organized into rows and columns, where the column represents the 43 respondents and the rows represent each statement in the categories of the questionnaire. The relationship between columns and rows represents the respondents' ratings among the statements of the questionnaire survey. The final score at the end of the column presents the degree of satisfaction of the statement presented [figure (5.5)].

Figure (5.5): Caption of the spreadsheet- used in Microsoft Excel for recording the data gathered from the questionnaire survey- Source: Author

Results of the questionnaire showed varied responses to the statements presented in each category. Hence based on the phrasing of the questionnaire [Appendix] where (1) presents the most accomplished feature in each set, **the higher the number is presented by the**

respondent… the less elements is presented in the case study. Therefore, **summing up the overall frequencies for each element … the lower the total is, the more present it is [figure (5.6)]**.

Set (F)									
RESPONDENTS/STATEMENTS	Providing self expressive activities			Easy way finding within the compound			Ability to choose between different casual activities within the compound, e.g.: fairs, open days, etc…		
ORDER within the set	1	2	3	1	2	3	1	2	3
ORDER of the residents	4	11	28	17	19	7	20	13	8

Figure (5.6): The results of one of the sets as recorded in the Excel
sheet upon the respondents' order of elements – Source: Author

For the benefit of the research, the focus in the results interpretation will be on the scale of (1) representing the most accomplished feature. This was primarily reflected upon in the analysis of the case study presented in the following chapter as well as low accomplished categories of the built environment as well on the scale of (1) for the benefit of the research. The **results of the questionnaire survey are to support/ refute the results of the qualitative analysis carried by the researcher consisting of observation and photographic techniques as well as content analysis of the theoretical framework presented**.

5.7: Conclusion

The research design presented in this chapter aims at developing purposive design tools to **examine the satisfaction of the human needs in the realm of the built environment of Al Rabwa compound** providing maximum credibility of results**.** It consists of **three layers of analysis, a qualitative analysis depending on observation and photographic method and content analysis, and the questionnaire survey**. These layers of analysis were **interpreted in the discussion of each set of the human needs similarly following the theoretical structure presented in chapter four.** This is presented in the case study analysis is presented in the following chapter applying the discussed research design methods.

CHAPTER SIX

CASE STUDY ANALYSES and DISCUSSION

6.1: Introduction

The previous chapter has presented the research design strategy that will be applied in the analyses of Al Rabwa compound to examine the satisfaction of human needs within. The strategy included a qualitative analyses approach depending on observation and photographic techniques done by the researcher and content analyses of the theoretical framework presented earlier in the previous chapter. In addition, a questionnaire survey was designed to examine the satisfaction of human needs in Al Rabwa compound from the residents' perception.

This chapter presents the analyses of Al Rabwa compound which is the chosen Cairene gated community using the previously discussed research design tools. The structure of this chapter is to follow the same structure of chapter four which interpreted the reflection of Maslow;s model of human needs in the built environment. Results of the research tools will be discussed accordingly under each set of human needs.

6.2: Physiological Needs

The physiological needs are being referred to as the 'basic needs' in Maslow (1943), where this category discusses the need for **maintain a healthy body temperature, food, water, air, etc…** These needs are analyzed in the scope of their satisfaction in Al Rabwa compound below.

6.2.1: Thermal Comfort

The **altitude of Al Rabwa compound** is situated higher by **140 m above sea** level. This helps in maintaining an appropriate air temperature due to the decrease in air pressure. Also, the high **occupancy of the green areas (41%) of the area of the compound** enhances the environmental factors of the compound as well. This takes places with the low **density provided in the housing scheme** of Al Rabwa compound.

These **attributes is expected to enhance the environmental factors to maintain thermal comfort**. The high altitude provides a better climate in reference to Egypt's hot weather. Human comfort is maintained at a temperature of 37 degree Celsius and at relative humidity between 25-60%. Meanwhile, Egypt is characterized for hot, dry desert climate where the temperatures are hot in summer days and warm in summer nights, while being warm in winter

days and cool in winter nights (Finalyson, et al., 2007). However, due to several conditions and articulations in the built environment, e.g.: global warming and heat island effects, these conditions of the climate in Egypt have changed as discussed earlier in chapter four. Hence, the **high altitude, the high occupancy of green areas and the low density buildings enhances the thermal comfort in Al Rabwa compound**.

In fact, the **cul de sac design** is said to increase the distance needed to travel to a destination hence **reducing the points of connections** where people can meet and the flexibility of walking or cycling around the neighborhood (Williams, et al., 2007). The low density of the daily services and its concentration in one place within the compound **asserts on vehicular use to access the services** in shorter intervals of time [figure (5.1)]. This is expected to **reflect negatively upon the public health** as well as the **less availability of choices** provided for users to access from one place to another.

The **results of the questionnaire survey** show that the **residents highly agreed** to being **the weather considerably adequate to enjoy outdoor activities** in Al Rabwa compound which is being ranked as the second most accomplished feature in the physiological needs [figure (6.1)] Meanwhile, the **existence of several activities** of horse riding (not being applied) and the club activities might account for the **physical activity** needed for stabilizing the human temperature towards maintaining thermal comfort as referring to Boduch and Fincher (2009).

Respondents	Set (A)					
	Adequate weather for enjoying the outdoor and the activities;	Food availability within the compound	Sufficient water supply	Good air quality with minimal pollution	Housing quality that is up to aspirations	Easy access to services in short interval of time; e.g: market, laundry
No. of residents that ordered the item as most accomplished	11	6	4	15	5	2
Order	2	3	4	1	4	6

Figure (6.1): Caption of the results of set (A): Physiological needs-showing the adequate weather as the second satisfied need in the compound – Source: Author

Meanwhile,
residents showed low satisfaction in the field survey conducted with **the ease of access to the**

basic daily services in short interval of time within the compound [figure (6.2)]. This asserts on the need to provide other options for residents to satisfy the daily needs. Where providing a **future chance for the upgrading** of the main road, a more appropriate public transit system could be introduced as well as infill projects is considered an option to provide shorter trips as per Frank et al. (2005) suggestion to improve the thermal comfort . Hence, creating a **more responsive environment** to the satisfaction of the daily needs of the compound as well as reflecting positively on public health.

Respondents	Set (A)					
	Adequate weather for enjoying the outdoor and the activities;	Food availability within the compound	Sufficient water supply	Good air quality with minimal pollution	Housing quality that is up to aspirations	Easy access to services in short interval of time; e.g: market, laundry
No. of residents that ordered the item as most accomplished	11	6	4	15	5	2
Order	2	3	4	1	4	6

Figure (6.2): Caption of the results of set (A): Physiological needs- showing the ease of access to services in short interval of time as the least satisfied need – Source: Author

6.2.2: Food Provision

In Al Rabwa compound, residents are highly dependent on cars for accessing the grocery stores or the supermarkets. Therefore, many of them prefer **the closest hyper marke**t which exists outside the compound for the monthly and weekly needs. This is probably due **to the availability of more organic and fresh foods**. Yet, the **local market that exists beside the mosque caters for more frequent needs** [figure (5.2)].

Meanwhile, it was asserted earlier that the community gardens are one form of fresh food provision which reflects positively upon physiological needs (Jacobson, et al., 2011). In fact, **Al Rabwa compound has vast planted areas that could potentially contribute to food provision, if partly planted with fruits and vegetables**.

6.2.3: Water Quality

In Al Rabwa compound, the developers declare that the water supply is provided through a **station for water distillation and a reservoir** that supply the whole compound for about 36 hours. Hence, water supply is expected to be adequate for the residents of the compound.

However, according to Williams (2007) and Frumkin et al. (2004), it is important to note that the golf and leisure facilities, e.g.; the **golf courses, pond, parking lots accounts for excessive use of water.** This in turn decreases the availability of water within the compound. This might **affect negatively** the adequate **water supply** of Al Rabwa compound on the long run as well.

6.2.4: Air Quality

As per prior discussion, the location of Al Rabwa compound 140 meters above the sea level provides the compound with **adequate air quality**. This is further enhanced through the **low density of the compound** as well as the **high occupancy of the green areas** which covers more than 41 % of the total area of the compound.

However, the residents' **reliance on vehicles use promotes the existence of roadways and parking lots**. This decreases the planted areas, with their negative influence on air quality causing more pollution via carbon imitations and raised air temperature associated with engines heat.

In fact, this agrees with Frank et al (2005) whom stated that, in contrary the high density neighborhoods, where concentrations of people and activities contribute to lower level of air quality. Hence, Al Rabwa is expected to have **a good air quality.** Meanwhile, the high **dependency on vehicular movement promotes the rise of temperature** due to the possibility of the occurrence of the heat island effect as well as emission of air pollutants (Holtzclaw, et al., 2002; Solecki, et al., 2005). Hence, the air quality of Al Rabwa is expected to be affected negatively on the long run

The questionnaire survey results show that the **residents asserted on the good air quality with minimum pollution in the compound's overall environment which is ranked as the most accomplished need in the physiological set of needs** [figure (6.3)]. This might be due to the low density of the compound and the low level of concentration of people as well as the adequate large green spaces which promotes the air quality and purifies the air.

Figure (6.3): Caption of the results of set (A)-Physiological needs-showing good air quality as the most accomplished feature- Source: Author

6.2.5: Shelter

By definition, **Al Rabwa compound** consists of villas and twin houses targeting the upper end, in about 12 different designs with areas ranging from 220-637 square meters and 800-1600 square meters of land plots [figures (6.4) and (6.5)]. Each villa consists of two floors, a garden and a private garage for two cars as well as an optional central heating a/c system.

Figure (6.4): left- Cul de sac design of different units of the villas organization around a central garden

Figure (6.5): above- Different types of villas existing in the compound

Source: (Real estates, 2006)

The variety in villa types and areas presented provides a more appropriate shelter to a wider scale of user groups in Al Rabwa compound. Meanwhile, **the previous analysis resulted in high quality of water and air quality of Al Rabwa compound** which according

to Shaw (2004) **promotes good quality of housing as well.** Hence, the housing quality within the compound is expected to be of an adequate level in relevance to environmental, physical and psychological factors.

At the end, it is important **to mention that the existence of the mosque as a building type accounts for satisfying the physiological needs for a group of people solely**. It contributes to provision of a religious building type for Muslims to perform prayers **dismissing the existence of other religions within the compound.**

6.3: Security Needs

As per the discussion in chapter four, security needs are acquired on two levels; physical and perceived. Both factors are important elements to be satisfied in the gated communities which reinforce the need for security as a main element (Foucault, M, 1997). Hence, the following sections **investigates the satisfaction of security needs in Al Rabwa compound** on two levels; **physical and perceived security.**

6.3.1: Physical Security

Being Al Rabwa compound a gated community, it is surrounded with a **buffer zone of high wall and vegetation** together with **five gates and gatehouses** all over its borders (only three are existent for the time being) [figure (6.6)]. This wall is **solid concrete wall co-fronted with high Saru trees** for blocking the wind and aesthetical attributes as well [figure 6.7)]. Meanwhile, residents are expected to pay high yearly costs for security purposes of the compound.

Figure (6.6): Gatehouse located at the one of the gates expressing highly secured character of the compound- Source: Author

Figure (6.7): The wall surrounding the compound showing both layers of solid built wall and vegetation- Source: Author

Walls and fences are also an integral part of the villa design. Villas are separated through high fence with vegetation from the streets on one side while being separated with a low green fence from the garden on the other side [figures (6.8), (6.9) and (6.10)]. The existence of walls/fences all over the villa borders asserts on secured villas as the major housing element where fences and vegetation boundaries exert high separation between street life and private realm of the villa

Figure (6.8): View of the street showing the fence separating between the villa and the street- Source: Author

Figure (6.9): View of the walls separating between corresponding villas- Source: www.nileestate.com

Figure (6.10): View of the green boundaries between villas and the garden space -source: courtesy of Dina Motawea (one of Al Rabwa residents)

It is important to note that being Al Rabwa compound classified as a **highly permeable compound** according to Luymes (1997) asserts on need for a clear demarcation of the major security features as seen in the wall, gates and gatehouses characteristics. Meanwhile **clear demarcation of the private and public spaces** provides the users with a **high sense of territoriality of their ownership of villas and their garden** (Crowe, 2000; C. Ray, 1977; Lynch, 1981)**.** This further reflects upon the psychological needs inducing high safety measures to the users as well.

According to the previous description of the security features of Al Rabwa, it is considered **a 24 hour guarded gate and gatehouse** with a **high level of impermeability** as per Luyme (1997).

Also, the high cost of the security implies that the physical boundaries are important to residents for the protection and prestige to Al Rabwa compound (Greinacher, 1995).

The results of the questionnaire survey showed **high degree of satisfaction with the degree of security provided as expressed by the residents** [figure (6.11)]. This goes back to the existing solid walls and secured gatehouse system which act as important features of security in the compound.

Respondents	Set (B)			
	Existence of solid walls and secured gates surrounding the compound	Boundaries between public and private spaces; e.g.: vegetation, walls between villas, streets, etc...	Use of safety features in the streets and sidewalks	Lively streets due to the presence of pedestrain and vehicular movements
No. of residents that ordered the item as most accomplished	16	10	6	11
Order	1	3	4	2

Figure (6.11): Caption of the results of set (B)-Security needs-showing existence of solid walls and secured gates surrounding the compound as the most accomplished feature- Source: Author

Also, **designing the streets and sidewalks for vehicular and pedestrian movement** is important to satisfy physical security to maintain security needs as previously discussed. Some of these treatments were valid in the design of the street and sidewalks within Al Rabwa compound where both route were clearly designed for use. **Speed humps were installed on streets** and **appropriate installation of** light fixtures [figure (6.12) and (6.13)]. Likewise, **the existence of proper vertical clearance between the street and the**

Vegetation regulating the pedestrian route inducing safety to users

Pedestrian route

Speed humps

Figure (6.12): A view of the street and sidewalks showing some treatments to attain physical security- Source: Author

sidewalks through vegetation and the clear marking of pedestrian routes provides for street and sidewalks security [figure (6.14)].

Figure (6.13):View of the street showing the light fixtures installed as a part of street treatments-Source: Author
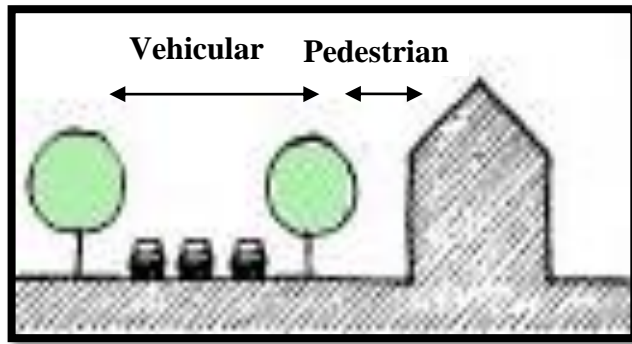
Figure (6.14): Demonstration of vehicular versus pedestrian routes -Source: Author

These **treatments of street and sidewalks are expected to enhance the physical security** of the compound as elaborated earlier by Frank et al. (2005), Ewing et al. (2006) and Williams et al. (2007).

6.3.2: Perceived Security

Al Rabwa compound is said to be one of the **low density compounds** with cul de sac design and **high dependency on vehicular use** as per prior discussion. The centralization of activities in one area (clubs, market, etc…) contributes to less perceived security in the places that lack the activities. Hence, high dependency on vehicular movement exists which decreases the sidewalk use [figure (6.15)].

Likewise, **the separation between the two major areas; the garden space and the streets does not allow for corresponding layers of interaction to take place** [figures (6.16) and
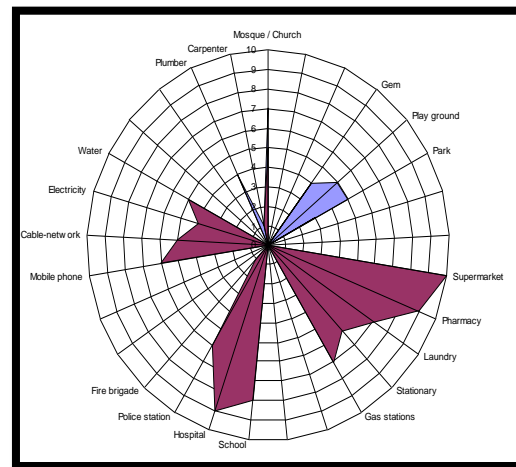
Figure (6.15): Rate of vehicular use in relation to pedestrian to fulfill daily needs in Al Rabwa compound showing high dependency on vehicular movement- Source: (Abdel Hadi, et al., 2012)

(6.17)]. In other words, both spaces at night will be abandoned due to the single use of space with no corresponding activity.

Figure (6.16): view of the street showing on-street parking with no use of sidewalks – Source: Author

Figure (6.17): view of the garden with no corresponding activity seen- Source: courtesy of D. Metawwea, (one of the residents)

The centralization of the activities results in no eyes on the street especially at night decreases the perceived security (Bray, et al., 2005). Hence, it is important to provide spaces for on-street occasional activities. As Jacobs (1961) asserts on the need to have **mixed land use** where people are encouraged to use the outdoor spaces towards promoting the perceived security within the neighborhoods. Ewing et al. (2006) and Jacobs (1971) highlights that the separation between the street and garden spaces enhances the use of the public open space on the garden sides while the **street façades are cascaded with the high fences** of the villa rather than windows overlooking hence having induced low security measures.

The **design of the neighborhood** plays a role in maintaining physical safety of its users. The cul de sac design of neighborhoods presented in Al Rabwa has provided for fewer points of connections increasing the distance needed to travel to a destination as referred by Williams et al. (200). This provides for high dependency on vehicular movement while decreasing the pedestrian movement and on-street interaction.

The **result of the questionnaire survey** shows low satisfaction with the **use of safety features in the streets and sidewalks** by Al Rabwa residents, hence **existence of 'un lively streets' within the neighborhoods** [figure (6.18)]. Therefore, despite of the proper treatment of sidewalks, proper attention of space design and introduction of occasional activities is needed for induced security and safety measures.

Respondents	Set (B)			
	Existence of solid walls and secured gates surrounding the compound	Boundaries between public and private spaces; e.g.: vegetation, walls between villas, streets, etc...	Use of safety features in the streets and sidewalks	Lively streets due to the presence of pedestrain and vehicular movements
No. of residents that ordered the item as most accomplished	16	10	6	11
Order	1	3	4	2

Figure (6.18): Caption of the results of set B (security needs) showing the perception of use of safety features within the compound as the least satisfied- Source: Author

6.4: Belongingness Needs

The need to 'belong' and socialize is within the human nature as asserted earlier by Maslow (1970a). **Attaining the belongingness needs aims at enhancing the social capital** through provision of settings for human nature and creating social networks (Putnam, 2000). Hence, its **interpretation in the physical built environment** of Al Rabwa compound will be discussed below **in two settings; formal networking settings** and **informal interaction spaces.**

6.4.1: Formal Networking Settings

Basically, a part of being **Al Rabwa classified** as **golf and leisure community** asserts on providing a golf course with a golf club. The **club** plays an important role in being a **formal setting** for different kinds of activities taking place within. Its design was intended to be implemented in a way to **allow all sections to overlook the golf course and the rest of the resort** [figure (6.18)] as per developers' opinion (Real estates, 2006). The activities include; play courts for volleyball, basketball and handball, restaurants, swimming pools, a nine-hole golf course, etc…[figures (6.19) and (6.20)].Hence; the club becomes the main formal social club to provide for activities through affording settings for social interaction.

Figure (6.19): Location of the club and the play courts showing its relation to the residential villas – Source: (Real estates, 2006)

Figure (6.20): Image showing residents playing volleyball – Source: Courtsey of Rabwa Creative Team (RCT)

Likewise, the club includes meeting rooms and areas that account for residents meetings. In fact, the **Al Rabwa compound used to be managed by the developers**, yet **nowadays it is managed by a board of occupants.** The **nominated participants** are to be from the **residents of the compound** whom are responsible to tackle the problems within to maintain the quality needed to meet the requirements of the residents [(figure (6.21)].

Figure (6.21): Announcement for occupant union meeting

In fact, the existence of the club within gated communities' accounts for many activities whether it is physical or communal ones. Social clubs and playgrounds account for formal settings of attaining belongingness needs (Williams, et al., 2007; Lawrence, et al., 2011). Meanwhile, the occupant union formation is considered a step towards **providing the residents with active opportunity** to engage in the **decision making** and **maintenance** of their environment. This step is a reflection of introducing the residents to the importance of the active participation of

users in the design, building, using and maintenance phases to enhance their sense of belonging (Butterworth, 2000; Titman, 1994).

The **questionnaire survey** results showed that the **residents highly ranked the sharing in the maintenance activities.** This **promotes the sense of ownership of the residents** and **upholds their notion of participatory democracy** as per Taylor (1988) [figure (6.22)]. Hence, this reflects reflecting positively upon maintaining sense of belonging.

Respondents	Set (C)			
	Existence of different places for group gatherings	Interaction across boundaries	Residents share similar social status	Residents participation in maintenance activities
No. of residents that ordered the item as most accomplished	5	7	12	13
Order	4	3	2	1

Figure (6.22): Results of set C: belongingness needs showing the residents participation in maintenance activities as the highly satisfied- Source: Author

6.4.2: Informal Interaction Spaces

Al Rabwa compound accounts for provision of public space through open gardens, semi-public enclosed gardens and private enclosed gardens. In fact, the design of the compound in a form of a palm of a hand has provided a central garden for each group of villas providing a **communal space for meeting and sharing activities**. The **lack of shade and appropriate design for providing activities** (sitting areas, kids' areas, etc…) has undermined the idea of the communal garden space. However, some residents try to set casual meetings with their friends as a part of exposure to the outdoor environment as well as organization of **open days** to socialize in spite of its economic benefit to the organizer [figures (6.23) and (6.24)]. This goes back to the high sense of belonging and familiarity expressed between the residents as asserted by Abdel Hadi et al. (2012) where Al Rabwa is classified as a low density development.

PUBLIC STREET   **PRIVATE**   **SEMI-PUBLIC**
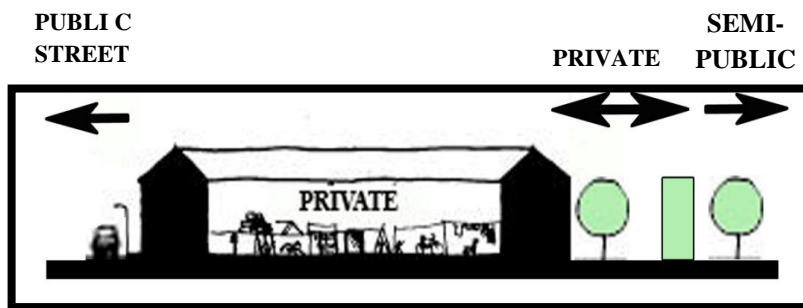
PRIVATE

Figure (6.23): A sectional sketch showing the transition between spaces along private to public realm- Source: Author

Figure (6.24): An image of the central garden showing a group of friends having an outdoor lunch in the golf area- Source: Courtsey of O. Sharky (one of Al Rabwa residents)

On another level, the **difficulty to interact across** boundaries is another factor decreasing socialization between different entities. The high fences surrounding the villas whether it is built or vegetation decreases the level of interaction between neighbors. However the design of the villa itself interprets the terraces and verandahs an integral part of the designs to allow for socialization between neighbors [figure (6.25)].

Figure (6.25): Villa design showing the terrace overlooking private garden- Source: www.mlseg.com

The importance of **having appropriately designed communal spaces accounts for people's attraction for space use**, where informal activities are interpreted in the different settings that take place incidentally among the neighbors (Carr, et al., 1992; Putnam, 2000). The residents of Al Rabwa made use of the central gardens although lacking appropriate design features to enhance space use. However, it is important to note that the **improper design of the active elements** within spaces makes them unused, hence **affecting the sense of belonging negatively** especially on the long run (Bentley, et al., 1985).

The **questionnaire survey** results shows that the **residents express low satisfaction of the existence of different spaces for group gatherings** [figure (6.26)]. This goes back to the lack of active design elements within spaces. However, it is important to note that the club acts as the major social hub in the community for most of the activities provided as discussed earlier.

Respondents	Set (C)			
	Existence of different places for group gatherings	Interaction across boundaries	Residents share similar social status	Residents participation in maintenance activities
No. of residents that ordered the item as most accomplished	5	7	12	13
Order	4	3	2	1

Figure (6.26): Caption of the results of set (C): Belongingness needs showing the existence of different places for group gatherings as the least ranked- Source: Author

Meanwhile, the **questionnaire survey showed that the residents of Al Rabwa see themselves sharing the same social status** [figure (6.27)]. This might account them to interact efficiently together within the networking settings as discussed earlier.

Respondents	Set (C)			
	Existence of different places for group gatherings	Interaction across boundaries	Residents share similar social status	Residents participation in maintenance activities
No. of residents that ordered the item as most accomplished	5	7	12	13
Order	4	3	2	1

Figure (6.27): Caption of the results of set (C): Belongingness needs showing the residents perception of them sharing similar social status is highly satisfied- Source: Author

6.5: Esteem Needs

The esteem needs are dependent upon opportunities to display esteem to one self and to others. These opportunities are displayed in the built environment in three sets as stated by Lang (1994); opportunities for development of abilities, opportunities for expression and opportunities for display of the symbols of success to oneself and others. The following discussion will examine the esteem needs in Al Rabwa compound through the previous sets.

6.5.1: Opportunities for Development of Abilities

Al Rabwa compound offers the **club and the clubhouse** along **with its activities** as the primarily place for social gatherings and **provision of educative settings**. The educative settings within the club is offered through **playgrounds** (4 tennis courts, 2 squash courts, volley ball, football field, handball field, tennis ball), swimming pool (outdoor and indoor) , golf area, etc…

Meanwhile, meetings of the **occupant union** take place within **the clubhouse.** Hence, the clubhouse offers an opportunity for residents' to **enhance their skills in maintaining their built environment** through engagement in the decision making process. This increases the **familiarity** between residents as well as being a step towards satisfying the esteem needs as well.

On the other hand, it was discussed earlier that **Al Rabwa compound** is a **low density** compound which **lacks well designed open spaces** even though central gardens are provided through the cul de sac design. Hence, the provision of activities is dependent upon the club and the club house.

According to Zimmerman & Rappoport (1988), it is expected that **the provision of educative settings** within the built environment **contributes to the residents' ability of learning and participation in activities** provided. However, they are limited to **formal settings solely** in Al Rabwa compound.

6.5.2: Opportunities to Display Skills

As per previous discussion, most of the activities and meetings take place within the club and the clubhouse. Hence, settings that contribute to displaying skills take place in the club are; playgrounds atheltic fields, clubhouse, any place that provides for displaying of skills. Opportunities to display skills takes place through **tournaments** organized by the club, running race, etc…All these activities are organized by the rabwa creative team through the **club** organization [figures (6.28) and (6.29)] .

Figure (6.28): Image showing a capture of a volleyball tournament- Source: Courtesy of Rabwa Creative Team
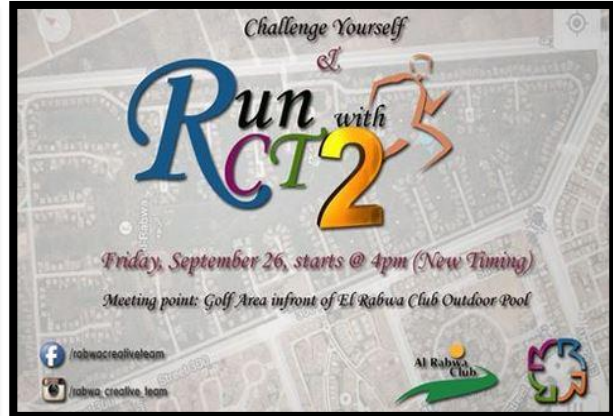
Figure (6.29): Announcement of a running race organized by Rabwa club- Source: Courtesy of Rabwa Creative Team

Another level of the **display of skills** is the **personalization** of the frontal gardens of the villas. Residents are given their own space to **design their own frontal garden** which provides them with their **personalized boundary** of **vegetation elements and patterns** chosen by them [figure (6.30)].

Figure (6.30): View of a villa frontal showing personalization of the frontal garden- Source: Author

Hence, the provision of opportunities to display skills through the formal settings of the club as well as the personalization acts provided by the people in charge of the compound contributes to satisfy esteem needs. This asserts on what Lang (1994) states that the **new communities focus on formal settings for displaying skills and provide few informal settings within its built environment** as in the case of Al Rabwa compound.

Meanwhile, the **questionnaire survey** results show that the **residents highly ordered the organization of social gatherings/ activities to enhance ties between neighbors** within the esteem needs [figure (6.31)]. This asserts on the success of the club as an organization to enhance esteem needs within the compound.

Set (D)				
Respondents	Organization of social gatherings/ activities to enhance ties between neighbors.	Luxurious image of the compound	Ability of residents to change design features	Chosen colours have positive psychological impact upon residents
No. of residents that ordered the item as most accomplished	15	14	6	5
Order	1	2	3	4

Figure (6.31): Caption of the results of set (D) esteem needs where organization of social gatherings is highly satisfied- Source: Author

6.5.3: Opportunities for Display of the Symbols of Success to Oneself and Others

Al Rabwa **clubhouse** provides for **meetings and celebrations contributing to community and familiarity within its residents**. The club is responsible to host celebrations and events for its memebers to enhance the familairity and recognition among themselves. As an example of these celebrations is the **mothers day event** that took place in the clubhouse area [figure (6.32)].

Figure (6.32): Caption of the mother's day event towards recognition of mothers-Source: Courtesy of S. Fouad (one of Al Rabwa residents)

Meanwhile, Al Rabwa compound demonstrates a **high status** through the physical aspects provided as well as the exclusive name chosen by the developers. The **high privacy induced by the compound to its residents** as discussed by (Abdel Hadi, et al., 2012) **as well as the cost and exclusivity of the villas and its designs communicates the high social status of the residents of the compound**. This was elaborated upon by Lang (1994) where he asserts that the symbols of success is displayed through settings enhancing concepts of community as well as the meanings and values the built environment inhibits. Hence, the compound provides for

display of symbols of image and signage of wealth to the outer community through the formal attributes of the clubhouse and the exclusivity of its features.

The questionnaire survey results which show that the **residents highly ranked the luxurious image of the compound** [figure 6.33)]**.** Hence, one of the reasons residents chose to reside the compound is its success to communicate the symbol of status to the outer community and themselves from their point of view.

Respondents	Set (D)			
	Organization of social gatherings/ activities to enhance ties between neighbors.	Luxurious image of the compound	Ability of residents to change design features	Chosen colours have positive psychological impact upon residents
No. of residents that ordered the item as most accomplished	15	14	6	5
Order	1	2	3	4

Figure (6.33): Caption of the results of set (D): esteem needs; showing the luxurious image of the compound highly satisfied among the esteem needs satisfaction- Source: Author

6.6: Cognitive Needs

The **cognitive needs** acquire the individual with **the need to be aware of the opportunities offered through the surrounding built environment**. These are interpreted in the built environment through **three sets of opportunities** as asserted by Lang (1994); **opportunities for learning towards instrumental ends, opportunities for expression** and **opportunities for learning towards its own sake**. These three sets are discussed in the realm of Al Rabwa compound below.

6.6.1: Opportunities for Learning towards Instrumental Ends

Based upon prior discussion, Al Rabwa compound **offers activities and learning experiences through the club and the clubhouse activities**. One of the prominent activities that take place within the club setting is the **golf**. It **resembles one of the activities that characterize wealthy communities to show competence** through this game. However, the existence of other types of playgrounds that account for learning other types of sports is relevant within the club settings as well.

It is important to note that legibility of the spaces that offer learning towards instrumental ends is important to satisfy the cognitive needs for the individuals. In Al Rabwa compound, **the club house** acts as the primary space for social activities and learning experiences [figure (6.34)]. This is resembled in:

Figure (6.34): View of the club building showing different setting than those of the villa design, yet respecting the skyline of the compound- Source: www.panoramio.com

- **Uniqueness of the design of the club**; where its form is different than the rest of the villa design, hence it is easily recognized.
- **Use intensity** where most of the activities are centralized within this area, hence being a point of focus within the compound.
- **Significant importance** due to being the only mean of communication between residents; occupant union, activities, celebrations, etc…
- **Quality,** where the upkeep maintenance of the club is prominent

On the other hand, Al Rabwa compound built environment holds several opportunities for settings that might inhibit opportunities for learning. These **settings include the nodes that encompass villas together resembled in central gardens** [figure (6.35) and (6.36)]. These gardens lack identity, movement, significance and use intensity. This goes back to the fact that there is no active design elements used within these settings to enhance people's engagement within.

Figure (6.35): View of the central garden between villas showing the lack of active design elements - compound- Source: D. Motawea (one of the residents)

Figure (6.36): Another view of a central garden showing the inappropriate use of trees - Source: D. Motawea (one of the residents)

In referring to Blakely and Snyder (1997), the **gated communities are expected to offer spaces for learning opportunities and interactive environments through playgrounds, athletic fields, clubs,** etc… This is prominent in golf and

leisure communities as the case of Al Rabwa compound, and sub-urban new towns according to Blakely and Snyder Classification.

The **questionnaire survey** results show that the residents showed **high satisfaction of the residents with the existences of the nodes for gatherings**. However, due to the lack of appropriate active design elements, the **intensity of use** of gardens is apparently low.

Respondents	Set (E)				
	Clarity of paths for pedestrian and vehicular use	Nodes for gathering; e.g: club as a building, central gardens, etc...	Edges defining the compound and boundries between land ownership and one another	Ability to identify different clusters	The existant landmarks are easily recoignized, e.g: club, mosque, etc...
No. of residents that ordered the item as most accomplished	5	11	15	5	5
Order	3	2	1	4	3

Figure (6.37): Caption of the results of set (E): legibility and cognitive needs showing existence nodes for gatherings as highly accomplished- Source: Author

6.6.2: Opportunities for Expression

Al Rabwa compound tends to be a '**highly manicured' gated community** where some expressive acts offered are created by the Rabwa creative team through the club activities. Some relevant examples of the opportunities for expression offered are **aerobics classes, running races** and **carnivals for adults and kids**.

According to Lang and Moleski (2010), the expressive acts are managed by policies favoring hard surfaces as the case of Al Rabwa, hence reducing the expressive acts ratio within the compound. Hence, the **expressive acts are being limited to the realm of the club**. The **questionnaire survey** results shows that the residents expressed low accomplishment of the expressive acts within the compound as well [figure (6.38)].

Respondents	Set (F)		
	Providing self expressive activities	Easy wayfinding within the compound	Ability to choose between different casual activities within the compound, e.g.: fairs, open days, etc..
No. of residents that ordered the item as most accomplished	4	17	20
Order	3	2	1

Figure (6.38): Caption of the results of set (F): cognitive needs showing low accomplishment of the expressive acts- Source: Author

6.6.3: Opportunities for learning for its own Sake

The design of Al Rabwa compound interprets **low opportunities for learning for its own sake. Design of the golf course** throughout the layout of the compound allows several sections of the compound to overlook the golf course as per the developers design goals [figure (5.2)]. However, the design of the street and block design does not provide **paths and street block pattern design of the cul de sac** does not allow for mixed use due to **the low density of the compound** as well as the **lack of appropriate active design elements (signage, posters, etc…)** [figure 6.39)]. Meanwhile, the age and type of buildings provided does **not allow for existence of buildings from different eras** which reflects on the cognitive needs as well. At last, it was discussed earlier that most of the **fairs and occasional activities takes place within the clubhouse** according to the gated compound policies as well.

Figure (6.39): View of one of the paths leading to the garden showing lack of use of design elements- Source: Author

Hence, **the design of the built environment as a golf and leisure gated community provides for opportunities for learning for its own sake within the club and the club house settings.** However, this is not successfully interpreted in the realm of the built environment of the compound as per previous discussion.

6.7: Aesthetic Needs

In fact, Al Rabwa **promotes for beautiful sceneries** "picturesque" providing for housing and a lush of greenery. Hence, the aesthetical quality plays a role in attracting residents to the location. The aesthetical quality in the built environment evokes a 'pleasurable emotional response' which in turn upholds positive affirmation of oneself and identity in belonging and esteem needs as well (Philipp, et al., 1999). Aesthetics is interpreted in the built environment through **formal aesthetics** and **symbolic aesthetics.** Each set is discussed below in the realm of Al Rabwa compound.

6.7.1: Formal Aesthetics

The formal aesthetics are presented through three variables; enclosure, complexity/ diversity and order in the built environment. In Al Rabwa, **physical attributes** were used to maintain enclosure through high fences whether built or vegetation, the form of clustering the villas around a central garden and the organization of open spaces from private to semi-public as discussed earlier [figures (6.3), (6.9), (6.16) and (6.40)]. However, **the scale and ratio of the enclosed garden** clustering the villas is said to be of **intense for use due to the lack of active elements**, hence dismissing the 'enclosure' variable as a central space.

In fact, **enclosure is important for spatial definition of space attaining aesthetic attributes as well**. In Al Rabwa, **physical attributes** were used to maintain enclosure through high fences; vegetation and the form of clustering the villas around a central garden [figure (6.40)]). The configuration of the villas in a form of **U-shape** provides for design of **contained spaces.** However, the scale and ratio of the **enclosed garden clustering the villas is said to be intense for use** of the residents.

Figure (6.40): A layout showing the central garden- Source: mlseg.com

The **order of locating the villas in a U-shaped form** [figure (6.41)]**,** allows for diverse scenes of the outdoor. However, the existent scenes are in a form of vegetation of the outdoors; **ficus and palm trees distributed evenly with even no shade trees in this area** [figure (6.40)]. **Also,** the complexity/ diversity in the built environment of Al Rabwa are evident through the different interpretation provided in the frontals of each villa. Residents are given the opportunity to design their villa frontals, hence providing aesthetical diversity of different elements along street facades [figures (6.42) and (6.43)].

Figure (6.41): A layout showing order of distribution of villas- Source: (Real estates, 2006)

Figure (6.42): Frontal of a villa garden design showing aesthetical diversity corresponding to the

Figure (6.43): Another frontal of a villa garden design showing aesthetical diversity corresponding to the neighboring gardens – Source: Author

Meanwhile, the **spatial characteristics** of Al Rabwa compound targets the upper social status of the residents. This is interpreted in the low density of the compound with **unified skyline** consisting of spacious villas ranging from as well as the **vegetation** which covers about 41% along with the **golf area** [figure (6.44)] Hence, it provides for a suburban communal life for the upper class through aesthetical attributes with a **promise for a life away from the city pressures.**

Figure (6.44): Layout showing a part of the skyline – Source: www.property-advisors.com

Likewise, the choice of **colors and materials** influences the formal attributes embedded by the designs. The use of **beige concrete** building materials for the villa, **brick slope roof, pond** and the **green vegetation** accounts for a **relaxed image away from the city pressures [figure (6.45)] .**The use of earth colors in a naturally set environment provokes serenity of the suburban life.

Figure (6.45): Layout showing the natural elements used- Source: (Abdel Hadi, et al., 2012).

The previous discussion of the formal attributes of Al Rabwa compound asserts on the provision of a suburban life for the upper class through aesthetical attributes. The **use of natural elements** (ponds, vegetation, brick, provokes **preference from users** and sense of relaxing environment (Kaplan & Kaplan, 1989). Also, **the design of U-shaped contained space is preferred by people providing for liberty and freedom** as well (Beck, 1970). These spatial characteristics

discussed are better consumed by the higher status people where they are able to maintain the costs of life in a compound as asserted by Nassar (1988a).

The **questionnaire survey** shows that the residents perceive the **choice of colors providing an image that is different from the pressures of the city** as the most accomplished feature in the aesthetic needs [figure (6.46)]. This asserts on the success of the formal attributes in interpreting the image of the suburban life in Al Rabwa compound.

Respondents	Set (G)			
	Visual diversity in colours, forms, textures,etc...	Forms of buildings allow for viewing diverse scenes	Outdoor environment contains 'beautiful settings'	Choice of colors provides an image that is different from the pressures of the city
No. of residents that ordered the item as most accomplished	7	12	6	13
Order	3	2	4	1

Figure (6.46): Results of the questionnaire survey of set G: aesthetical needs showing the choice of colors in providing a relaxed image as the most accomplished- Source: Author

6.7.2: Symbolic Aesthetics

The design of the built environment of Al Rabwa communicates some symbolic meanings. This is interpreted in the choice of the **pond** as an element within the layout where the use of water interprets **tranquility and provides for a harmonious environment**. Moreover, having **41% of the compound occupied by greeneries accounts for a suburban life**. As for the villa designs, **each villa are roofed with sloped roof denotes glory of previous civilizations as well as accounting for an image of suburban life** [figure (6.47)].

Figure (6.47): Layout of villas showing unified pitched roofs in the design-Source: www.mlseg.com

It is needed to assert that the meanings and associations of these elements in the built environment are interpreted differently among users. However **the design principles accounts for providing a life away from the city pressures** through the use of natural materials and 'tranquil' elements in the urban scape. Elements such as: patios, gardens, water evokes movement and prosperity as referring to Stockens (1998) [figure (6.48)]. This was asserted earlier by the questionnaire survey results presented in figure (6.46).

Figure (6.48): Layout of the private garden of a villa resembling connectivity to nature- Source: www.egypt.aqarmap.com

6.8: Self Actualization Needs

The process of self actualization is attained through provision of a rich environment of opportunities for self expression and aesthetic appreciation where it could be realized in each set of needs previously discussed (Lang, 1987). Self actualization is interpreted in the built environment through the Being values; **Designing with revelation**, **choice and sensual experience** and **symbolic experience of intangible values**. Each set is discussed in Al Rabwa compound below.

6.8.1: Designing with Revelation

The design of Al Rabwa compound takes the form of a **'palm of a hand'**. This urban configuration has provided an overall theme of concept design where **unity** exists in the idea of **centralizing the villa around a central garden** on both sides of the **golf course** which is the heart of the project providing a lush of greenery. However, the form of the application of the concept might differ from one zone to another to provide alternatives of space design [figure (6.49)].
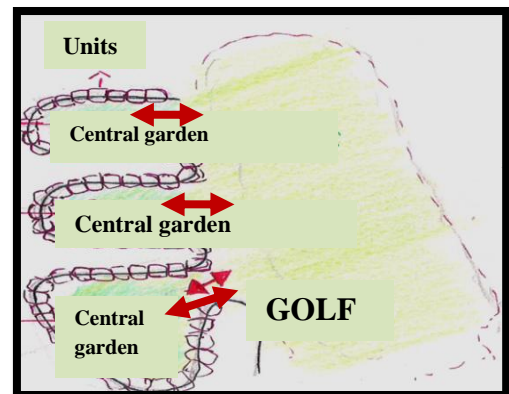
Figure (6.49): Layout showing space distribution of villas- Source: Author

Also, existence of **different forms** with **similar visual cues** enhances the **visual appropriateness** of the whole built environment hence **revealing beauty** of the different settings together (Bentley, et al., 1985) [figure (6.50)]. This point adds to the overall design of compound where **harmony** of the compound nature reveals beauty hence **attaining visual appropriateness** with positive **reflection on self actualization qualities**.
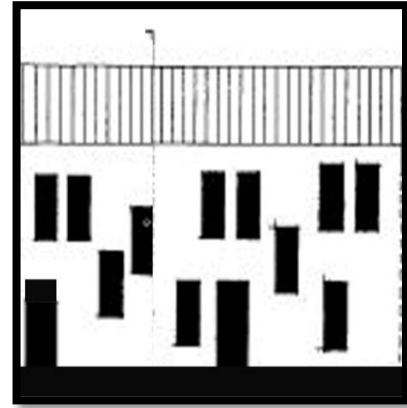
Figure (6. 50): Layout of openings showing visual character using similar elements (openings) while being arranged with different relationships- Source: Author

6.8.2: Choice and Sensual Experience

The environment is expected to provide for cues through **the use of the senses** to enhance the **spatial human experience**. Al Rabwa compound has provided this by a **golf and leisure** compound has provided it with encompassing a **golf course** stretching over a great portion in the heart of the layout besides the great ratio of greeneries which stimulates the enhance **sense of sight** as well. Also, the interpretation of the pond within the compound design accounts for **motion of the water** and **sense of hearing** the nature [figure (6.51)].

Figure (6.51): View of the pond accounts for motion and sense of hearing –Source: Courtsey of A. Saleh (one of Al Rabwa residents)

Moreover, some choices of plants in gardens like: **pennisetum and Indian jasmine** plants provide a good smell enhancing **the sense of smell** [figures (6.52) and (6.53)] **. Provision of different textures** of stones, wood, sloped roofs and greeneries accounts for contrast and sense of **sight/ visual richness** in the overall built environment. [figure (6.54)].

Figure (6.52): View between two villas where plant groupings are rich in color in contrast to the stone wall. Source: courtesy of H. Abdel Moniem)

Figure (6.53): View of one of the frontals of the gardens where the choice of plants provide identity through sense of smell- Source: Author

Figure (6.54): View of one of the frontals of the gardens of the villa where different colors and textures are provided-Source: Author

Hence, it is important for the environment to provide varied settings and cues to enrich the human senses. As referring to Lang (1987), this takes place to attain **regular interaction between the individual and the physical environment** in which the environment becomes better conceptualized by the users.

6.8.3: Symbolic Experience of Intangible Values

Al Rabwa compound provides its residents with a **suburban lifestyle** away from the city pollution that imposed its design with extreme ratio of vegetation elements through vehicular oriented approach, the design of the low rise villas targeting the upper social Cairene strata of businessmen and wealthy families whom can afford the living costs. Hence, the design of the built environment has **symbolized forms** of a new culture moving the individual away from the authenticity of the city to consumerism and westernized lifestyle.

In fact, the **gated communities** that include a swimming pool, a fitness centre, and a golf course, everything that leads to a healthy, luxurious, and **suburban life** are considered of the forms of globalization (Abaza, 2005, 2006). This introduces new forms of living that brings up new culture, values and tastes as; the culture of fast food, technological advances, and shopping in malls rather than neighborhood which jeopardizes residents' awareness of their real identity, hence their self actualization.

The questionnaire survey showed that the **residents of the compound** display **high satisfaction** with the **overall lifestyle of the compound** that they consider a **reflection of their own culture,** which is in that case**; consumerism and westernized lifestyle** [figure (6.55)]. Hence, the life style of the gated communities grasps the well to do portion of the city to the peripheries not only away from the city problems but also from the city **authenticity and culture**.

Respondents	Set (H)		
	Uniqueness of the design is evident	Surrounding environment stimulates the five senses	Overall lifestyle in the compound reflects your own cultural values
No. of residents that ordered the item as most accomplished	8	14	20
Order	3	2	1

Figure (6.55): The results of set (H): self-actualization needs show the residents' perception of the overall lifestyle in the compound reflecting their own cultural values as the most accomplished- Source: Author.

6.9: Transcendence needs

This set of needs is considered a continuation to the self actualization needs where it includes **self actualized qualities** as well as **participating in organizations and groups for self actualizing others**. **Rabwa Creative Team**; a **community development group** composed of Al Rabwa youth aims at improving the lifestyle of the residents and connecting them. Its activities take place and announced for mostly in the club realm. Some activities provided by the Rabwa creative team were discussed in earlier sections of this chapter. However, it is important to note that they also **provide charity services to others** such as: organizing orphan's day and Ramadan charity bags and donations.

According to Koltko-Riviera (2006), individuals seek mutual-help groups, grass root organizations and other volunteer agencies that promote **community** service as an approach to attain the transcendence needs. In the case of the gated communities, these groups can be maintained through a **formal organization** as a club or **voluntarily groups** as in the case of Al Rabwa compound.

The **questionnaire survey results showed that the residents showed awareness of the existence of community service within the compound** [figure (6.56)]. This is considered a step towards attaining transcendence needs.

Respondents	Set (I)		
	Mutual help groups, e.g.: awareness campaign against drugs	Grass root organizations, e.g.: National Council for Women	Community service, e.g.: Resala Organization
No. of residents that ordered the item as most accomplished	6	2	15
Order	2	3	1

Figure (6.56): The results of set (I): transcendence needs show the residents' awareness of existence of community service within the compound- Source: Author.

6.10: Conclusion

In conclusion, Al Rabwa compound is said to be a **golf and leisure compound** where it targets **upper middle class residents**. The previous assessment showed some qualitative results of the quality of living within the compound. There is **high dependency on vehicles** to attain the **basic needs** from food and water. However, a better thermal and air quality is provided. Meanwhile, as for being the compound a **secure suburban estate**, **physical secured gates guard the compound 24 hours per day**, the compound itself **lacks induced safe areas** due to **low density** and **low ratio of mixed land uses**. Yet, the **homogeneity** of the social strata of the compound has provided its residents with a **high sense of belonging, esteem and familiarity** even though the club house contains most of the socially interacting activities within the compound.

Moreover, it is needed to assert that the design of the compound's layout holds much potential for the built environment where **different attributes of legibility** of the built environment where analyzed which resulted in several potentials to promote the **individual's conceptualization** of his built environment if well maintained. This takes place as an approach to **enhance the learning experience and psychological needs** as well. All the previous sets of physiological and psychological needs are interrelated to the satisfaction of the self actualization needs. However, the self actualization needs were further analyzed qualitatively in the built environment where both tangible and intangible values were discussed. This was summed up

with being the **suburban gated communities' lifestyle** evoking the **culture of consumerism and westernization** and the fact that it became a '**culture of life'** to a great portion of Cairens.

Meanwhile, the **results of the research and the survey conducted w**ith the residents showed how the residents categorized the realization human needs presented in Maslow's model. The **residents categorized the human needs as follows; the security needs is the most satisfied followed by the belongingness needs, the physiological needs, esteem needs, aesthetic needs, cognitive needs, self actualization needs ending up with transcendence needs as the least satisfied** [figure (6.57)].
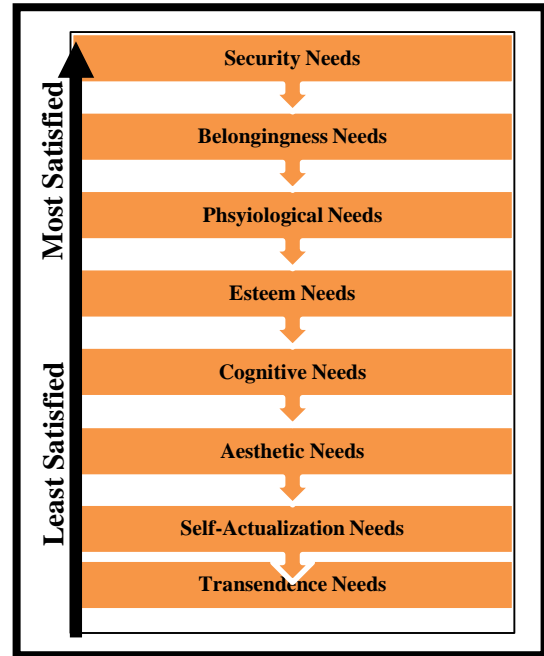
Figure (6.57): Interpretation of Maslow's human needs by Al Rabwa residents as per the questionnaire survey results – Source: Author

Moreover, in reflection to being Al Rabwa compound classified as a **lifestyle gated community** in terms of Blakely and Snyders' [Table (3.2)] ; **privacy and exclusion** come as a **primary factor** in attaining the **security needs** in terms of being securely gated and attaining some of the security features in the built environment as prior discussed. Meanwhile, **sense of community** comes as a **secondary approach** attained in the belongingness needs in terms of the formal and the informal activities taking place in the compound and the approaches to participate in the decision making of the compound through maintenance activities. While **stability** comes as a **tertiary factor** which is attained in the good atmosphere and the appropriate housing quality, despite the deficiency in attaining some of the basic needs easily in the compound. This is done taking into consideration the deficiency in some of the informal attributes within the compound as discussed earlier. Hence, it was important to examine the satisfaction of the human needs in the Al Rabwa compound in order to understand the residents' conceptualization of these needs

and its physical satisfaction within the compound's environment. This will aid in providing decision makers with appropriate strategies to improve the quality of the living environment to its residents from the scope of Maslow's human needs.

CHAPTER SEVEN

CONCLUSION and FINDINGS

7.1: Summary

Cairo witnessed an increasing phenomenon of the spread of the gated communities around its peripheries. This increasing phenomenon has grasped a large portion from Cairo's well to do residents promising for a better quality of life. The real-estate developers use the elements of human needs to grasp the residents focusing on physiological and psychological attributes like: physical activities, food providence, better air quality, security features, better place for raising kids, socialization settings- beautified natural settings-, etc… However, this alone might be enough to guarantee the full satisfaction of residents need. Hence, the need to examine the physical presence of these features in the realm of the Cairene gated communities is indispensable for better attainment of residents' needs and welfare.

The research's aim was to examine these gated communities from the scope of the human needs theories. The approach was developed based upon two parts; theoretical and empirical analysis. The theoretical part was developed upon literature review of history and theories, while the empirical part was developed upon an integrative mixed research strategy approach. The research main components are divided onto seven main chapters as it will be presented below.

Chapter one presents the main elements of the research; background of the research highlighting the need to discuss the issue of gated communities from the scope of the human needs theories. It also introduces the research problem, the major objectives of the research that will be tackled along the different parts of it as well as the methodology followed in the theoretical and empirical parts of the research. Finally, it presents the research structure which shows the main chapters to be discussed along the research.

Chapters two, three and four constitute the theoretical part of the research. Where, **chapter two** focuses on the human needs theories. First, it introduces a background about the human needs theories, and then it discusses some prominent human needs theories. Each theory was presented conceptually in relation to preceding ones to draw attention to the major constituents of the theory along with its major additions and criticisms it received. The human needs models presented were: Henry Murray's model, McClelland and his associates' model, Malinowski's model, Abraham Maslow's model, Clayton Alderfer's model and Alexander Leighton's model. This chapter concluded that Maslow's model of human needs is the most appropriate model for

purpose of the study. Not only because this model was the base for many following theories, as addressed in the thesis, but also due to the continued development and addition it incorporated in response to earlier critiques.

Chapter three investigates the case of the gated communities. After a brief historic background of gated communities with reference to Egypt, it introduces the different approaches and classifications of the gated communities in literature. The discussed classifications varied in covering up the general features of the gated communities as an urban phenomenon. The importance of presenting different approaches to classifying the gated communities is to conceptualize the different types and its reflection upon the Cairene ones. The chapter concluded that Blakely and Snyder's model is the most covering to the general features of the gated communities, which helps to set more appropriate understanding of the phenomenon and its application with reference to the Cairene gated communities

Chapter four addresses the link between the gated communities and the human needs theories. Each of the needs of Maslow's model of human needs was analyzed in terms of the means of its interpretation in the built environment. Several features were discussed and referred to such as; the public health; mixed land uses, socialization and neighborhood ties, level of activities, learning opportunities, identity of oneself and among group, participation in the decision making process, aesthetical attributes, legibility and way finding, etc… All these features were interrelated to Maslow's model to set the base for examining their fulfillment in a Cairene gated community case study in the following chapters.

Chapters five and six constitute the empirical of the research. **Chapter Five** presents the selection criteria of the case study as well as the methodology to be used for its analysis. First, the selection criteria of the case study was demonstrated where Al Rabwa compound was chosen as an example from Blakely and Snyder's classification of human needs being classified as a golf and leisure community and a top-fifth development as well. Then, the research design strategy was discussed which is an integrative mixed research method of three research techniques used together for acquiring more profound results of the research. These techniques are: observation and photographic methods documented by the researcher, theoretical analysis carried out based on the previous chapters and a field survey distributed among the residents of the compound. The questionnaire survey used was designed to measure the satisfaction of the

human needs from the residents' perception. Users were asked to rate the different needs presented in each set according to its rate of satisfaction in the compound from their own point of view. The results showed varied responses however the high ratings as well as some of the low ones that benefit the discussion were presented along the discussion of the satisfaction of the needs accordingly for support.

Chapter six addresses the case study analysis of the satisfaction of the human needs theories in the realm of Al Rabwa compound as a Cairene gated community. It uses the research design strategy discussed in the previous chapter where the three layers of analysis were discussed in each set of needs of Maslow's model. The results of the analysis of the satisfaction of Maslow's needs is expected to provide an in depth investigation of the realm of Al Rabwa compound from different perspectives. Hence, the decision makers and designers can take positive steps towards enhancing public health, provide the current situation of activities to maintain social capital reflecting upon social ties between neighbors, sense of ownership and the role of decision making within the compound, better expressing identity of individuals among groups, providing learning opportunities within the built environment and participatory settings and improving the aesthetical quality of the built environment. All these strategies are expected to enhance the overall quality of life; whether it is on a physical level or a psychological level as well as creating sustainable environments for the welfare of the current and future users.

At last, the present **chapter seven** is the conclusion of the research. It introduces a brief summary highlighting its important elements as well as the findings of the research and the potential opportunities for future research in the same area.

7.2: Findings

Each part of the thesis contributes to findings that add to the study. First, the theoretical part is divided into three chapters where each chapter contributes to a specific finding (s) as follows, where chapter two contributes to deducing the most appropriate model of human needs to be used in the study. Chapter three contributes to deducing the classification of gated communities that cover the most social and physical features of the gated communities. While chapter four wraps up the theoretical part contributing to set the framework linking between the human needs

and the gated communities. This contributes to the findings of the qualitative analysis in the empirical part.

The empirical part of the research is divided into two chapters where each chapter contributes to specific finding(s) as well. **Chapter fives c**ontributes to the **research methodology** which is applied in the empirical examination of the case study and could be applied into similar case studies as well under similar circumstances. While **chapter six** contributes by the **application of the research strategy** interpreting the **qualitative analyses and the survey in the chosen case study.** Results showed that the security needs (privatization and exclusion) were the most satisfied, followed by the belongingness needs (sense of community) then the physiological needs (stability). This is followed in order of satisfaction by the esteem needs, the aesthetic needs, cognitive, self-actualization and transcendence needs as the least satisfied. Each of these results were prior discussed though the examination of the human need in the built environment.

Meanwhile, the analysis presented in chapter six was based upon the relationship between the human need and its fulfillment in the built environment. However, for the benefit of the research, it is important to examine the elements of the built environment and how it attains the human needs discussed earlier. This method of interpretation will help designers and decision makers comprehend how elements of the built environment attain the human needs with an aim for sustainable living environments.

In the preceding case study analysis, elements of the built environment contribute to satisfying needs presented in Maslow's model of human needs differently. The existence of a **secured gatehouse with a wall around the compound** has attained the security needs at one level. The appropriate **treatment of streets and sidewalks** interpreting secured movement has attained the security needs. Yet, the **lack of mixed land use on street and sidewalk** corners has **decreased the satisfaction of the security needs, belongingness needs, esteem needs and cognitive needs** as well. The existence of a **market** within the compound attains the daily basic needs as a part of the physiological needs solely. Moreover, the **topography** of Al Rabwa compound 140 meters above sea level has attained overall good air quality as well towards physiological needs.

The existence of a **club** and a **clubhouse** within the compound has attained the belongingness needs, esteem needs, cognitive needs and transcendence needs. The **organization of the**

occupant union represented by the residents has attained the **belongingness and the esteem needs**. Also, the **organization of Rabwa creative team** has attained the **esteem, cognitive** and **transcendence needs** as well. All these are run through the club entity.

Meanwhile, the design of the **golf area** along the club through the layout of the compound has attained the **belongingness** and the **cognitive needs** as well. On a larger scale, the **design of the compound** has attained the **self actualization and belongingness needs**. Also, the existence of a **high ratio of greeneries** (41%) of the whole area of the compound has basically attained physiological needs, **belongingness needs, esteem needs, cognitive needs** and **aesthetic needs**. However, the lack **of active design elements within the gardens, open spaces, sidewalks, etc…** has decreased the active use of spaces **decreasing the attainment of the previous set of needs** as well.

The choice of **warm and earthy colors** and **appropriate design features (**sloped roof- pond- low density of villas, forms in harmony, etc…**).**to provide for a relaxed image away from the city life has met the **aesthetic needs** and the **self-actualization needs**. The **stimulation of the senses of hearing, touch and sight** were evident through the water and vegetation elements attaining the **aesthetic and self actualization needs** as well.

In conclusion, the analysis of the elements of the built environment of Al Rabwa compound has contributed to satisfying a need or a group of needs in Maslow's model of human needs as presented in the findings above. Each was interpreted differently in the design of the built environment among the discussion of needs presented earlier in the research. It is important to note that the findings discussed above are limited to the aforementioned case study with a potential to draw to larger populations within recommended methodological limitations as well.

7.3: Discussion

The main aim of the research was to examine the fulfillment of human needs in Cairene gated communities. For that gated communities is a widespread phenomenon in Cairo's peripheries, it appears that a great proportion of the 'investments' is moving from the centre of the capital to peripheral uninhabited areas. The influence of this urban shift is important to be adressed. One

way of doing this was through examining the fulfillment of the human needs in such enterprises (EL Rabwa compound in this research).

Meanwhile, it is important to mention that marketing strategies promote for the good quality of living in the Cairene gated communities through the 'satisfied human needs' as evident in today's commercials. For example, the aforementioned example of EL Rabwa compound was campaigned for through being 'Life as it should be' providing an image of a suburban life of 'westernized' villas surrounded by a high ratio of greeneries. Hence, examining the human needs became one way of understanding the lifestyle of the well to do portion of the city whom are expected to pay large amounts of money to live in these gated communities away from the city stresses. Meanwhile, this portion of the city plays a big role in the economy, policies, etc… of the capital city as well. However, this ;lifestyle provided in Cairo's peripheries is a clear form of 'globalization' and 'consumption' which creates a new understanding of individuality and a different perception of one self.

The prior chosen case study is a one relevant example of gated communities that is repetitive in Cairo's peripheries. It targets the well to do portion of the city through its representation of the urban and architectural features discussed earlier where residents choose to reside these communities escaping the city stresses. The focus of the study was limited to one example due to the difficulty of obtaining information under revolution era at that time. Hence, the ease of accessibility to the gated community through the researcher's social network was important for the reliability of the study to carry out the qualitative analyses through observation and documentation techniques as well as the ability to carry the resident's survey discussed earlier in the research. The results generated were limited to this particular case study with an opportunity to generalize upon similar case studies under certain circumstances. However, the application of the theoretical framework onto other types of gated communities provides a wider opportunity to explore other features and types of the gated communities and its implications on a wider scale.

Taking a broad look at the research, gated communities is one solution of escaping the city stresses and problems into Cairo's peripheries. Although it became a trend and is increasing in numbers, yet it is not considered a good solution in itself. It is expected to have negative social and urban implications on the city and oneself. It displaces the citizen from the city problems

and creates a big gap between the well to do, the middle and poor portion of the city which endures the effects of 'homogenization' as well. Meanwhile, the gated community as an urban pattern in Cairo's urbanscape has created void abandoned spaces between each other's gates and walls. These spaces are opportunities for crime and vandalism and are considered a threat to the corresponding gated community itself where they do not inhibit any kind of urban or architectural features. Hence, spaces of 'loneliness' and 'social anonymity' are created having negative influence on the city urban landscape whether on the peripheries or within the borders of these gated communities.

In conclusion, it is important to mention that gated communities did succeed in providing secured living environments for its residents as discussed in previous sections of the research. However, it dismisses other important human needs such as: belongingness, physiological, etc… These needs are vital for enduring human beings as well as living environments. Gates are not the only solution to creating secured spaces, yet creating interactive environments is another way of creating secure and socially active spaces. This was interpreted by theorists in literature as Jacobs, Lefebvre and others whom highlighted the understanding and making of space.

7.4: Future Research

This research examined the satisfaction of the human needs in the Cairene gated communities through a theoretical framework and mixed research strategy approach. Throughout the discussion, the findings of the theoretical and the empirical parts of the research, the following future research areas are suggested;

- **Analysis** of other types of gated communities in the scope of Maslow's model of human needs in Cairo and other cities/ countries.
- **Examining** the findings against other human need models/ theories.
- **Undertaking** an in depth analyses to a particular category of human needs.
- **Developing** quantitative analyses and statistical studies at a wider scope of gated communities and occupants.

- **Developing** computer programs to assess the attainment of human needs in gated communities.

- **Investigate other types of gated communities** built for specific reasons, e.g.: **workers communities** where its residents live there for work purposes not by their own choice as the case of luxurious gated communities as investigated in the research.

At the end, maintaining and examining the current gated communities as a wide spread phenomenon on the Cairene peripheries is important to enhance the quality of living environments and the development of current and future gated communities to satisfy the human needs, as well as for the sustainability of the built environment and the welfare of the human being.

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Appendix: Questionnaire Survey

QUESTIONNAIRE

This questionnaire is a part of an academic research to examine the satisfaction of the human needs in El Rabwa compound from the scope of its residents'. **Your answers are valuable to the researcher** and will be kept **confidential. The results are to be used for academic purposes solely.**

Rate the following statements in each set in order of their level of accomplishment in el Rabwa compound from your point of view where **(1)** is the **most accomplished** feature. The **higher the rating of numbers go**, the **less accomplished** is the feature.

Set (A)	
	Adequate atmosphere for enjoying the outdoor and the activities; e.g.: jogging- golf- etc…
	Food availability within the compound
	Sufficient water supply
	Good air quality with minimal pollution
	Housing quality that is up to aspirations
	Easy access to services in short interval of time; e.g.: market, laundry

Set (B)	
	Existence of solid walls and secured gates surrounding the compound
	Lively streets due to the presence of pedestrian and vehicular movements
	Use of safety features in the streets and sidewalks; e.g.: speed humps, lighting poles, etc..
	Boundaries between public and private spaces; e.g.: vegetation, walls between villas, streets, etc…

Set (C)	
	Existence of different places for group gatherings, e.g.: club, outdoor areas with appropriate design and sheds
	Interaction across boundaries, e.g.: balconies, fences between private gardens, etc...
	Residents share similar social status
	Residents participation in maintenance activities

	Set (D)
	Organization of social gatherings/ activities to enhance ties between neighbors.
	Luxurious image of the compound
	Ability of residents to change design features, e.g.: adding or removing elements in the façade, colors, materials, plants, walls, etc..
	Chosen colors have positive psychological impact upon residents

	Set (E)
	Clarity of paths for pedestrian and vehicular use
	Nodes for gathering; e.g.: club as a building, central gardens, etc…
	Edges defining the compound and boundaries between land ownership and one another
	Ability to identify different clusters
	The existent landmarks are easily recognized, e.g: club, mosque, etc...

	Set (F)
	Easy way finding within the compound
	Ability to choose between different casual activities within the compound, e.g.: fairs, open days, etc..
	Providing self expressive activities; e.g: art lessons, running, dancing classes, aerobics, etc…
	Set (G)
	Visual diversity in colors, forms, textures, etc…
	Forms of buildings allow for viewing diverse scenes
	Outdoor environment contains 'beautiful settings'
	Choice of colors provides an image that is different from the pressures of the city

	Set (H)
	Uniqueness of the design is evident
	Surrounding environment stimulates the five senses
	Overall lifestyle in the compound reflects your own cultural values

Set (I)	
	Mutual help groups, e.g.: awareness campaign against drugs
	Grass root organizations, e.g.: National Council for Women
	Community service, e.g.: Resala Organization

Set (J)	
	Physiological needs; e.g.: Breathing, food, water, balance
	Security Needs; e.g.: bodily safety, secure of basic needs, secure of health and family, secure ownership
	Belongingness Needs; e..: friendship, family ties
	Esteem Needs; e.g.: trust, achievements, respect of others and from others
	Cognitive Needs; e.g.: need to know, understand and explore the surrounding environment
	Aesthetic Needs
	Self-Actualization Needs; e.g.: invention, solving problems, accepting facts
	Transcendence Needs; e.g.: providing service to others

Thank you for your valued participation!

الأكاديمية العربية للعلوم و التكنولوجيا و النقل البحري

(AASTMT)

كلية الهندسة و التكنولوجيا

قسم الهندسة المعمارية و التصميم البيئي

دراسه تحليلية لمدى تحقيق الاحتياجات الانسانية في المجتمعات العمرانية المغلقة بالقاهرة الكبرى

اعداد

سمر محسن مصطفى كمال النجار

رسالة مقدمة للأكاديمية العربية للعلوم و التكنولوجيا و النقل البحري لاستكمال متطلبات نيل درجة

الماجستير

في

الهندسة المعمارية و التصميم البيئي

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