

CARE FOR THE ELDERLY
THROUGH MEANINGFUL ARCHITECTURE:
A Proposed Intergenerational Mixed-Use Development

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A Dissertation Submitted in partial fulfilment of the
Requirements for the degree of Master of Architecture
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DECLARATION:

I hereby declare that this document is my own unaided work. It is for submission to the School of Built Environment and Development Studies, University of KwaZulu-Natal, Durban, in partial fulfilment of the requirements for the degree of Master of Architecture. It has not been submitted before, for any degree or examination, at any other educational institution.



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27 June 2013

Date

ACKNOWLEDGEMENTS:

I thank the Almighty for giving me the opportunity to conduct this study and bringing me to this momentous stage in my life.

My gratitude also goes to my family, the light of my life, whose encouragement and motivation throughout my times of difficulty has been unparalleled. Special thanks go to: my mother Ayesha Mall, who does for me more than I could ever do for her; my grandmother Hajra Mall who has motivated, cared for me and created the warmest environment a grandson could wish for. My aunt Naseema Mall whose enthusiasm and positive outlook has drawn me out of the darkest of times. My grandfather Ahmed Sadeck Mall whose always had faith in my abilities and motivated me to continue striving.

I wish to thank all the staff at the School of Architecture and the Architectural Library. Special thanks go to:

My supervisor Mr Dumisani Mhlaba who has believed in me and my particular interest of study and perspicaciously guided me throughout my dissertation.

My lecturers from my previous years of study: Mr Isaac Levy, Dr. Mohammad Sharif Zami and Juan Solis, whose drive and dedication towards architecture and education has been invaluable to me.

I'd like to pay thanks to Architect Brian Johnson for instilling discipline in me to always strive for perfection in all life's challenges.

I am also thankful to Mr Iqbal Naroith and the staff at Naroith Architects for always offering valuable insight and assistance towards my endeavours.

Lastly I'd like to thank all my friends who helped and impelled me to keep striving. Special thanks go to Mohammad Afzal Soobrattee, Muhammad Jadwat, Nadia Goga, Laila Ticklely, Mahomed Riaz Noor Mahomed, Suhail Agjee, Viloshen Govender, Faizal Randeree, Tahir Seedat and Ahmed Omarjee.

To all of you, *Jazakallahu khairun* (May the Almighty reward you)

ABSTRACT:

This research document focuses on care for the elderly that can be fostered through meaningful architecture. It identifies and analyses the manner architecture can be used as a platform to promote care for the elderly. The study goes beyond the findings related to pragmatic issues, such as grab rails and accessibility ramps, but seeks to comprehensively address the social and behavioural needs of the elderly.

Architectural elements and design factors are focused upon to design an optimal composition to achieve an effective environment that comprehensively addresses the needs of the elderly and concurrently that of the wider public. The final outcome is the design of a development that promotes care for elderly. However, such a development may only be worthy of contributing to such a cause if the architecture it presents is meaningful to its occupants.

The dissertation draws upon theories related to ageing, social integration and meaningful architecture. It explores two fundamental facets of ageing. It unpacks the physical and social impacts of ageing. It presents various needs and issues related to the elderly to inform the architectural approach that is required to promote care for the elderly. The architectural requirements of an environment that fosters care for the elderly is presented by various concepts that are linked to the overarching theories that define the discourse. Pertinent precedent studies that represent a modern and up to date approach to addressing the needs of the elderly are used to exhibit the manner the application of theory has been implemented in the built environment. Similarly, relatable case studies are discussed and evaluated on the premise of the issues that have been discussed throughout the literature review. Lastly, the primary and secondary data is tested against one another to establish correlations and variance and conclusions and recommendations are presented to define the design criteria, principles and guidelines for architecture that promotes care for the elderly. These concepts are exhibited in the built form through the design of a model building.

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PART ONE:
BACKGROUND RESEARCH

CHAPTER 1:

Introduction

1.1 BACKGROUND AND JUSTIFICATION OF THE STUDY

1.1.1 Background

As humans become older there are notable changes in both their physical and mental characteristics. These changes are of varying degree and are related to a mixture of factors. The effects of these changes results in the aged having to adjust their lifestyles' and at times the location where they reside. These sudden or gradual adjustments to their lives are at times disconcerting and result in dismay in the aged person.

There is no general agreement on the age at which a person becomes old and each individual ages differently as a result of their mental and physical health. For the purpose of this study the 'elderly' shall be described as those individuals over the age of sixty that require some form of care but are free of serious health disorders that require constant twenty-four hour care and medication.

Just as social care is an important component in the life of the elderly, so too is the environment they inhabit. According to Parris Kidd (2001), as much as genetic makeup is a determinant of mental and physical health it is more so the interaction between the genes and the environment that has a pivotal role in moulding human beings and society as a whole. As individuals we do not have the power to change the genes we've inherited, however, we do have the ability to change the environment in which they function. This ability to change our surroundings presents the opportunity to create environments' that are meaningful to their occupants. Conversely environments that lack adequate meaning to their occupants may have detrimental effects. Through this dissertation, it is envisaged that through a well-guided system of research related to the built, natural and social environments, meaningful architecture shall be the derivative and a means of fostering care for the elderly.

1.1.2 Justification of the study

The elderly community at times have specific needs that differ from that of younger age groups. Care in the form of help by care-givers is required for some of the elderly but is dependent on the impairment of the aged person's physical and mental abilities. It must be noted that care for the elderly is not limited to care from family and health professionals but also relates to caring for their need to maintain their independence and live an active life in the community and built environment.

It is projected by the *Actuarial Society of South Africa* that between the years 2000 and 2025, the elderly (65+) dependency ratio will increase by forty-five percent. The ever increasing rate of population ageing and the greater reliance of the aged for care results in greater demand for studies and facilities that promote care and support for the elderly (ASSA, 2004). Architects have the social responsibility to take cognisance of the elderly and effectively address their needs in the built environment and offer a subtle transition from being self reliant to gradually becoming more in need of care.

The challenges outlined justify the need for research in the specific field of study and architectural intervention that relates to the elderly to address their needs and effectively revitalise the concept of care for the aged in the built environment.

1.2 DEFINITION OF THE PROBLEM, AIMS AND OBJECTIVES

1.2.1 Definition of the problem

The shortfall's are twofold - qualitative and quantitative such that there is not only a need for additional care for the elderly but jointly environments that offer superior quality of care that address the combined psychological, social and physical needs of the occupants.

Certain care centres for the elderly in South Africa are inadequate in fulfilling all the requirements of their elderly occupants. However, not all these institutions should be looked down upon with complete disdain as the services they provide are still committed to caring for the elderly to the best of their ability. It is more so the lack of appropriate facilities that address the combined psychological, social and physical needs of the elderly that lead to the concerning shortfall.

Homes for the aged are often associated with institutionalisation that detract from the concept of a home, a place of warmth and safety and one that makes a person happy to reside in. As a result the elderly have a negative impression about these facilities thus further crippling their psyche. Due to the physical and mental deterioration of the elderly, they slowly become more isolated from the rest of the community. This also results in the depravity of their independence, privacy and freedom of movement. Their lack of confidence is reduced due to their lack of ability to perform regular tasks and socialise within the community.

In modern societies there is also often a negative stigma attached to the aged who are often regarded as a liability rather than an asset to society, who still have a role to play, rather than becoming quiescent members in the community.

Globally a greater duration of individual human life is seen with a sense of accomplishment but to what end when the elderly live longer to only experience an increase in their levels of suffering. Appropriate facilities that are positioned in suitable locations are paramount in addressing the issues related to care for the elderly. However, it must be stressed that these facilities are by no means an advent to abdicate the caring for the elderly by their family or the community when they have the means but are facilities that must be provided for the elderly who under other circumstances would receive less care from the community.

1.2.2 Aims

The fundamental aim of this study is to establish a set of architectural principles that are developed through an understanding of issues surrounding caring for the elderly.

1.2.3 Objectives

The objectives of this research will be:

- To investigate key concepts related to the elderly to ascertain how an architectural model can be created in a manner that effectuates active ageing, the strength of weak ties and a positive sense of place.
- Identify the primary needs of the elderly that require care, in conjunction with the needs of their care givers, their families and the surrounding community.
- Delineate how these needs can be met by appropriate measures in the form of the built environment to effectuate a positive response from the above mentioned parties.
- To convene with various parties such as elderly individuals, care-givers, architects and general members of the public to take note of their suggestions and criticism related to the architectural and planning needs of an environment that offers care for the elderly.
- Study and assess the manner the current architectural models have responded to these requirements by means of pertinent precedent studies and case studies.
- Employ the collaboration of assessed findings to derive a formula that defines the design criteria, principles and guidelines for architecture that promotes care for the elderly.
- Exhibit these concepts in the built form by designing a model building.

1.3. SETTING OUT THE SCOPE

1.3.1 Delimitation of the Research Problem

This study does not propose that architecture can reverse the cycle of ageing but rather that it can have a positive impact on the lives of the elderly when configured successfully. Information shall be gathered, assessed and translated into the design of the built form. Recommendations shall be suggested but solely towards issues dealing with architecture. The study shall under no circumstance commit to constructing recommendations and conclusions that are beyond the field of architecture that should be dealt with by medical practitioners and social workers in the field of study related to the elderly. The study will rather utilise the conclusions of such study and apply it to the design of the built environment.

Ageing is an incredibly vast field of study and includes biological, behavioural and sociological aspects. To maintain a concise study relating care for the elderly to meaningful architecture, only key concepts from gerontology shall be extracted and assessed in terms of their relevance towards improving areas of the built environment for the aged.

1.3.2 Definition of the Terms

a) Care:

Care in the context of this dissertation relates to the responsibility of one entity or medium responding to the physical and social needs of another.

b) Elderly:

For the purpose of this study, the elderly shall be defined as those individuals over the age of sixty that require some form of care but are free of serious health disorders that require constant twenty-four hour care and medication.

c) Meaningful Architecture: Architecture may be deemed meaningful when it addresses the needs of its occupants and evokes meanings that are inclined with their imperatives and that of the environment.

d) Gerontology:

The study of multi- and interdisciplinary research in aging that is primarily related the biological, psychological and social aspects of the ageing process.

e) Platform:

In the particular context it represents a basis or entity that promotes a particular concept or function.

1.3.3 Stating the Assumptions

- It is assumed that a relationship between architecture and the elderly exists.
- It is assumed that the elderly, like people of other ages, also have a role to play in society.
- It is assumed that architecture can have an impact on the quality of elderly people's lives.

1.3.4 Key Questions

Primary Question

- How can care for the elderly be fostered through meaningful architecture?

Secondary Question

- What issues regarding care for the elderly can be addressed through meaningful architecture?
- Why should the relationship between care for the elderly and meaningful architecture be implemented in the Durban environment?

1.3.5 Hypothesis

In studying certain pertinent findings related to the unique social, psychological and physical needs of the elderly in conjunction with an understanding of related elements in the built and natural environments, one can make deductions and develop domains that foster care for the elderly, the product of which is meaningful architecture.

1.4 THEORETICAL FRAMEWORK

1.4.1 Activity Theory of Ageing

Activity Theory was first developed by Russian psychologist Aleksei Leontiev to create a theoretical framework derived from socio-cultural tradition. The basis of the theory is "activity", whereby activity is described as purposeful, transformative, and developing interaction between actors, as subjects, and the world as objects (Leontiev, 1978). The 'subjects' in the above framework are concerned with individual human-beings, however, they can also be related to animals and teams (www.interaction-design.org).

In light of ageing and care for the elderly activity theory was developed in response to the disengagement theory (Lemon, Bengston, and Peterson 1972); a proposal that a mutual withdrawal of the elderly from society as they reach a particular age is to be assumed normal and inevitable and the theory sought to attenuate social setbacks that result from the aged person's death.

Activity theory reflects the view that in order for people to age well they must maintain social roles and interaction rather than remove themselves from the social sphere. This theory implies that a positive relationship exists between meaningful activity and life satisfaction. This argument, in the broader sense, is not limited to physical activity such as sport and recreation but more so social activity and the roles people play in the community. Ergo as the person's active role in society is decreased, so too does their life satisfaction (Lemon, et al. 1972).

1.4.2 The Strength of Weak Ties

The 'strength of weak ties theory' was defined by American sociologist Mark Granovetter as the rationalisation and outcome of social relationships that are formed as a result of intermittent contact between individuals who are not connected by a 'strong tie'. Weak ties are characterised by infrequent interaction between individuals that lack the emotional closeness that exists between individuals with strong ties. A weak tie can also be interpreted as the link between acquaintances. The people that are connected to an individual through a weak tie are known as his 'extended network'. Conversely, strong ties are characterised by relationships where individuals are more often socially involved or emotionally attached to with one another. The people that are connected to an individual through a strong tie are known as his 'immediate network'. These people are often family and close friends. Granovetter (1983) asserts that

promoting weak ties is a means of creating more strong ties as weak ties act as a bridge between strong ties.

George (2005) relates weak ties as relationships between people where one will not voluntarily cook the other's meals or promptly volunteer to take care of them when they fall sick, however, these relationships are a means of transferring valuable information that people may be unaware of due to the limited knowledge in their immediate network.

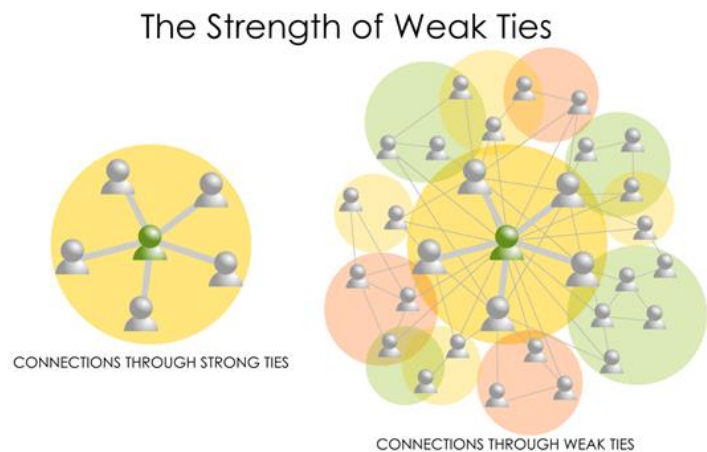


Figure 1: The close connections existing between strong ties and the extended connections created through weak ties. (www.twings.com)

Granovetter (1983) points out that in systems lacking weak ties:

"New ideas will spread slowly, scientific endeavors will be handicapped, and subgroups separated by race, ethnicity, geography, or other characteristics will have difficulty reaching a modus vivendi."

(Granovetter, 1983: 202)

It is clear that the formation of weak ties is integral to effectuate social integration and the spread of knowledge between various sub-groups. It is also apparent that by promoting weak ties, strong ties have potential to be created. The architectural implications of promoting weak ties in context to the topic, *Care for the Elderly, through Meaningful Architecture*, shall be contextualised in subsequent chapters.

1.4.3 Genius Loci

“A place is a space which has a distinct character. Since ancient times the genius loci, or spirit of place, has been recognised as the concrete reality man has to face and comes to terms with in his daily life. Architecture means to visualise the genius loci.”

(Norberg-Schulz, 1980: 5)

The concept of ‘genius loci’ is one that is multifaceted and complex in its understanding. It can be primarily associated with the feelings and emotions that arise within a person as they experience a specific place or as a result of the relationship they have with the place. These feelings are unique to each individual. Subsequently places offer various meanings and significance to the people that experience them. These meanings and sense of significance is a means of igniting self and group identity and stimulating human behaviour and mental wellbeing (Najafi and Shariff, 2011).

The architect and urban designer have the responsibility to create places that capture the genius loci of a particular environment. In order to create such places, certain elements must be taken into dire consideration. Not only should the historical, physical, and cultural context of an environment be acknowledged but also the needs and sentiment of the populace. In the built environment the human element is integral in creating an emotional content which adds another dimension to the place. The human element gives the man-made environment a presence which goes beyond the physical (Norberg-Schulz, 1980).

A person's feelings as they experience a particular environment defines their sense of place and thus the quality of the environment relies strongly upon the feelings of its inhabitants. These feelings are a result of meanings and messages places give to people. Hence the sense of place is an integral factor when one seeks to create an architecture that is meaningful and offers pertinent meanings and messages that relate to the occupants. As any space can offer meanings that relate to feelings of positivity or negativity, it is the duty of the architect to design the specific environment in a manner that evokes intended feelings based on the particular inhabitants and the site (Najafi and Shariff, 2011).

When responding to the needs of the elderly it is imperative to create places that include meanings that evoke feelings such as self-integrity, warmth, safety, inner peace and motivation to remain active within society (www.advancedlifeskills.com). The psychological impact of the space should form positive emotions and create a sense of wellbeing. It can be induced that meaningful architecture is not only described as architecture that offers meanings to its

occupants but more so it is architecture that offers meanings that are valuable to its occupants by responding to their physical and emotional needs. Architecture may be deemed meaningful when the meanings and feelings the architect intended to evoke in the occupants are inclined with their imperatives and that of the environment. The relationship of Genius Loci and the elderly will be further unpacked in the subsequent chapters.

1.4.4 Conclusion

In this chapter an insight was provided into the key concepts and theories underpinning this study. In subsequent chapters, each of the concepts and theories elucidated upon will be expanded on and applied to the study.

1.5 RESEARCH METHODS AND MATERIALS

1.5.1 Introduction

This section will describe and explore the various methods of data collection and the materials that were used to collect pertinent data to support this dissertation. Also, the method and choice of sampling will be elucidated upon.

1.5.2 Research Methods

The methodological framework has been is driven by the aims and objectives of the dissertation. The study used both primary and secondary research methods. The secondary research encompassed the acquisition and analysis of secondary data in the form of relevant theoretical literature and precedent studies. After a conclusive study based on the secondary research was developed, the investigation was developed further through the primary research method. The study area for the dissertation is set in South Africa and the qualitative method of primary research has been used to allow for a well rounded response to the key questions in the dissertation and allow for a focus on actual experiences and an opportunity to study a particular environment in all its complexity.

1.5.3 Research Materials

The study is based on the acquisition and analysis of both primary and secondary data. The secondary data sources include published literature and records, internet pages and online published literature. The primary data consists of findings from the empirical research conducted during case studies through direct observation and from the responses obtained through a questionnaire and interviews with relevant individuals. After the acquisition of the primary data, the data was analysed and related to the findings from the secondary data. The primary and secondary data was tested against one another to establish correlations and variance. From these findings conclusions and recommendations are suggested thus concluding the study.

1.5.4 Sampling

Three case studies have been chosen as samples as they address a broad spectrum of issues related to care for the elderly and although of a similar nature there is a stark contrast between their architectural elements and configuration. This allowed for a broader review of the existing facilities as a result of the dissimilarity between them. Random sampling was preferred when conducting the questionnaires and elderly residents across various ages, race and economic background were selected to avoid a biased outcome of results. Random informal interviews were also conducted with elderly in old-age/retirement homes, care-givers, architects, other professionals, elderly who do not live in old-age/retirement homes and younger generations to take note of their suggestions and criticism related to the architecture and planning of existing facilities for the elderly and scope for paradigmatic solutions to address current issues.

The following professionals were interviewed:

- Sister Ellanette Booysens - A chief nurse working in various old-age homes across Kwazulu-Natal.
- Dr Suhaima Hoosen - A professional social worker who has worked extensively with elderly individuals and occupants of old-age homes.
- Sheila Rice - The building manager of *TAFTA on Ridge* (old-age home).
- Mr P Juta - The building manager of *Kendra Gardens* (retirement home) who has also been involved with the development of various community projects.
- John Smilie of *John Smillie Architects* - One of the key architects of *Garden Grove* (retirement home)
- Yusuf Patel of *Architects Collaborative* - An architect with broad knowledge and experience related to community development and architecture.
- Iqbal Naroth of *Naroth Architects* - Also an architect with broad knowledge and experience related to community development and architecture.
- Prakash Bhika of City Architects, Ethekwini Municipality - Prakash's input was invaluable as it offered not only his personal views but also that of the Ethekwini Municipality regarding architecture and care for the elderly.

1.6 OUTLINE OF CHAPTERS

This dissertation is divided into four sections. Section one consisting of chapter one lays the methodological and theoretical foundations for the study based on a great degree of literature in the field of architecture and social sciences. This section serves as a basis for the dissertation that is also indomitably guided by research fundamentals. Section two, comprised of four chapters, presents a literature review and reflects the views and concepts of various authors within the parameters of the theoretical framework. This section also provides precedent studies based on key issues from the literature review. Section three, comprised of one chapter, provides case studies through empirical research. Similar to the precedent study approach, the empirical research is analysed and evaluated on the premise of the issues that have been outlined in the preceding chapters. The final section, comprised of two chapters, platforms a discussion based on the encapsulation of all the data that has been gathered. The study closes with conclusions and recommendations that are stimulated and defined by the preceding chapter.

CHAPTER 2:

Unpacking Aspects Of Ageing

2.1 INTRODUCTION

As humans become older there are notable changes in both their physical and psychological characteristics. These changes are of varying degree and are related to a mixture of factors. There is however no general agreement on the age at which a person becomes old and each individual ages differently as a result of their mental and physical health.

This chapter describes both the physical and social aspects of ageing whereby the physical aspects shall describe the external, tangible aspects of the elderly whereas the social aspects shall relate to the social positions and social roles that have bearing on the elderly.

2.2 PHYSICAL ASPECTS OF AGEING

The physical aspects of ageing relate to changes that occur in the human body. According to Morgan and Kunkel (1998) some of the superficial changes can be described as the greying and loss of hair and wrinkling of the skin. The physical aspects of ageing are described as an amplified vulnerability to death combined with an ever-increasing loss of healthy physical or mental energy (Comfort, 1960 cited in Bond et al., 1993: 21). Bond is of the opinion that the growth of children over their initial years can be described as development as opposed to ageing, as the biological process at that stage is beneficial rather than damaging. Hence biologically, ageing has a negative effect on the human body (Bond et al., 1993).

Strehler (1962) uses four criteria to describe the concept of physical ageing:

- Ageing is a process that presents itself in every member of the global population.
- Ageing is a continuous pattern.
- Ageing is related to the specific nature of each individual organism.
- Ageing results in a decline in an individual organism's former state of coherence, balance and integrity.

Some elderly suffer loss of mobility to varying degrees with age, whereas others are fully able to commute without the hassle of mobility issues. The deterioration of health that comes with age may also effect the individuals sensory perception thus leading to weakening of vision, hearing, sense of touch, taste and even smell. These changes, depending on their magnitude and the manner they are dealt with by the aged individual, can cause further decline in health. These changes in sensory perception however are not apparent in all older people and are related to the specific nature of each individual and can be addressed by adjustments in lifestyles and surrounding environments (Schiffman, 2007).

2. 3 SOCIAL ASPECTS OF AGEING

The social aspects of ageing are described by Morgan and Kunkel (1998) as multi-faceted and can be defined by the roles one plays in society, changes in social expectations and duties, perceptions of the elderly in the community and the process of entering what would appear to be the final stage of one's life.

Social structures have an inherent effect on people of all ages. In the urban context the social structure often related to ageing is retirement from the formal labour force. This structure is strongly influenced by the Disengagement Theory. According to Bond et al. (1993) the disengagement theory suggests a natural withdrawal of the elderly and society from one another. This sought of disengagement is promoted on the premise that the aged individual requires a smooth way out of employment to enter a well deserved life of leisure and thus effectively creating job opportunities for younger candidates who are more physically fit. Conversely the Activity Theory takes another view related to the process of ageing. The theory suggests that for people to age well they must maintain social roles and interaction rather than remove themselves from the social sphere (Lemon, et al. 1972).

Social expectations of all ages are strongly defined by age norms. Some norms are governed strictly by law, such as the prohibition of consumption of alcohol for teenagers under the age of eighteen or the retirement of people over sixty years of age from the formal labour force. Age norms are also dictated by the community and although not cast in stone, have a strong bearing on the manner individuals act due to these social expectations. These age norms relate to factors such as behaviour, dressing and speech (Morgan and Kunkel,1998).

Perceptions and social status of the elderly are also defined by the community based on religious and cultural beliefs that strongly define the respect and care that should be offered

to the elderly. For example, The Quran teaches Muslims to care for their parents especially when they come of age (www.islam-guide.com). Similarly Christianity and Judaism give strong significance and value to the aged person (www.erlc.com) (www.jewishvaluesonline.org). Although such beliefs are promoted, they are often not practiced by society, for reasons beyond the scope of this study, thus leaving elderly folk at times disrespected, destitute and isolated.

2.4 CONCLUSION

It is clear that there is at times a conflict between maintaining social roles and acquiring new roles with the coming of age. The transition the elderly person experiences as they age may be pleasing or unpleasant. Sudden changes as a result of retirement, deterioration of health, the decline of family structure and lack of care from the community pose threats to the wellbeing of the elderly. These threats are known and often stigmatise the concept of old-age, thus already creating a sense of fear or anxiety about ageing. The following chapter will investigate care for the elderly to ascertain means of addressing such issues.

CHAPTER 3:

Contextualising Care For The Elderly

3.1 INTRODUCTION

'Care' is a very broad term as there are diverse meanings attributed to it. In the particular context related to the elderly, it is best understood as protecting the rights of the elderly and attending to both their physical and social needs. The coming of age poses certain threats to the elderly person thus making them more vulnerable in society. The choice to care for the elderly is often dictated by social standards, culture or religious values. Some people may find it a social obligation to take care of the elderly whereas others may have little regard for the concept or simply do not have the means (urbanland.uli.org). Regardless of social preference towards caring for the elderly, the need for care that some of them require is prevalent (www.tafta.org.za). Troisi (2004) asserts that the considerable rise in longevity results in greater demand for both current and new services that incorporate alternative approaches to meet the particular needs of the older population. This chapter shall discuss various needs and issues related to the elderly to inform the architectural approach that is required to foster care for the elderly.

3.2 HOUSING NEEDS

The housing needs of the elderly is a vast, complex and often debated issue. It goes beyond the pragmatic issues such as accessibility, lighting and thermal comfort. The elderly who are wealthy have far greater scope to choose what area to live in, what type of accommodation they prefer and what interior finishes they feel best suits their needs. Conversely low-income elderly who depend solely on pension funds as their source of income have far less choice with regard to these issues.

Currently a dualistic view exists with regard to caring for the elderly which concerns formal versus informal care. Informal care is regarded as the traditional method of caring conducted by the elderly person's family, friends or community whereas formal care is often offered in an institution whereby the carers are either volunteers or paid workers. Institutions such as old-age homes or retirement homes are common alternatives to informal care (Jack, 1998).

Elderly who enjoy living in their own homes or neighbourhoods, or with family and friends that offer familiar daily encounters, often prefer to continue living in those environments and if necessary gain support through informal care without having to change their residents. Other issues related to sentimental or financial value that are attached to the house or neighbourhood may also make the elderly person reluctant to leave. On another note there are others who prefer not to burden their families or simply do not have others to care for them and may opt for a residence that offers formal care (NSW - Committee on Ageing, 2002).

Over and above the ethics related to informal and formal care based on tradition, culture and religion, the issue relating to segregation of age groups also arises. Formal care centres for the elderly often only provide residence for the elderly, hence housing only those within a particular age category within a single building or complex, thereby segregating the elderly from other age groups in terms of their residence but not necessarily their neighbourhood. This particular form of segregated housing first received a formal critique in disfavour of it in an essay by the American urban historian Lewis Mumford:

“The worst possible attitude toward old age is to regard the aged as a segregated group, who are to be removed, at a fixed point in their life course.....to live in desolate idleness, relieved only by the presence of others in a similar plight.”

(Mumford, 1956 cited in Simpson, 2010)

Mumford is of the opinion that retirement as a result of old age can result in psychological problems, loss of income, social relations and a sense of meaning in the elderly persons life. Similarly family dispersal can have just as devastating effects. Mumford believes that segregation is a means of inflaming the loss of dignity and purpose that the elderly suffer due to family dispersal. He believes that segregation of the elderly is a result of socio-technical processes of specialisation, mechanisation and institutionalisation. Thus delimiting the area the older members of society should live. Mumford is despondent about the loss of neighbourhood ties, opportunity for informal activity and the high cost of living in these types of zones or residences (Simpson, 2010).

Mumford envisioned a new habitat; one that incorporated a mixture of ages and implying that this would restore the caring nature the three-generation family once offered. He suggested that housing developments reflect the mixture of ages that are prevalent in the larger community. These developments were to house the elderly on the lower floors and set aside the upper floors for family households and the highest floors for childless residents. The

outward appearance of the units were to be designed in a manner that did not suggest any sort of age segregation. The elderly were to be located in places that offered a mixed array of activity and would encourage visits from the family, friends and the community. Additionally they should give scope for meaningful activities and the opportunity to interact with children. Simpson agrees that the following points do have merit and are integral with regards to a broader societal discussion, however, he criticises Mumford's views in that in reality they exist as ideal romanticised views that did not necessarily exist and were out of touch with current lifestyles and attitudes based on Simpson's empirical research (Simpson 2010).

Howe (2012) has a contrasting view to Mumford, however, still relating to what she believes to be in the best interest to housing needs of the elderly. Howe suggests that housing developments are not necessarily compelled to housing the elderly in a single building with all ages, however, the building should not be isolated from the community. The housing should be located in a community that has what she refers to as, "Elderly-friendly Community Characteristics" (Howe, 2012: 94). These characteristics will be studied in the subsequent chapters.

Although informal care is traditionally seen as the ideal, Jack (1998) asserts that a reassessment of care for elderly through residential institutions should be carried out and the concept of formal care should not be disregarded as obsolete and unnecessary. Jack is of the opinion that the negative stigma attached to formal care is a result of poor funding, inappropriate placement of clients, lack of well trained staff and unsuitable environments. Similarly these problems can occur in the community where families and friends are not committed, unavailable or do not have the means to care for the elderly. Raikhola and Kuroki (2009) point out that an increase in women having to leave the house to work makes it difficult to commit to providing in-home care to elderly parents. Branan (2013) notes that patterns of elder abuse and neglect are rife in private households where family members or friends are uneducated and unprepared to handle the needs of the elderly. Hence it is also a lack of knowledge related to care for the elderly, as well as unsuitable environments, that they live in that contribute to the inattention they receive. It can be concluded that both formal and informal types of care are both viable options so long as the needs of the elderly are addressed in manner that offers optimal care and maintenance of dignity.

3. 3 FINANCIAL NEEDS

Currently in South Africa the elderly qualify for an older persons grant when they meet a certain criteria set forth by the government. The criteria set forth is used to limit the grant to only those people the government feel to be in need of financial assistance.

3.4 HEALTH CARE

Due to the detrimental effects of ageing on physical health, health care can become a priority in the life of the elderly person (Bond et al., 1993). The elderly are often required to regularly monitor their health through regular medical checkups. Care givers in the form of family, friends and nurses may also lend a hand in helping the elderly person carrying out certain daily tasks and keeping most of their health concerns in check (www.buzzle.com).

3.5 SOCIAL NEEDS

According to CSIR (1967), the basic social needs of the elderly are equal to that of the community and include independence, privacy and freedom. Additionally and more recently, Makiwane et al. (2004) point out that in South Africa a sense of security is also a vital need. With this being said, it is a sweeping statement to conclude that the needs of the elderly can be fulfilled in the environment in the exact manner that they are for the rest of the community. This is based on the broad body of evidence that has been mentioned related to the biological deterioration, change in social roles and economic resources that the elderly exhibit. Moss (2011) argues that although these changes do occur, they should not lead to complete inactivity of the elderly as it has been proven that keeping active is good for physical, mental and emotional health. Keeping active is not limited to structured physical activity such as aerobics and fitness exercises but is broadly related to any activity that offers positive meaning to the elderly persons life. Moss believes that social interaction with family, friends or the community has potential to add value to their lives, improve emotional wellbeing and helps the elderly to stay in touch with current activities in the community (Moss, 2011). It is clear that integration with the community as opposed to isolation is integral to improve the social quality of the elderly person's life and is a social need that must also be adhered to.

3.6 ELDER ABUSE

"Elder abuse is a violation of Human Rights and a significant cause of injury, illness, loss of productivity, isolation, and despair."

(WHO/INPEA, 2002a: 4)

Elderly abuse is cited globally in both developed and developing countries (Daichman, 2005). The effects of elderly abuse are serious and far reaching. Some population groups in society are more vulnerable to abuse. These include the elderly, people with mental or physical impairment, women and the poor (Toronto Declaration on the Global Prevention of Elder Abuse, 2002). There are six types of abuse: Physical, verbal, emotional, economic, mental and sexual abuse (www.projectpave.org). They often result in symptoms of depression, fear, isolation, post-traumatic stress and other psychological disorders. All these disorders are contributing factors that lead to social degradation. They hamper an individual's ability to live and contribute meaningfully in society (Wolf et al., 2003).

Daichman (2005) asserts that the primary root and cause of elderly abuse is a result of a negative attitudes and stigma that exist about elderly people and the ageing process through expression of stereotypes, myths, intergenerational conflict or the extreme glorification of youth. The *World Health Organisation* suggests that education is paramount to prevent abuse of the elderly and through various media and constructs a positive image should be attributed to the aged (WHO/INPEA, 2002b).

3.7 THE IMPACT OF COMMUTING ON THE ELDERLY

Commuting is a reality that many people face on a daily basis. According to the Baltimore Metropolitan Council (2011) commuting also has a significant role to play with regards to the elderly and can be the distinction between a self-reliant, dependant person who is active in the community and one who suffers from isolation. The Ontario College of Family Physicians (2005) suggest that to decrease the burden of commuting, it is favourable for elders to live near shops, places of worship, health care facilities, recreational and other civic facilities. Additionally, if public transport is still a viable option, residing closer to public transport stops or facilities may also help the elderly commuter by decreasing the intermediate travel distance.

3.8 ACTIVE AGEING

3.8.1 Introduction

Active ageing is a concept derived from the Activity Theory of Ageing (refer to chapter 1.4). The concept is grounded on confidence that a positive relationship exists between meaningful activity and life satisfaction and keeping active is a means of promoting good health as we age. The following shall discuss certain measures that are suggested to promote healthy ageing and active participation of the elderly in the community.

3.8.2 Healthy Ageing

The state of being healthy goes beyond the mere understanding of lacking disease or successful bodily function. According to Day (2002), health is a state of being and living and the environment has a constant healing or poisoning effect on this state. A positive state of health is gained by creating a holistic sense of balance in the body, mind and soul. Just as imbalance is caused by physical strain or poor nutrition so too is imbalance caused by emotional malnourishment causing physiological and psychosomatic ailments. Rowe and Kahn (1997) are of the opinion that successful ageing is widely perceived as the maintenance of good health, high levels of physical and psychological functioning and active engagement in the environment. According to the World Health Organisation (2012) over and above education and facilities to manage health complications, physical and social environments should be created to also cater for the elderly and promote healthy activity (WHO, 2012).

3.8.3 Empowerment orientated care

Empowerment is described as the act of giving, granting or permitting power. It is also the act of gaining power (Cox and Parsons, 1994). According to Torre (1985) the act of empowerment gives people the strength and ability to become involved in, have a say in matters of control and influence events and institutions that have a bearing on their lives. Empowerment becomes imperative in the lives of the elderly who have to certain degrees began to lose power as a result of social systems or the biological effects of ageing.

According to Cox and Parsons, empowering the elderly in the social sphere can be effectuated by:

- Improving the attitudes about the aged
- Allowing maximum scope for decision making and matters of control.
- Giving the elderly a platform to express their wisdom and skills where possible.
- Informing the elderly with regards to methods of self-care and healthy living where possible.
- Giving the elderly the opportunity to learn new skills and make use of modern technological advancements.

(Cox and Parsons, 1994)

The built environment can contribute in empowering the elderly by providing facilities for such empowerment and by being composed in a manner that responds to the physical and social needs of the elderly. In light of the retiree the activity theory recommends that they substitute employment with other engaging activity and maintain roles in the social sphere. The activity must result in positive aspects of achievement that the retiree would generally gain from working. These aspects of satisfaction would be other than that attributed to financial gain and would add further beneficial meaning to life of the retiree. Opportunities for such activity may be provided by giving the elderly the preference to live within the community and allowing them freedom to participate in community activities. Activity may also be promoted by providing them access to life-long education, spaces that promote community development and volunteerism (Perkins, et al. 2004).

3.9 CONCLUSION

There are various interventions that can serve as a platform to address not only the physical but social needs of the elderly. Thus helping to integrate the elderly into the community and maintain or replace social roles to serve as a means to avoid isolation and unpleasant ageing. As the dissertation continues to unfold, the reader will become acquainted with the architectural interventions that are required to foster care for the elderly.

CHAPTER 4:

Identifying The Architectural Requirements Of An Environment That Fosters Care For The Elderly

4.1 INTRODUCTION

The choice of subject matter that shall be included is guided by conclusions derived from the antecedent chapters. The overall study has been chosen on the premise that architecture has a significant role in fostering care for the elderly. Hence the following chapter shall discuss the architectural implications of an environment that promotes care for the elderly.

4.2 PROMOTING *ACTIVE AGEING* AND EMPOWERMENT ORIENTATED CARE

4.2.1 Introduction

When using the built environment as a catalyst to promote *active ageing* and empowerment orientated care certain elements must be addressed to effectuate the particular course of action. While the elderly in many cases are no different from the rest of the population there are times when their needs may differ as a result of various factors that have been mentioned in the preceding chapters. The following are elements in the built and natural environment that should be considered and addressed to foster active ageing and empowerment orientated care.

4.2.2 Location

When determining a solution that addresses the housing needs of the elderly, the locations they reside and routinely visit are paramount. The aged members of society are not expected to be withdrawn from the community and live in desolate isolation (Mumford, 1956 cited in Simpson, 2010). To the contrary, they are part and parcel of the community just as the younger generations are and where possible they are also expected to be woven into the fabric of society. According to the Council for Scientific and Industrial Research (1967) the deterioration of their sensory and physical capabilities and their general decrease in participation in the social sphere should be addressed by encouraging community interactions to occur conveniently and naturally as possible. Community facilities and amenities such as public transport routes, health care, places of worship, recreation and entertainment should have a relatively close or

convenient link to the location the elderly reside making travel to and from these locations less burdensome. The housing in the surrounding environments should have a similar density to that of the elderly residence. This will be a means of avoiding visual isolation. When the housing typology the elderly reside in is high density and surrounding housing is low density, it may be suitable to locate the elderly in close proximity to facilities such as schools and crèches that have high occupancy levels (CSIR, 1967).

4.2.3 Legibility and Wayfinding

"... the terror of being lost comes from the necessity that a mobile organism be oriented in its surroundings."

(Lynch, 1960: 125)

Kevin Lynch described the loss of one's sense of direction, position, or relationship with one's surroundings as a cause of fear or anxiety. In *A Pattern Language*, Christopher Alexander discusses the issue of *circulation realms* that sometimes lead to unnecessary stress on the mind and wasting of precious time. Alexander asserts that wayfinding should require minimal effort to map a route in one's mind when heading to a particular destination. He suggests that buildings have a sequence of realms or spaces that are ordered by hierarchy and have a 'gateway' leading one to another. Each realm should be named so that orientating oneself from one to the next is simplified (Alexander, 1977).

In respect of the elderly, orientation may become more difficult as result of deterioration of physical and sensory perception, hence wayfinding should be more pronounced without the elderly person having to unnecessarily stress their mind but at the same time they should be able to independently manoeuvre through the building without having to often ask for help with directions. Clustering functions of similar nature may help to decrease travel distances. The use of colour, light and a variance in material may also aid in creating a more legible environment that is simpler to circulate through (Cohen et al., 2004).

4.2.4 Contact with nature

Natural elements are prevalent everywhere and their power can be harnessed differently to achieve various effects. Day (2002) believes strongly that nature is a part of us. Although sometimes alienated from the other natural elements such as wind, water, earth and fire, man has an underlying connection with them and a desire to incorporate them in his life. Hence views of the natural environments as well as features that give opportunity to bring the natural elements into the built environment should be incorporated in the buildings where possible. Moughtin (2009) is of the opinion that most the world's centres of healing are associated with a stream, river, lake, hot or cold springs. The main element being water. Whether used for spiritual healing purposes, relaxation, recreation or simply aesthetic beauty water is an element that enhances the environment. Similarly fresh air should be present where ever possible to avoid losing the connection with nature as well as decreasing energy consumption and costs. Trees are yet another important element that should be incorporated in the built environment. It is suggested by Carmona et al. (2003) that trees can be used to achieve a sense of containment and character in a space as they change according to the season. William's (1995) shares a similar view and feels that spaces benefit from the interplay of activity and environment and, in general, a green environment is more amenable than one which green is absent. Trip et al. (2007) also agrees upon the positive nature of trees and is of the opinion that they may improve the micro climate and absorb or buffer urban noise. Trees also offer their aid in providing shade from the harsh sun and serves as homes for many birds and other wild life that add to the vibrancy of the space.

An intervention study was conducted in Canada with 29 elderly residents. The intervention was conducted to explore if a relationship exists between resident well-being through the incorporation of nature in the residence. The results were rather interesting in that the participants expressed a decrease in depression levels when tasked with caring for nature, such as watering and trimming of plants. This was attributed to the sense of ownership, attachment and sense of restoration in their living environment (Kiyota, 2008).

It is clear that nature plays a vital role in the built environment both for functional and aesthetic purposes. It is also interesting that nature can be used as a tool to empower the elderly and promote active ageing.

4.2.5 Interior Considerations

4.2.5.1 Enhancing experience in the building

Various experiences are encountered in the built environment. According to Day (2002) these experiences are what separates arbitrary architecture from extraordinary architecture. Elements in the building that awaken the senses and heighten one's state of consciousness related to the built form and nature are stepping stones towards creating a journey in the building. A variation of materials, form and connection with the outside environment are elements that may be used to enhance the experience through the building.

When a building provides transformative beauty when venturing from one space to another, a sense of meaning and accomplishment is created in a person and thus uplifts the spirit. Paths, bridges, archways, gates, steps, passages, doorways, turns for changed views, changes in floor texture, space, light and acoustic absorbency all give the opportunity to create a meaningful journey through the building. Day (2002) asserts that if using any of these elements the requirements of the place, people and circumstance should be prioritised such that the environment relates to its context.

4.2.5.2 Window view to the outdoors

Windows are found in various settings in the built environment. Often they are used as instruments for natural ventilation, lighting and to allow a visual transition to the outdoor environment. Porter (2004) describes significance of windows in terms of the view they encapsulate and the light they offer. Horizontal windows are regarded as 'picture windows' and appear to highlight foreground, middleground and background of the view. Horizontal windows also allow extra light into the room. Vertical windows in contrast '*induce a kind of cinematic motion parallax*' (Porter, 2004: 60). It is clear that the window is integral to isolating and framing the scene beyond the interior environment. Building on this Alexander (1977) believes that the window can be used to create a place. A *transitional* place for withdrawal, reflecting and relaxing while also enjoying the view of the outdoor environment. Alexander suggests that the incorporation of seating with a window can create the desired effect. When the views are pleasing and space is permitting and is often used by people, a window place should be incorporated. Spaces that may have scope for window places include rooms and even passage ways.

There are times when the elderly do not have enough energy or for other reasons may not be able to leave their room. In these cases, a window and especially that which incorporates seating, may be the only instrument that prevents isolation and boredom by stimulating visual perception due to the view it encapsulates. It must be emphasised that a pleasant view is required to effectuate visual stimulation with the use of a window or window seat.

4.2.5.3 Active engagement with the environment

Herman Hertzberger is an architect whose theory suggests that occupants of buildings should engage with the environment by adding personal touches to it rather than simply accepting things as they are. In the case of the elderly, this may be a means of preventing them from becoming more passive. This nature of engagement can be to varying degrees however in a communal environment such as a care home, scope for this type of control may be restricted and dictated by management. Nevertheless some scope for control where possible should be allowed for to promote active engagement with the environment and subsequently promote active ageing (Suckle, 1980).

Alexander (1977) suggests that interior residential environments should in some way reflect the interests, of their occupants rather than simply enforcing societies ideology with regard to fashionable interior finishes. He proposes that items that offer insight into one's life and past add value to the environment. Opportunities to display photos and other memorabilia should be accommodated for.



Figure 2: A typical window seat, in this case allowing one to lay down (blog.lib.umn.edu).



Figure 3: Herman Hertzberger whose buildings gave scope for the occupant to have an active role in controlling certain aspects of the environment. (Suckle, 1980: 60).

4.2.5.4 Lighting

Louis Kahn had an affection towards sunlight and shadow and their modulation and believed that, “*No space, architecturally, is a space unless it has natural light*” (Kahn, Loud, 1989: 262). Kahn was aware that light is an integral component in defining one's experience of a space. Alexander (1977) shares a similar sentiment and is of the opinion that interior spaces that do not have natural lighting are not suitable to spend a great amount of time in. Kahn understood the complexity that light inhibits and that controlling it was key to success. Kahn began to develop designs with layered walls at their periphery so as to create volumes of light filled space inside and outside the building at the same time, protecting the interior spaces within from the harsher effects of the sun (McCarter, 2005). Although natural lighting is preferred during the day, mechanical lighting is necessary during the night or when the quality of natural lighting is simply unable to suffice in the indoor environment. Mechanical lighting can also be used to create varying effects in a space that effects one's mood. The choice of lighting is integral and can be in the form of direct and indirect lighting (Hordeski, 2011). According to Perkins et al. (2004) lighting can enhance the independence of elderly occupants. Due to the biological effects of ageing and deterioration of visual perception, poor lighting and glare can cause further problems. Effective lighting can enhance the quality of a space, improve colour recognition, encourage social interaction and make wayfinding an easier task. Conversely, lighting that is exaggerated or in over abundance is not good and can cause further difficulty.

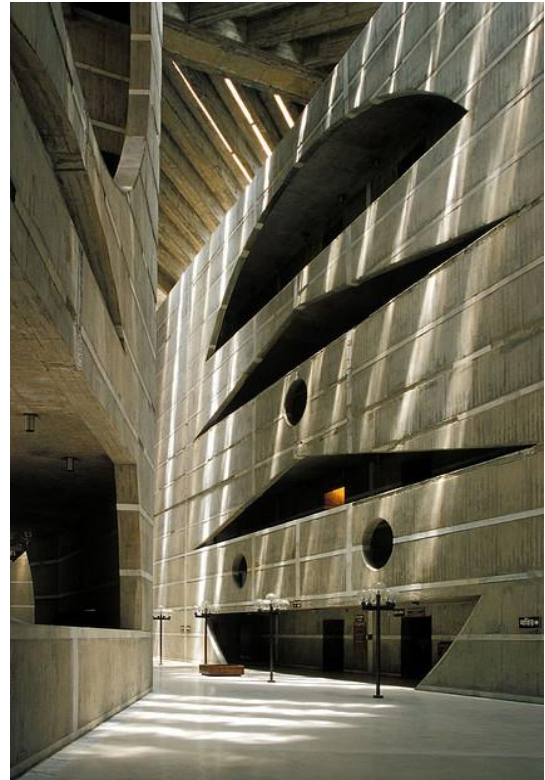


Figure 4: The effect of light and shadow in Louis Kahn's National Parliament of Bangladesh (www.fischerlighting.wordpress.com)

4.2.5.5 The psychological effects of colour

Color and light are major elements in the built and natural environments. Gerstner (1986) points out that colour is a sensation that is perceived by the brain hence it relates to psychology. According to Mahnke and Mahnke (1987) the impact of light and colour influences man's psychological reactions and physiological well-being. As color is an after effect of light energy, it too is a form of energy that the mind recognises consciously or unconsciously and thus has an effect on body function and emotion. Approaching the subject similarly, Cheskin (1948) is of the opinion that most people do not perceive colour to the point that they react consciously to it. However, colour sensations affect people although they are not consciously thinking about the colours in their particular environment.

Colours are divided into two distinctive groups: cool and warm colours. Cool colours are blue and colours predominantly blue whereas warm colours are red and colours predominantly red and yellow. According to Cheskin (1948) although colours have a varying effect on humans, cool colours are generally known to have a sedative effect on the mind whereas warm colours should be used to stimulate the mind. According to Mahnke (1996) over stimulation has been proved to cause changes in rate of breadth, pulse rate and blood pressure that may have negative effects on one's health. Similarly people subjected to under stimulation showed symptoms of restlessness, difficulty to concentrate, irritation and other negative reactions. Due to the result of these two powerful forces, a balance should be acquired between calming and stimulating colours.

Perkins et al. (2004) asserts that colour is a tool that bears greater importance than simply to adorn the environment for aesthetic purposes. If used effectively it can be used as a '*visual identification system*' to ease visual perception and assist with orientation and wayfinding. Perkins et al. relates the example of a bathroom with a complete homogenous colour scheme that results in difficulty for the elderly person with poor visual perception to clearly see grab rails, the edge of the bath or toilet. Complications can also arise as a result of using an array of contrasting colours in a single space and thus potentially causing vertigo (Perkins et al., 2004).

4.3 THE STRENGTH OF WEAK TIES

4.3.1 Introduction

Weak ties are characterised by infrequent interaction between individuals that lack the emotional closeness that exists between individuals with strong ties. Weak ties are described by George (2005) as a means of transferring valuable information that people may be unaware of due to the limited knowledge in their immediate network. Building on this Granovetter (1983) asserts that promoting weak ties is a means of creating more strong ties as weak ties act as a bridge between strong ties. In light of the elderly promoting weak ties that is all-encompassing and is not limited to age groups and ethnicity can be a means of strengthening ties and active participation in the community, avoiding isolation and transferring valuable information. The following shall discuss methods of achieving weak ties through meaningful architecture.

4.3.2 Symbiosis

The interdependent or mutually beneficial nature of weak ties is vital and far reaching. In a study conducted by Nancy Brossoie (2007) on 50 adults over the age of 65, her results illustrated that weak ties can be used to create awareness related to the worthiness of social interactions and additionally have the potential to influence the elderly to become more active in the social sphere.

Similarly in 2011, at a retirement village in Surrey, England, four young people paid a visit to the elderly who live isolated from the younger generation. This social experiment, which lasted three weeks, highlighted how the young and the elderly who have no 'immediate tie' can learn from and help one another through interaction. In one incident, a 19 year old introduced a 73 year old to "surfing the net" and in the process helped the 73 year old lady find her estranged daughter through a social networking site. The interactions between the young and the elderly also effectively altered misconceptions held by either group about one another. Social commonalities were found and even bonding had occurred (www.bbc.co.uk).

The benefits of weak ties cannot be underrated and these experiments were truly essential to understand that the elderly still have a lot to offer the young and both young and old have much to learn from each other hence intergenerational programs or facilities that allow this type of

interaction to take place is of great necessity. According to Neocleous (2011), the built environment can act as a platform for the intergenerational interaction by offering public social spaces that allow informal and formal activity to occur. These platforms should appeal to and be accessible to the wider community rather than a specific group. Consequently, appealing to the wider community, the strength of weak ties can be harnessed more effectively. Additionally, according to the *World Health Organisation*, globally the most common forms of elder abuse were neglect and violation of rights (WHO/INPEA, 2002b). The elderly who are isolated don't often have the opportunity to speak out about the torment they undergo. Opportunities to strengthen weak ties give scope for such intervention to take place where the elderly are given an opportunity to make themselves heard in a social circle that goes beyond their 'immediate ties'.

4.3.3 Public spaces and their integration with private functions

As has been mentioned by Neocleous (2011), the need for the built environment to offer platforms in the form of public spaces is vital to reinforce weak ties. According to Gove (1976) 'Public', as an adjective, signifies 'of or concerning the people as a whole', 'open to all', 'accessible to or shared by all members of the community', 'performed or made openly' and 'well-known'. It also connotes 'a political entity which is carried or made by or on behalf of the community as a whole' (Brown 1993).

According to Madanipour (2010), public space should act as an arena whereby citizens are free to express their attitudes, assert their claims and use for their purposes. These arenas should enable the meanings and function of a public space to change in conformity with citizens needs and interests. Public spaces are the opposite of private spaces. By their very nature they are welcoming to the greater population including people of various age, economic, racial and cultural backgrounds (Madanipour 2010). By catering for the wider population they act as draw cards pulling people together and allowing for direct or indirect mingling of strangers in the built environment and thus nourishing social life. Public spaces that are designed bearing in mind the needs of the greater population offer opportunities for people to gather easily, inexpensively, regularly, and pleasurably and thus enhancing the existing shape of urban life.

In context of the elderly, whose sensory and physical capabilities may have deteriorated, access to these public spaces should be made to occur conveniently and naturally as possible (CSIR, 1967). The integration of the private and public functions in a single facility is one means of

shortening the gap between the two. Alternatively where this is not possible, integrating the elderly into the community close to these functions can assist reducing the distance between the private and public facilities.

4.3.4 Co-mingling spaces

Co-mingling spaces are a derivative of public space. According to Porter (2004) they give rise to the opportunity for people to assemble and interact informally and are a result of two separate spaces or functions overlapping to create a common space. The co-mingling space may also act as a link between two spaces. It may appear at a large scale as a park, market, arcade or courtyard or at a smaller scale as a lobby, corridor, foyer or meeting node. Integrally, their nature fosters social interaction and creates places for communication rather than mere transit. Consequently they have the ability to enhance the strength of weak ties. According to Saraswat (2011) co-mingling spaces within buildings such as courtyards are advantageous and *multivalent*. Not only do they give rise to the opportunity for interaction but also various activities, security and privacy, climate control and articulation of space.

4.3.5 Creating a balance between privacy and communal vigour

The importance of strengthening weak ties has been expressed thoroughly, however, it is vital to bear in mind that although public interaction has much to offer, the need for privacy of varying degrees is still a reality. When public and private functions coexist in close proximity or in a single facility, the need to address issues of privacy is paramount. Perkin's et al. (2004) suggests a hierarchy of public to private spaces within a community or facility. Boundaries of public and private space should be clearly defined and inappropriate adjacencies of public and private spaces should be avoided. In an example relating to the micro context of privacy, Perkin's et al. points out that only 4 percent of American's over fifty years old preferred a shared room with a stranger and although the quality of the care they were being provided was their optimal necessity, sharing a bedroom with a stranger was the subsequent most important concern for women and third for men (Perkin's et al., 2004).

4.4 GENIUS LOCI AND SENSE OF PLACE

4.4.1 Introduction

The genius loci in Roman mythology was regarded as the spirit that was bound to individual places or people whereby each one had its own *genius* that was bound to it and served to protect

it. It was often illustrated as a snake. In contemporary day and age the concept was developed to refer to the distinctive character and atmosphere that exists within a place as opposed to the mythological guardian spirit that it once referred to (Vogler and Vittori, 2006). According to Peter Zumthor (2006) atmosphere is something we perceive through our spontaneous emotional sensibility which is a form of perception that works instantaneously and essentially gives meaning to places and buildings. Vogler and Vittori describe a true example of genius loci in the built environment in our modern day and age as, "The symbiosis of human culture with the geologic and topographic characteristics of the place...resulting in a unified composition of infrastructure and landscape" (Vogler and Vittori, 2006: 10).

4.4.2 Sense of Place

"Man dwells when he can orientate himself within and identify himself with an environment...or when he experiences the environment as meaningful."

(Norberg-Schultz: 1980; 5)

Christian Norberg-Schultz described the idea of dwelling as something that does not only represent "shelter" but rather places where life occurs (Norberg-Schultz, 1980). Najafi and Shariff (2011) express their understanding of places as spaces that have meanings and values attached to them by their users and the 'sense of place' as the one's particular emotional experience of a certain place that transcends the functional constructs that are common to most places. It is clear that places and life are two key elements that define dwelling and when combined offer meanings and values to their inhabitants.

The modern movement in architecture was perplexed by optimization of architecture through scientific analysis without harmonizing it with the character of place and the emotions of the inhabitants. This consequently lead to sterile and faceless neighbourhoods (Vogler and Vittori, 2006). Building on this Relph (1976) asserts that when places lack character that allows them to be culturally recognised then they suffer as a result of lacking a sense of place and when architects are not cognisant of the inherent meanings entrenched in places then they are destroying the authenticity of the place and replacing it with an unauthentic one.

One of the elements that defines the character of a place is its degree of openness. The transparency or solidity of the boundaries of a place may make it appear remote and

inaccessible or part of a more graspable entirety (Norberg-Schultz, 1980). The latter would appear more appropriate in light of efforts to integrate the elderly into the community as opposed to shunning them away behind monstrous walls that create the character of an inaccessible institution.

In the built environment it is often the case whereby the sense of place based on the inherent spirit of place is distracted by architecture that offers meanings that are not inclined with the spirit of place. Hence it is the responsibility of the architect to restore these meanings and build upon the spirit of place to effectively harmonize the built and natural environment (Najafi and Shariff, 2011). According to Vogler and Vittori (2006) as the natural environment becomes more and more distant and is replaced by the built environment, then architecture has the responsibility of creating places and at its most excellent state will have the power of developing the 'genius loci'.

4.4.3 Conclusion

Consequently one can understand that a simple functionalist approach to architecture will not suffice when one seeks to capture the spirit of place, rather a combination of the functional approach and an understanding of the deep meanings that glimmer within the environment are required to effectively enhance quality of life and places.

CHAPTER 5:

Precedent Studies

5.1 INTRODUCTION

This chapter shall include precedent studies based on key issues from the literature review in the preceding chapter. The following projects will not be analysed in their entirety or with a detailed description of every aspect related to the design of the project. Rather, an account of the manner they have responded to certain pertinent issues from the previous chapters shall be addressed.

The following precedent studies have been chosen because they represent a modern and up to date approach to care for the elderly and are able to address certain issues mentioned in the prior chapter. Where some maybe lacking in certain issues, others have triumphed and *vis-à-vis*. The ultimate purpose of this component is to exhibit the manner the application of theory has been implemented in the built environment and consequently contribute to care for the elderly through meaningful architecture.

Some of the criteria for this analysis are listed below:

Promoting active ageing and empowerment orientated care

- Location
- Legibility and Wayfinding
- Contact with Nature
- Enhancing experience in the building
- The psychological effects of colour

The strength of weak ties

- Co-mingling spaces
- Public Spaces and their integration with private functions
- Creating a balance between privacy and communal vigour

Genius loci/sense of place

5.2 TSUKAGUCHI SENIOR HOUSING COMMUNITY, OSAKA, JAPAN

Architects: BAR Architects

Date of Construction: 2009

5.2.1 Introduction

The particular development accommodates senior citizens in a lush mountain side community in Osaka Japan and seeks to create a mixed-use environment that goes beyond the stereotypical institutionalised housing typology for the elderly.

5.2.2 Location

The development is located on a site within a suburban development. The developers chose the particular site due to its size and close proximity to a hospital and condominium block on either side and small scale houses and a new public park on the other sides. The site was split in half to accommodate for the new public park. The choice of site addressed the elderly communities need to be intergraded into the larger community as well as their need for health care that is conveniently available due to its close proximity to the residence. The neighbouring public park creates an opportunity for the residents to enjoy and interact with the public in an environment full of activity. Also visual isolation is avoided as the buildings in the surrounding environments have a similar occupancy density to that of the elderly residence.

5.2.3 Legibility and Wayfinding

The main entry is along the edge of the park which then directs the occupant through into the arrival court that includes public facilities such as a sidewalk cafe, dining areas and clear views into the reception/lobby lounge. Circulation between the three towers is provided through a promenade that surrounds a central public space. A hierarchy of 'gateways' leading from one 'realm' to the next, from public to private, has been clearly articulated. The routes from the main lobby leading to the residential zones and other public facilities appear clear and straight forward, whereas functions such as the salon on the far east and the pool on the far south east corner may pose some hassle due to the distance and labyrinth of circulation one has to travel through.

5.2.4 Co-mingling spaces

Co-mingling spaces exist in various parts of the building such as the entrance lobby, outdoor spill out areas and other more formal public spaces. Additionally the circulation spaces are articulated in a manner that creates co-mingling spaces at various intervals that also act in certain areas as intermediate nodes leading from public to private 'realms'. The building appears to have an unfolding narrative of courtyards that are used as co-mingling spaces and to enliven the lengthy corridors and other interior functions such as the lobby, tea garden and other more informal interior con-mingling spaces that are articulated within circulation routes. Not only does the courtyard provide a co-mingling space, creates a closer contact with nature and helps to articulate internal spaces but also contributes to the strengthening of weak ties.

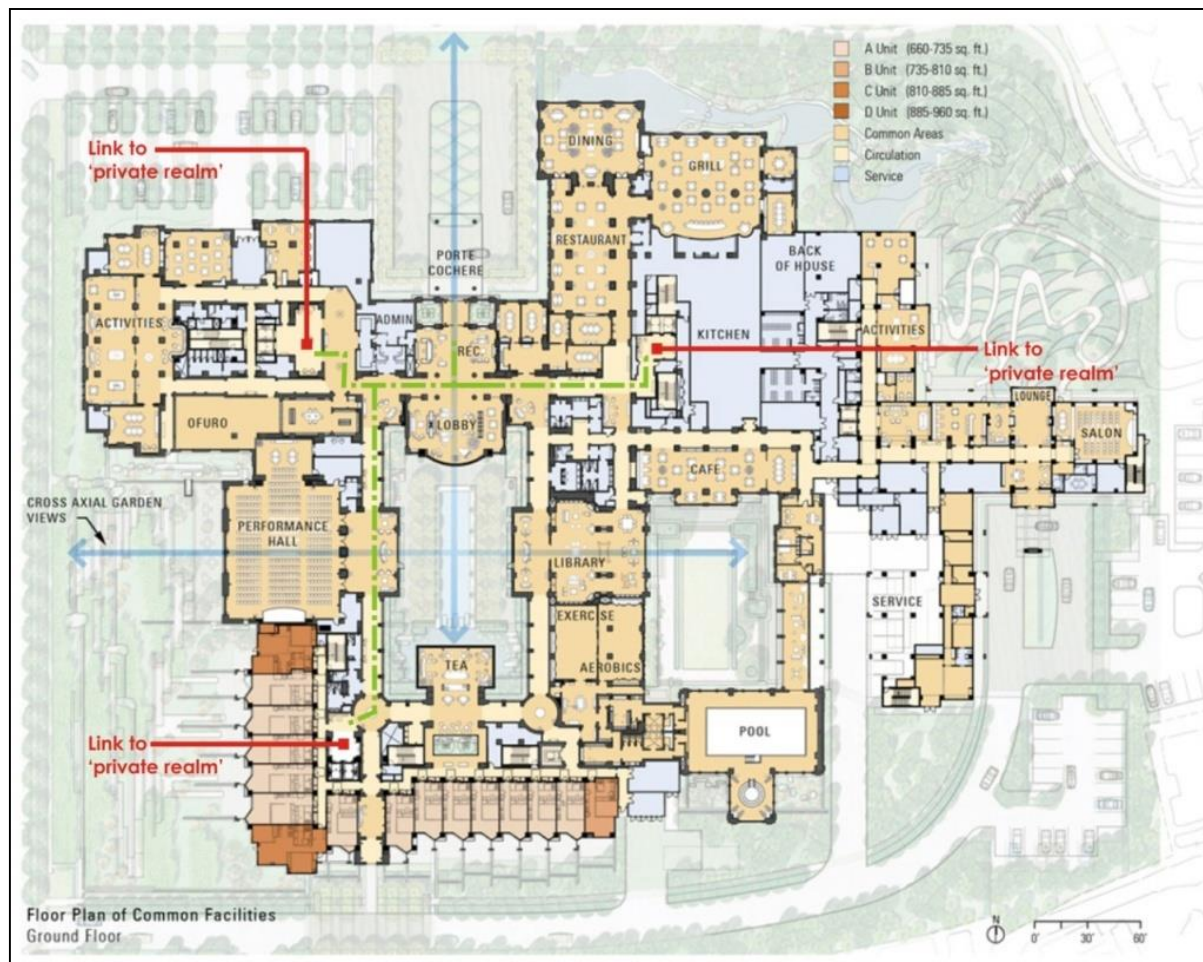


Figure 5: Ground Floor Plan of common facilities and one of the residential zones located on the ground floor (adapted from - www.bararch.com).

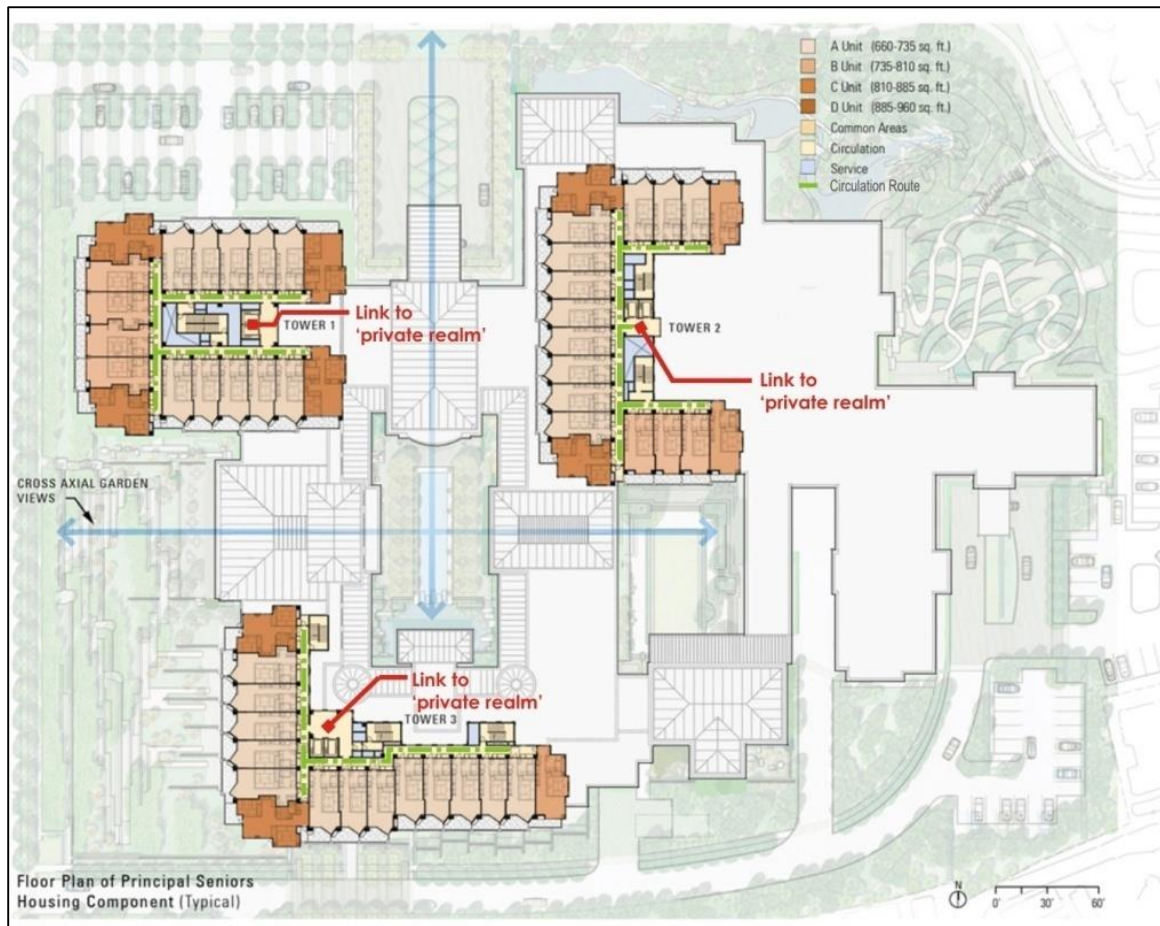


Figure 6: First Floor Plan of residential zones located in the three towers. (adapted from - www.bararch.com)

5.2.5 Contact with Nature

The existing park environment that had deteriorated has been restored and is accommodated by half the site and bears a close link with internal spaces. More private gardens are incorporated within the development where internal spaces wrap around them creating courtyards. The use of water is used grandly in the centre of an open-air courtyard. Overhanging the water feature lies a tea room with floor to ceiling glazing to give the feeling of a space floating on water. According to Fisher (2005) the water used in the water features shatter the reflected light into sparkling patterns and thus enhance the visual nature of the space.



Figure 7: A central courtyard incorporating a tree lined water feature. (www.bararch.com)

5.2.6 Enhancing the experience through the building

The particular project is an illustration of a building that contradicts the common perception related to housing that is focused on attending to the needs of the elderly. Rather than demonstrating an institutionalised setting, architects Richard Beard and Mark Koester have chosen to explore a different approach to high density housing.

To gain entry to interior functions from the outside environment, the occupant is guided through park like settings with lush natural landscaping. An arrival court is situated at the centre of the site to give a sense of exclusivity and welcome one before entering the building. Public functions are lined along the point of entry and create a lively atmosphere. The internal functions that wrap around the central courtyard have views of a garden with a reflecting pool that terminates in a 'floating' tea garden. The residence who have to walk the furthest distance to their tower are given the opportunity to walk internally beside the landscaped garden as opposed to a dim passage that institutionalised settings are synonymous for. Integrally most functions appear to either relate to the landscaped central courtyards or the lush exterior environment.

5.2. 7 The psychological effects of colour

The exterior facades and interior furnishings incorporate a palette of warm colours. Cooler colours are used on feature elements such as the 'floating' tea garden that incorporates a lively purple. Natural elements such as trees and shrubbery are also used to enhance the palette of cool colours.



Figure 8: The tea room 'floating' above the water. (www.bararch.com)



Figure 9: A lush landscaped walkway leading to and from the split area of the performance hall. (www.bararch.com)



Figure 10: Top - The dining room situated along the point of entry of the building, Bottom left - The 'floating' tea garden, Bottom right - The reception lobby.
(www.bararch.com)

It appears that a subtle yet suitable combination of warm and cool colours have been incorporated in the scheme. This creates an atmosphere that is not overtly stimulating but concurrently not dull and too passive. A clear variation of contrasts are noted on most of the interior furnishings. The contrasts are not used in such an array that they could cause visual complications but rather they add vibrancy to the space and give a clearer sense of depth.

5.2.8 Genius Loci/Sense of Place

The 'genius loci' and 'sense of place' are hard to grasp when looking at pictures. Rather they are best understood when a person has truly immersed himself within the particular environment. Nonetheless it does appear that the particular scheme, that incorporates a balance of natural and architectural elements, creates a optimistic feeling with regard to the sense of place that one might feel when in that environment.

5.3 NORTHSIDE COMMUNITY CENTER AND SENIOR HOUSING, SAN JOSE, CALIFORNIA, U.S.A.

Architects: David Baker and Partners

Date of Construction: 2003

5.3.1 Introduction

The Northside Community Center and Senior Housing is a project that seeks to address the needs of the elderly and that of the larger community. The community center incorporates:

- A multi-purpose hall
- a restaurant
- a library

It also offers services such as daily meals, exercise classes, educational workshops, medical services and spaces that offer the opportunity for intergenerational social networking. The buildings maintain a low residential scale and are three-stories at their highest. The residential component offers housing for 'Independent living seniors' and incorporates one and two bedroom units.

5.3.2 Location

The project is located in what was once an underutilized infill site in an existing residential neighbourhood. The site is located near 'Japan Town' and the lively San Jose downtown area. The site is surrounded on all sides by housing and is integrated into the community. The choice of site addressed the elderly communities need for affordable housing and to be intergraded into the activities of the community as naturally and conveniently as possible.

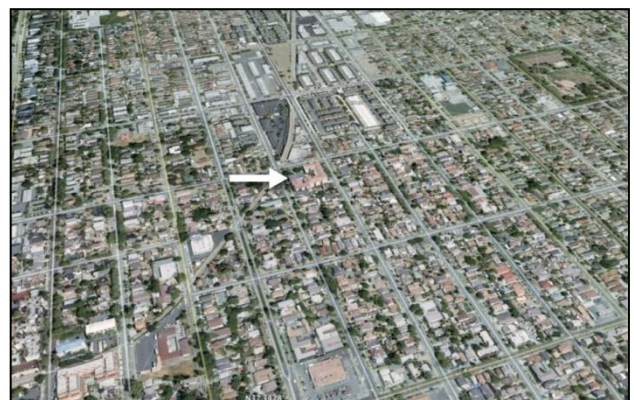


Figure 11: The Northside Community Center and Senior Housing is located within the heart of the sub-urban community. (www.dbarchitect.com)



Figure 13: The ratio of private to public space on the ground floor. (www.dbarchitect.com)



Figure 12: A computer generated 3D aerial view of the development. (www.dbarchitect.com)

4.3.3 Public spaces and their integration with private functions

The particular development has been able to homogenise the private and public functions to allow for convenient access to both functions. In this case resulting in a positive form of integration that strengthens the neighbourhood character.

It is also advantageous as it reduces transportation costs for the retired

residents. The public and private indoor spaces are enhanced by the outdoor civic space in the form of a public park that makes the development appear more approachable and less institutional and creates a closer contact with nature. Not only are the civic needs of the elderly addressed but also their health care needs due to the incorporation of a medical and dental practice in the development. It is clear that a harmonious relationship between the very public, semi-public and private functions is integral to achieve successful integration.

5.3.4 Co-mingling Spaces

Co-mingling spaces exist in the form of the park and formal outdoor courtyards. The advantages of these

spaces have been already mentioned above. However, more informal co-mingling spaces have not been articulated within circulation spaces and long narrow passages are a common occurrence throughout the scheme. (Refer to Figure 13 on next page)



Figure 14: Above - Ground floor plan , Below Sketch Section - both illustrating the various spaces and the hierarchy of public to private 'realms'. (adapted from www.dbarchitect.com)

- 1 - Multi-Purpose Room
- 2 - Commercial Kitchen
- 3 - Library
- 4 - Classrooms
- 5 - Medical Offices
- 6 - Admin
- 7 - Residences

5.3.5 Creating a balance between privacy and communal vigour

The success of community integration in the particular scheme has been elaborated

however ultimate success would not have been achieved were it not for the clear yet subtle transitions between public to private 'realms'. Although together on the same site, the residential and public areas are clearly separated. A

hierarchy of public to private spaces exists to avoid unwanted intrusion of private spaces.

5.3.6 Genius Loci/Sense of Place

The sense of place is a feeling that is truly felt when one experiences a particular environment first hand. From the information that has been provided and the available images, the particular new development appears to give a sense of place that is inclined with the inherent spirit of the place.

The facades of the housing component and landscaping reflect the spirit of the existing befitting housing typology in

the neighbourhood thus enhancing the spirit of place. Also the inclusion of the public park and other natural elements helps to reinforce the spirit of place that the architects desired to create within the development.



Figure 15: Left - the road facade of the residential component that exhibits the use of local natural materials and resonates the spirit of the place. Right - Similarly the outdoor semi-public area immolates a sense of place. (www.dbarchitect.com)

5.4 GENERATIONENHAUS HESLACH, STUTTGART, GERMANY

Architects: Drei Architekten, Haag, Haffner und Stroheker

Date of Construction: 2001

5.4.1 Introduction

The following projects is a mixed-use facility that accommodates:

- Shops, a bank, a restaurant, doctors' offices and a day care centre for children.
- A community centre with several club rooms
- A nursing home with 74 assisted living apartments for senior citizens.
- 2-3 Room apartments for an inter-generational living project.
- Outdoor civic spaces v

Additionally, to further emphasise the relationship between generations, the project expresses a dialogue between an aged preserved and restored former brewery building, another existing building and a newly built block. Although the facades of the brewery have been preserved, the internal configuration has been remodelled.



Figure 16: To the left, the newly built block. To the right, the preserved brewery. A narrow public street lies between the two buildings. (www.competitiononline.com)

5.4.2 Location

The facility is located along one of the busiest thoroughfares in the city. The surrounding buildings also offer a mix of activities including residential, administrative and retail functions. One of the key components leading to the success of the scheme is its placement and manner it has been integrated into the community.

5.4.3 Public spaces and their integration with private functions

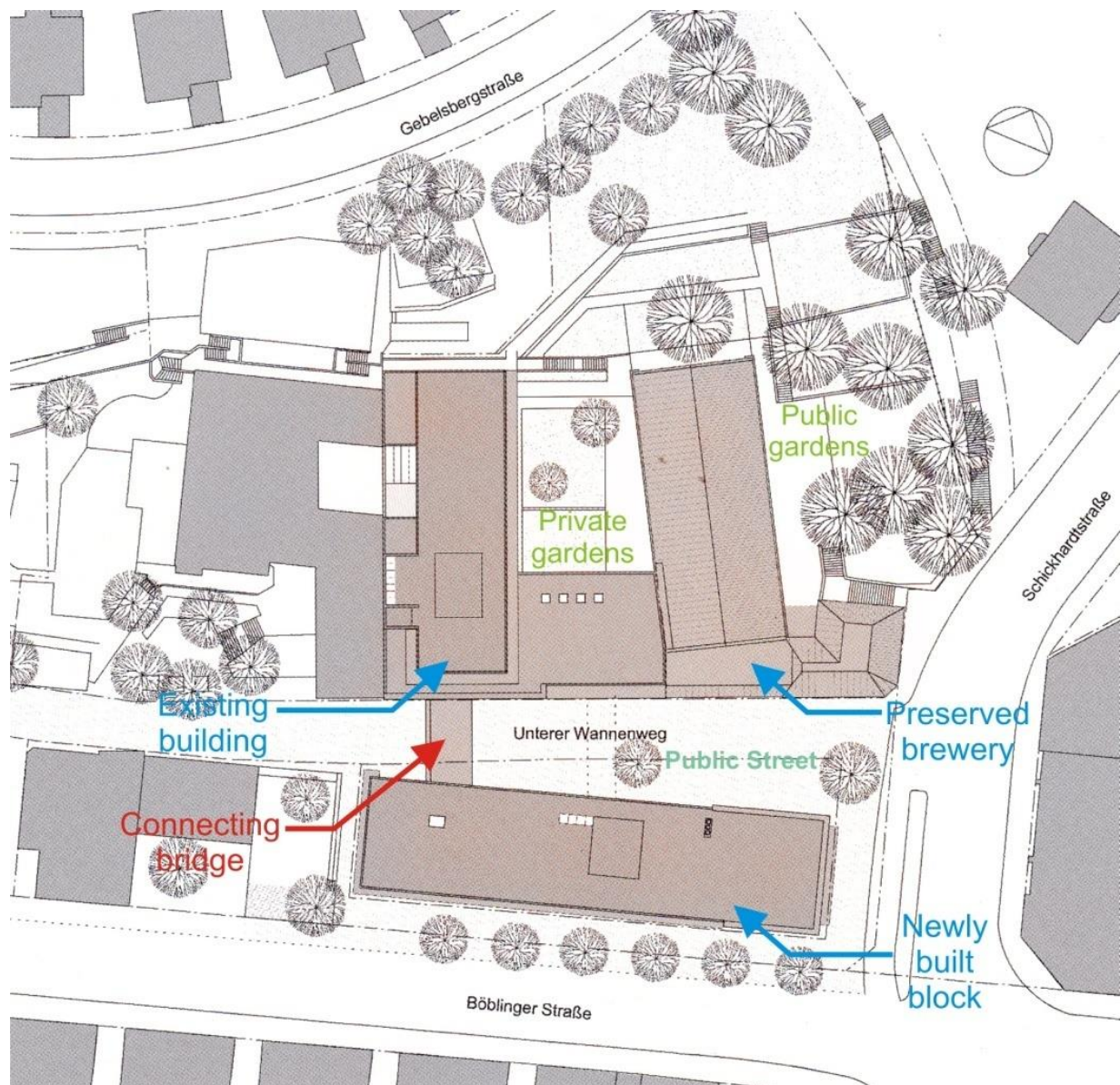


Figure 17: A site plan illustrating the various blocks and outdoor spaces that form the overall composition. (Adapted from Mostaedi, 2003: 152)

The ground floor level is kept exclusively for public activity. Certain spaces are open to the wider public whereas others are exclusive to the residents. A narrow public street cuts across the facility and as a result, the upper floors are connected via a bridge. Public gardens are used as a means of promoting intergenerational social cohesion. The public street that cuts between the buildings is also a means of creating a lively atmosphere within the building's precinct.

5.4.4 Co-mingling spaces

Spaces that foster social interaction are articulated throughout the scheme. From the most informal areas such as the public street between the buildings to the manicured gardens within and around the facility. The circulation spaces leading to the apartments have also been articulated in a manner that creates informal co-mingling spaces.

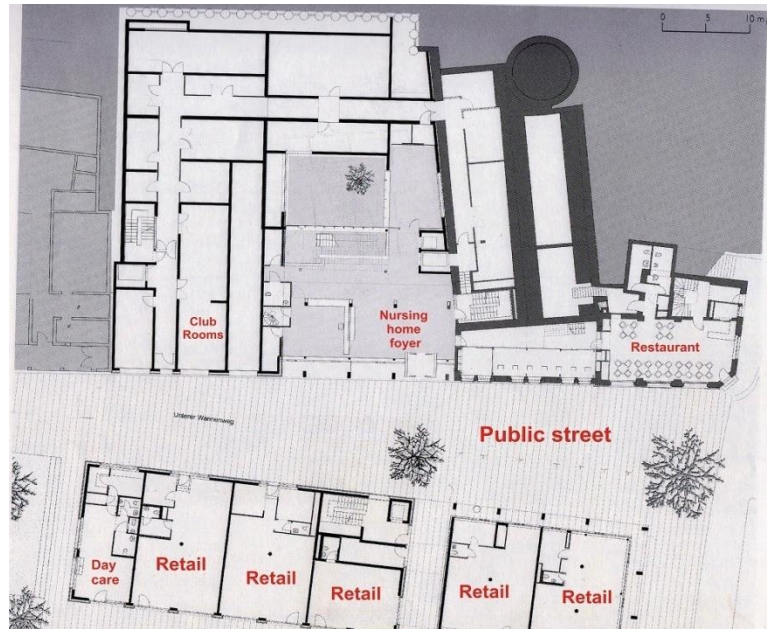


Figure 18: The ground floor plan. (Adapted from Mostaedi, 2003: 154)

5.4.5 Creating a balance between privacy and communal vigour

Most public spaces such as the retail accommodation and restaurant are located and orientated towards the busiest streets and are on street level. Spaces such as the club rooms and nursing home foyer with a lower degree of 'publicness' are accessed from the quieter narrow street. The nursing home's communal dining area opens into a private courtyard but the opposite side is orientated towards the public gardens. Certain residential apartments also open into the private garden but the bulk of the apartments are located on the upper floors with the highest degree of 'privateness'.



Figure 19: The first floor plan. (Adapted from Mostaedi, 2003: 154)

5.4.6 Genius Loci/Spirit of Place

The genius loci is difficult to interpret without having physically experienced the particular environment, however, judging from the images of the facility and the surrounding context, the buildings do appear to capture the inherent spirit of place. The choice of peat-brick construction for the new building is also in keeping with the neighbourhood style and is a means of complimenting the surrounding built environment.



Figure 20: The newly built block to the left. To the far right lies the former brewery.
(www.competitionline.com)

5.5 CONCLUSION

All three case studies appear to be an expression of architecture that seeks to address the needs of the elderly and rather than simply accommodating their needs, they offer an array of functions to also address the needs of the wider community. The buildings are located in suitable areas and are composed in a manner that encourages interactive communication between the elderly and the community. The Tsukaguchi Senior Housing Community offers an enhanced sensory experience with the use of lush gardens, water features, courtyards and interesting interior furnishings. Similarly the Northside Community Center and Senior Housing presents a mix of spaces and accommodation for various activities that present the opportunity for a symbiotic relationship between the elderly and other generations. Lastly the Generationenhaus Heselach is an interesting example that exhibits the nature of a mixed-use building located in an urban setting and in contrast to the other two mentioned precedent studies, Generationenhaus Heselach adds a retail component to the development. This may also be another means of drawing the community towards the building and allowing the residents convenient access to the retail outlets. Also, there is a clear hierarchy of space without the private space being compromised by the public domain. Lastly, it must be noted that each precedent study appears to address the spirit of place within its environment however a mere replication of such developments may be unsuitable for another location. Rather, the overall principles should be acknowledged to enlighten any further cause of action.

CHAPTER 6:

Case Studies

6.1 INTRODUCTION

The following empirical research is analysed and evaluated on the premise of the issues that have been outlined in the preceding chapters. Three case studies have been chosen and although each one does not address all the needs of the elderly, there is an opportunity to critically analyse and identify particular elements and issues within these facilities that offer care for the elderly. All the case studies in this chapter are analysed according to a similar range of aspects. An illustrative overview and accommodation schedule of each facility is also included in the chapter.

6.2 TAFTA ON RIDGE

6.2.1 Background

The following case study is based on an old-age home that caters for independent and frail individuals. Other than housing, services offered include meals, organised activities, qualified nursing staff available 24 hours a day and a doctor who visits weekly.

Architectural drawings of the buildings were unavailable however information shall be illustrated in the form of annotated photographs.

6.2.2 Physical Context

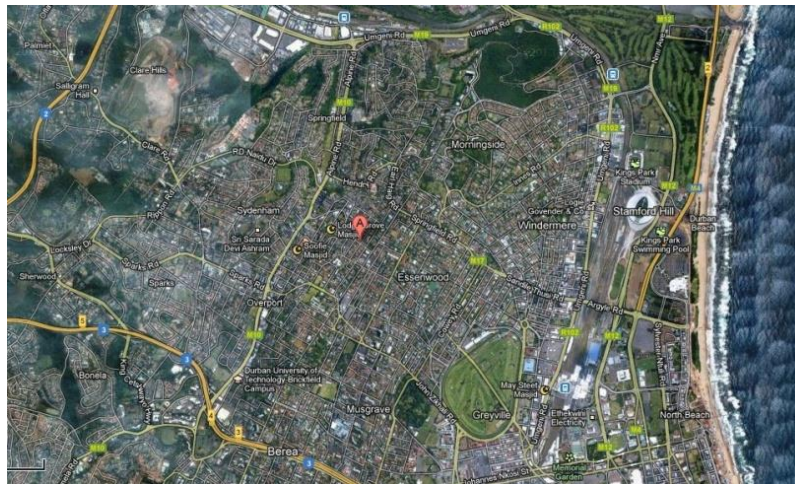


Figure 21: TAFTA on Ridge is situated in a largely residential suburban area at 51 East Street Overport , in Durban, KwaZulu-Natal, South Africa (Adapted from Google Earth, 2013)



Figure 22: The facility is comprised of two buildings, housing assisted living and independent living, that are linked by a circulation bridge. (Adapted from Google Earth, 2013)

6.2.3 Illustrative overview of exterior of building and surroundings



Figure 24.1 - A small park with apparatus for children to play on.



Figure 24.2 - A hotel adjacent to the building.



Figure 24.3 - Left - The assisted living block. Right - Private residence.



Figure 24.4 - View of the entrance side of the building.



Figure 24.5 - An adjacent private residence.



Figure 23 - Aerial view of TAFTA on Ridge and surroundings. (Adapted from Google Earth)
Figures 24.1 - 24.7 (By Author, 2013)



Figure 24.6 - The convenience store.



Figure 24.7 - The public park opposite the home and the convenience store.

6.2.4 Schedule of Accommodation

TAFTA on Ridge is a five storey building with the following accommodation schedule:

• Individual Bedrooms:	
○ Independent Living (Single)	110
○ Assisted Living (en-suite)	48
○ Guest Bedroom	1
▪ Total Individual Bedrooms	159
• Communal Space:	
○ Reception	1
○ Main Dining Room	1
○ Small Dining Room (each floor - assisted living)	4
○ Lounge	1
○ Salon	1
○ Occupational Therapy Room	1
○ Library	1
○ Outdoor Garden	1
○ Resident Ablutions	14
• Treatment spaces:	
○ Doctors consultation room	1
• Administrative Spaces:	
○ Reception	1
○ Manager's office	1
○ Board Room	1
○ Staff Toilets	3
• Services and Stores:	
○ Kitchen and store	1
○ Laundry	2
○ Large Store	1
○ Fire Escapes	4

6.2.5 Location

TAFTA on Ridge is located at 51 East Street Overport, in Durban, KwaZulu-Natal, South Africa. The particular area is largely residential but also incorporates a mix of facilities that are very convenient for residents who live close by. Community facilities such as public parks and convenience stores and amenities such as public transport routes are located very close to the facility. Also less than a kilometre away lies a shopping centre with a variety of stores that residents appreciate. Residents were satisfied with the location of the home due to the close proximity it shared with these facilities making travel to and from these locations less burdensome. Often certain residents walked to the convenience store located close by and others even to the shopping centre. Also the home appeared to have the highest occupant density in relation to the immediate surrounding buildings. However, visual isolation of the building was not very prevalent on East Street due to the large trees that camouflage the building, however, the new large assisted living block stands prominent amongst the low rise private residences in the immediate surroundings (Refer to figure - 18.3).

6.2.6 Contact with nature

The building shares a visual connection with nature through the incorporation of a lush garden within the site. The garden lies in front of the 'independent living' block. The bulk of greenery is only noted on this side of the building and with a few trees in the parking lot. Thus only a portion of the facility shares a distinct visual contact with the natural environment. The communal lounge on the ground floor is the space that has the closest contact with the garden and opens out onto it. Above individual residential rooms overlook the garden.



Figure 25 The lush garden within the site that is accessed through the communal lounge and is overlooked by the residential rooms. (Author, 2013)

Natural elements are clearly not woven into the fabric of the scheme but rather isolated on one side of it. However in partial defence of the scheme, the adjacent block that does not look into a garden does however share a view of the undulating topography and suburban surroundings that incorporates both the natural and built environment in the distance.

An effort has been made to bring greenery into the building through the incorporation of pot plants within some of the corridors that are not double-loaded and include windows for ventilation and light. Although meagre, they do to some measure soften the sill.



Figure 26: An effort to bring natural elements into the building and soften the window sill. (Author, 2013)

The long double-loaded corridors hamper the opportunity for natural ventilation and have led to poor air quality within certain zones. This need for sufficient ventilation, preferably natural, is heightened where incontinence, typically associated with certain elderly people and children, is an issue as it often results in fowl smells.

Another means of creating a connection with nature in a controlled environment has been included in the communal garden that incorporates an aviary. This was used to further enliven the space and allow the residents to come in close contact with birds. The response to the aviary was successful according to residents and staff.

Although the benefits of natural elements have been discussed thoroughly in the preceding chapters, some residents were of the opinion that in this facility, the garden was too private, enclosed and quiet and a view of lively activity from the garden would have been preferable.

6.2.7 Window view to the outdoors

Windows and openings are found in various spaces within the building. However, not all spaces that have the ability to be enlivened by a view to the outside incorporate a window. In other cases some windows, that do open to the outside environment, offer views that are not stimulating, as is the case with the rooms that are loaded on the inner side of the building that creates a very compact atrium with no enlivening features. According to Porter (2004) windows have the ability to encapsulate a view and thus have the ability to enliven the internal space but in the



Figure 27: The compact atrium. (Adapted from Google Earth)

above case they serve more so the purpose of natural ventilation due to the poor views they capture.

According to Alexander (1977) the window can become a place for withdrawal, reflecting and relaxing while also enjoying the view of the outdoor environment through the incorporation of seating with the window. This significance of this is further enhanced for the elderly who at times may not have energy to get out of bed to visit the outdoor environment and the visual



Figure 29: The view shared by the resident from her window. The bed is located beneath the sill. Refer to Figure 23. (Author, 2013)

stimulation is a means of avoiding complete isolation. Such is the case in the particular facility with rooms

whose windows offer considerable views of the surrounding environment and have furniture configurations that allow this relationship to be effectuated.

6.2.8 Active engagement with the environment

The amount of control by residents in terms of making changes to their environment within the home is limited. The only space they really have control of is their individual rooms where residents are expected to bring their own furniture and arrange their rooms in a manner that best suits their needs. Many residents felt that this was very important and appreciated being able to use their own furniture and layout within their rooms. Art work, old and new photos of family and friends were common in many rooms and thus reflected the significance of these elements in the life of the elderly.



Figure 28: An elderly woman residing in the assisted living block. The furniture and room configuration allow her a pleasant view without necessarily getting out of bed. (Author, 2013)



Figure 30: The configuration of furniture, photos and artwork that expresses the residents character and interests. (Author, 2013)

6.2.9 Lighting

Residents had alternating views with regards to lighting. Some felt that lighting was adequate whereas others were of the opinion that it was lacking. However, there was a general consensus that more natural lighting would have been preferable. Issues related to lighting were mostly encountered in the corridors that were double-loaded and relied solely on mechanical lighting.

These were often dim and unpleasant as they had no contact with the outside environment and no scope for natural light if residents had their room doors closed

which was often the case. To respond to this, these corridors terminated with a window, however, the light it transferred was not sufficient to enlighten the lengthy corridors and the use of artificial lighting was inevitable throughout the hallway.

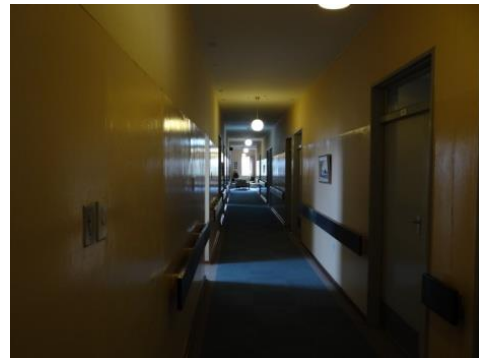


Figure 31: The double-loaded corridors that are primarily artificially lit. Natural light is present when residents leave their room doors open. The hallway terminates with a small window. (Author, 2013)

6.2.10 Symbiosis

As a means of strengthening weak ties and promoting active engagement in social activity, residents are encouraged to participate in group exercises and games. These are often conducted by younger generations. Students from the field of occupational therapy and sports science often visit the home and interact with the elderly whereby each learns from the other. These visits are often very structured and within a controlled environment. Casual encounters between the young and elderly is not often the case and this may be due to lack of integration of the facility and the surrounding environment.

6.2.11 Co-Mingling Spaces

Co-mingling spaces exist both within and outside the facility in the immediate surroundings. These spaces are both formal and informal in nature. The success of these spaces varies and interestingly some of the spaces formally set aside for social interaction such as the public park located across the road from the home is often desolate and uninhabited by residents but rather vagrants.

The lounge area is another formal co-mingling space that is often used by residents on account of its communal nature and comfortable seating. The communal lounge is a dim lit room that bares a visual relationship with the garden and allows for convenient access to it.

Figure 32: The lounge area that bares a connection with the garden. (Author, 2013)



Although the lounge and garden are formally set aside for such activity, residents are often seen seated at the entrance of the building where some feel they share a view of more activity and unfamiliar faces.

Figure 33: A group of residents mingling informally under the porte-cochere at the main entrance. (Author, 2013)

Efforts have been made to create co-mingling spaces on the upper floors, where the elderly reside, in the form of a small lounge on each floor. However, these efforts do not appear as successful as the other above mentioned co-mingling spaces although in principle they act as intermediary spaces between corridors.

Also the doorways in the long double-loaded corridors, that relate to the individual residential rooms, do not appear to be articulated in a manner that fosters informal co-mingling spaces and residents are either in their room or out in the corridor.

6.2.12 Genius Loci and Sense of Place

The sense of place is very objective and based on each individual's feelings about a place. The sense of place in the surrounding area appears to be lively and full of activity but when entering the facility, things appear to slow down. The mood changes drastically. To some it may appear calm, to others dreary and quiet. A mix of emotions can be felt from deep sadness and sympathy to joy and happiness. The former was felt by myself. The sheer site of the elderly although occupying a facility that is within the community, they appear to be so far out and removed, to some extent isolated from the hub of activity. Contrary to my sense of place, many residents were content and enjoyed the sense of community within the home.

The building's exterior facades does not address the spirit of place and rather reflects an image of an institutionalised building that is out of place. The main lacking element is the feeling of a home. Although efforts have been made to create a homely atmosphere using certain interior design elements, the building lacks a homely feel.



Figure 34: One of the facades encountered on entering the site. (Author, 2013)

Residents find socialising very important and appreciate visits from guests, sadly the building facades do not reflect this spirit. They appear institutional and uninviting.

The spirit of place has been created in the lounge area, dining room, gardens and possibly in residents individual rooms where efforts have been made to create a spirit of place that is homely and less institutional. The garden appears to best capture the spirit of place that was once reflected in the area. The large trees and plantings appear in place rather than mere after thoughts that appear artificial.

6.3 KENDRA GARDENS

6.3.1 Background

Kendra gardens is a retirement home. Unlike TAFTA on Ridge it is targeted at generally wealthy, upper-middle-class individuals. It solely offers residence for independent living elderly individuals who require minimal assistance. The services offered at the home include, daily meals, housekeeping, and laundry. Additionally residents are also taken on outings to various locations and are shuttled to nearby shopping centres and recreational facilities. The author was not permitted to obtain architectural drawings of the buildings however information shall be illustrated in the form of photographs and diagrammatic sketches.

6.3.2 Physical Context



Figure 35: Kendra gardens is situated one and a half kilometres from Durban's Central Business District.
(Adapted from Google Earth, 2013)



Figure 36: Kendra gardens is surrounded largely by outdoor recreational spaces and educational facilities.
(Adapted from Google Earth, 2013)

6.3.3 Illustrative overview of exterior of building and surroundings



Figure 38.1 - St. Augustine School



Figure 38.2 - The Durban botanical gardens.



Figure 38.3 - Orient Islamic School Artificial Turf Soccer Field.



Figure 38.4 - Curries Fountain Sports Ground



Figure 38.5 - Entrance facade of Kendra Gardens



Figure 37 - Aerial view of Kendra Gardens and surroundings. (Adapted from Ethekwini GIS)
Figures 38.1 - 38.7 (By Author)



Figure 38.6 - Futura High School



Figure 38.7 - Orient Islamic School Library

6.3.4 Schedule of Accommodation

Kendra Gardens is a four storey building with the following accommodation schedule:

• Individual Bedrooms:	
○ Single	55
○ Double	15
▪ Total Bedrooms	70
• Communal Space:	
○ Reception	1
○ Main Dining Room	1
○ Lounge	1
○ Mini Lounge (on every residential floor)	3
○ Library	1
○ Day Care Centre	1
○ Salon	1
○ Outdoor Garden	1
○ Resident Ablutions with bath tub	1
• Treatment spaces:	
○ Doctors consultation room	3
• Administrative Spaces:	
○ Reception	1
○ Supervisors office	1
○ Manager's office	1
○ Accountants office	1
○ Internet Office	1
○ Board Room	1
○ Staff Toilets	2
• Services and Stores:	
○ Kitchen and store	1
○ Laundry	2
○ Large Store	1
○ Fire Escapes	4
• Staff Accommodation	
○ Bedrooms	8
○ Shared Ablutions	1

6.3.5 Location

Kendra gardens is situated one and a half kilometres from Durban's Central Business District. It is surrounded largely by outdoor recreational spaces and educational facilities. It is also only a stone throw away from the Hindu Temple, Kendra Hall. It is also close by Saint Anthony's Church and Orient Islamic School that has weekly prayers that are open for public attendance. Although situated close to these facilities, it is rather isolated from shops or convenience stores and residents would often opt for vehicular transport to these locations should they require something that is not provided by the home. According to the residents, the location of the home is very pleasant due to the close proximity it shares with the schools and botanical gardens. They feel that the combination of surrounding natural elements from the gardens and the view and sound of the children playing in the schools' recreational spaces is very pleasant and enlivening.

6.3.6 Contact with nature

The home shares a strong visual connection with nature. The Durban botanical gardens is only a stone throw away from the home and many rooms share a clear view of it. Also the home incorporates a north facing communal garden with manicured trees, grass and planting. This connection to nature is also enhanced by the prominent water feature that creates an enlivening ambiance within the garden. The main communal areas such as the dining hall, lounge and library are all orientated towards the garden and open out towards it with the use of large sliding folding glass doors. Even the



Figure 39: The communal garden that lies within the safe confines of the facility. The garden is exclusive to the occupants of the building. It also shares an interesting view of the neighbouring school playground. (Author, 2013)

circulation spaces on the upper levels that lead to the individual residential apartments are orientated towards the garden with large reveals that foster the opportunity for a visual connection with the natural environment. The garden also incorporates a vegetable garden where residents are encouraged to partake in the gardening process.

Although the scheme incorporates natural elements in the form of trees and planting, there is a clear distinction between the built and natural elements. Such that, one is either in the garden

or in the building viewing the garden and *vis-à-vis*. There is no attempt to bring natural elements such as planting within the building.

The use of natural ventilation is used consistently throughout the building with most spaces incorporating openings that allow natural ventilation into the spaces. Double-loaded corridors do occur but are enhanced by intermediary circulation spaces that have large openings to allow sufficient ventilation into the space.

6.3.7 Window view to the outdoors

The building capitalises on views to the outdoor environment with the use of large reveals throughout the building. Most spaces incorporate a window that shares an interesting view. Even one of the vertical circulation spaces shares a remarkable view of a prominent feature in the botanical gardens. Residents found that the view they share from the windows in their rooms is outstanding and an integral component that has a positive impact on their stay at the home.



Figure 40: The lively view from a residents room of school children playing soccer in the neighbouring site. Curries Fountain Sports Grounds in the distance. (Author, 2013)

Residents feel that watching the lively activity of the children playing in the adjacent schools combined with the picturesque nature of the botanical gardens is very enlivening. Although not integrated into the structure of the building, the rooms do incorporate a seat by the window that help to effectuate Christopher Alexander's theories related to creating a window place.

6.3.8 Active engagement with the environment

Active engagement with the environment is fostered in some aspects of the building but is ruled out to some extent in others. In contrast to TAFTA on Ridge where residents are provided an unfurnished room with only built in furniture and are expected to fill in the rest, Kendra Gardens provides a completely furnished room with minimal scope to add privately owned furniture. Private furniture that was added by the occupants included small frames, posters, photos and/or a rug.



Figure 41: The standard furniture layout within a double bedroom with minimal scope for personal additions. (Author, 2013)

To foster active engagement with the environment and to create a closer link between the residents and nature, the facility incorporates a small vegetable garden within the main communal garden within the confines of the facility. Residents are given the opportunity to plant vegetables, monitor their growth, water them and eventually harvest the vegetables. Thus creating a sense of independence and encouragement to avoid being completely passive.



Figure 42: The small vegetable garden incorporated in the facility. (Author, 2013)

6.3.9 Lighting

The quality of lighting in the building appears to be excellent and this view was also shared by staff and residents. Natural lighting illuminated most interior spaces with the use of appropriate windows and an intelligent articulation of the floor plates and walls. In contrast to the preceding case study, light within most circulation spaces is optimal creating bright airy spaces. Large panelled folding sliding glass doors are used between the garden and the communal internal spaces such as the lounge and dining area. This promotes ideal natural lighting whether opened or closed. Also an interesting play of light and shadow is created whereby light is revealed as a tectonic element by the shadows cast by shading devices.



Figure 43: The internal circulation spaces incorporate multi-panelled glass openings to capitalise on natural lighting and ventilation. (Author, 2013)

6.3.10 Symbiosis

The home is strategically located and is surrounded by three schools. The relationship derived from these close proximities gives rise the opportunity for a convenient symbiotic relationship between the elderly and the school kids however this relationship does not appear to be effectuated due to the private nature of the scheme, whereby all common social spaces, such as the garden, multipurpose rooms are located within the scheme and away from the outer public's eye. There are no benches or other forms of seating outside the home whereby the elderly and children could informally gather and chat. If a visitor intends entering the facility, they are required to provide details of their reason for visiting, time of visit and a few personal details.

6.3.11 Co-Mingling Spaces

Co-mingling spaces are found largely throughout the scheme. These are most evident and articulated within circulation spaces on the residential floors. Mini-lounges have been created that also successfully create breaks within the long corridors. Even doorways have been articulated in a manner that fosters informal contact between residents without disturbing the flow of movement in the corridor. Seating is an element that appears to be prominent within the scheme and is widely used to encourage more comfortable use of co-mingling spaces. However, there has been no visible attempt to create co-mingling spaces that fosters interaction between the residents and the neighbouring schools and although common grounds do exist outside the main entrance, this area lacks the fine articulation that is presented within the confines of the scheme.

6.3.12 Genius Loci and Sense of Place



Figure 45: A mini-lounges that create a break within the corridor. (Author, 2013)

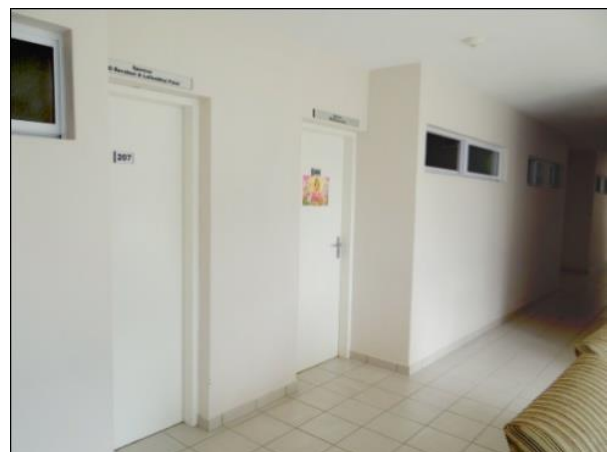


Figure 44: Doorways are articulated and create co-mingling spaces. (Author, 2013)

The genius loci and sense of place is very subjective and is defined by each individuals experience. The site has a genius loci that is entrenched with history of a civic nature. The manicured private garden within the scheme speaks a similar language to that of the neighbouring botanical gardens and is a means of enhancing the existing contact with nature within the site. The overall articulation of the scheme including the choice of pitched roofs appear effective in enhancing the existing genius loci. The quality of light appears brilliant and creates an environment that feels fresh and vibrant as opposed to dull and dreary.

Certain internal spaces however, do lack in creating a homely feeling. The main lounge area, although a public space, lacks any form of warmth and intimacy. This may be as a result of the high ceilings and furniture layout. The space appears to be more like a large waiting room then one for relaxation and mingling.

Overall the scheme does appear to have a positive sense of place and one that seeks to enhance the life of the elderly and other occupants.



Figure 46: The lounge area does not exhibit an intimate or homely sense of place. (Author, 2013)

6.4 GARDEN GROVE

6.4.1 Background

Garden grove is a retirement complex that offers a safe and secluded environment to its occupants. It is an inclusive facility that offers shelter and services solely to the elderly, who are residents. Additionally, the facility offers meals, cleaning, transport and health care. All the units are connected to a 24-hour a day monitored emergency security call system and the facility is secured widely by security walling, electric fencing, garden beams and controlled access.

6.4.2 Physical Context

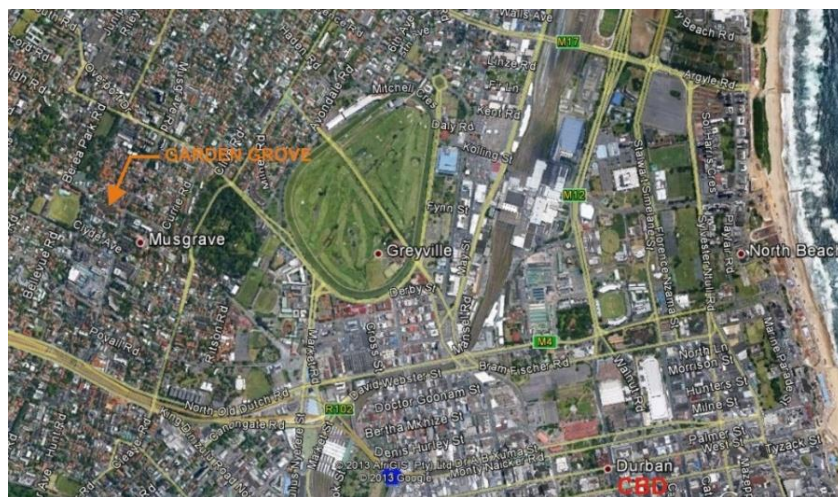


Figure 47: Garden Grove is approximately 2.5km's from the Durban CBD. (Adapted from Google Earth, 2013)

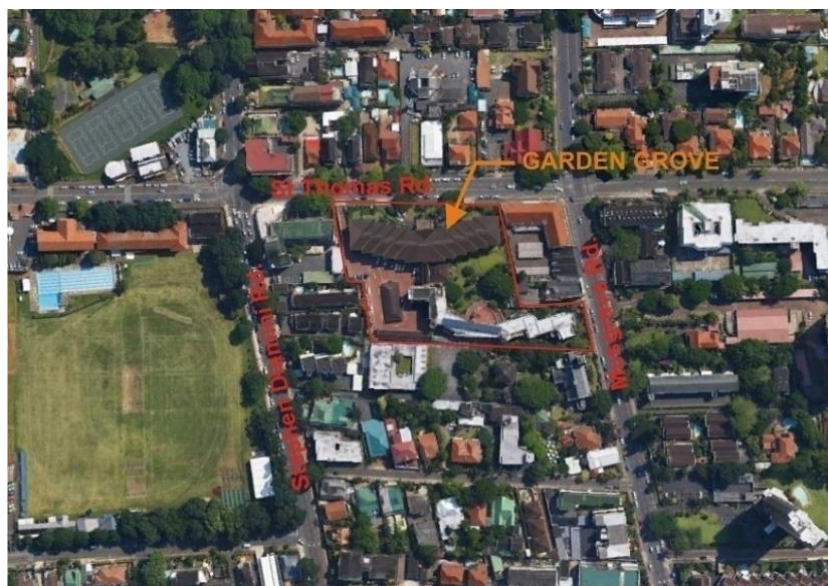


Figure 48: The home is situated in a largely mixed-use area comprised of schools, recreational facilities, private and commercial residences, offices and retail functions. (Adapted from Google Earth, 2013)

6.4.3 Illustrative overview of Garden Grove



Figure 50.1 - Frontage at main entrance on St Thomas Rd.



Figure 50.2 - Porte-cochère at main entrance.



Figure 50.3 - Private rear parking lot for residents.



Figure 50.4 - Small private clinic for residents.



Figure 50.5 - Private garden for residents.



Figure 49 - Aerial view of Garden Grove and surroundings. (Adapted from EtheKwini GIS)
Figures 50.1 - 50.7 (By Author, 2013)



Figure 50.6 - The communal dining hall with views into the garden.



Figure 50.7 - An alternate entrance on Musgrave Road.

6.4.4 Schedule of Accommodation and Floor Plans

Garden Grove is a three storey building with the following accommodation schedule:

• Individual Bedrooms (en suite):	
○ Combined total of single and double	150
▪ Total Bedrooms	150
• Communal Space:	
○ Reception	1
○ Main Dining Room	1
○ Lounge	1
○ Mini Lounge (on every residential floor)	6
○ Library	1
○ Salon	1
○ Outdoor Garden	5
○ Bar Area	1
• Health Care Centre/Clinic:	
○ Duty Station/Reception	1
○ Wards	8
○ Toilet	2
○ Shower Room	2
○ Bath Room	2
○ Staff Kitchen	1
○ Lounge	1
• Administrative Spaces:	
○ Reception	1
○ Supervisors office	1
○ Manager's office	1
• Services and Stores:	
○ Kitchen and store	1
○ Laundry	2
○ Large Store	1
○ Fire Escapes	7
• Staff Accommodation	
○ Staff Room	1
○ Ablutions	1



Figure 51: Ground Floor plan. (Adapted from Seitter Boyd, 1991: 4)

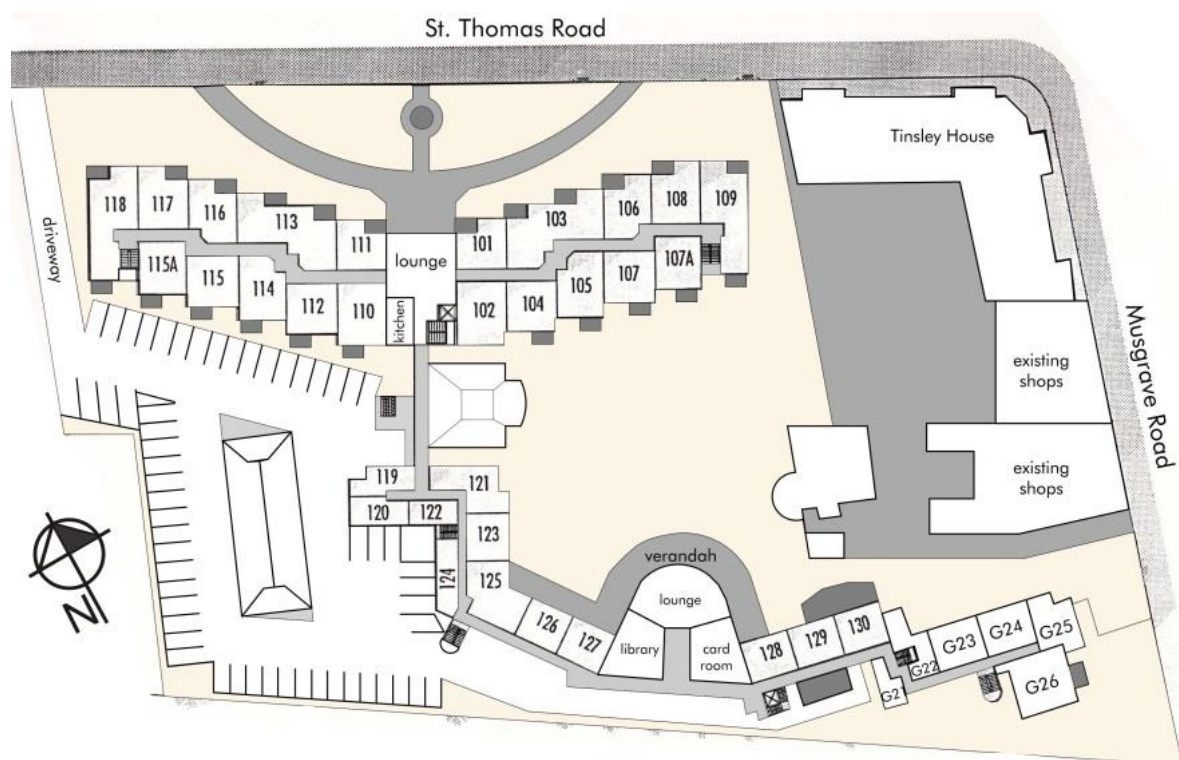


Figure 52: First Floor Plan. (Adapted from (Adapted from Seitter Boyd, 1991: 5)

6.4.5 Location

The home is situated at 211 St Thomas Road, Musgrave, Durban, in a largely mixed-use area comprised of schools, recreational facilities, private and commercial residences, offices and retail functions. It is also situated in close proximity to the Musgrave Centre shopping mall which is often used by elderly residents who opt for walking to the centre due to the convenient travel distance between the two venues.

6.4.6 Legibility and Wayfinding

Paths and points of entry are well delineated using various materials and textures. A hierarchy of 'gateways' leading from one 'realm' to the next, from public to private, has been clearly articulated. The routes from the main lobby leading to the residential zones and other public facilities may pose a problem due to the labyrinth of circulation one has to travel through. Artwork is used extensively on walls in circulation spaces and offers a unique character to each space.

6.4.7 Contact with Nature



Figure 53: A tree bearing brightly coloured flowers creeps up along the edge the building.
(Author, 2013)

The facility bares a strong relationship with nature. Nearly all spaces are orientated towards a garden or some form of greenery. To increase the connection with nature, planting is also found creeping onto the walls, balconies and inside the building. The extensive use of trees and planting is a means of also buffering noise and creating a more private garden haven within the facility.

Residents appeared rather happy with level of greenery at the home and felt it was one of the key components to the success of the environment.

6.4.8 Lighting



Figure 54: A well-lit circulation space with a unique character defined by light and shadow. (Author, 2013)

The quality of lighting in the facility appears satisfactory with optimal usage of natural lighting in spaces that occupants spend most time in such as the communal living and dining spaces and the residents individual apartments. Even circulation spaces are well-lit with optimal usage of glazing. However, certain circulation spaces, especially in the northern block, between residents apartments, are double-loaded and offer zero natural lighting.



Figure 55: A well articulated co-mingling space with seating within a circulation realm. (Author, 2013)

6.4.9 Co-mingling spaces

Co-mingling spaces are found extensively throughout the scheme in the form of formal lounges, dinning spaces, and recreational areas. Co-mingling spaces are also articulated within circulation realms and offer an opportunity for informal and comfortable interaction between occupants.

6.4.10 Genius loci/sense of place

The positive sense of place is felt within the facility and this may be a result of the harmonious relationship between the built and natural environments. Also the building aesthetic is a derivative of the Berea style and is an example of architecture that is cognisant of its surrounding context. The building appears to acknowledge and enhance the genius loci of the particular environment. Clearly articulated hipped clay tiled roofs are noted throughout the scheme and add to the distinct character of the area whereby surrounding buildings are also articulated in a similar fashion with materials that are akin. A warm homely sense of place is felt and this may be as a result of the choice of materials, closeness to nature and the scale, proportion and articulation of the various spaces within the scheme.

6.4 CONCLUSION

There is no doubt of the sincere intentions of TAFTA to offer the best quality of care to the occupants of its buildings. Elderly residents also show a general approval of the building. According to staff, the building offers a more practical approach to accommodation as opposed to a luxurious one. Pragmatic issues such as quality of lighting and accessibility were noted by most residents and staff. Residents pointed out the negative nature of the communal unisex toilets that are provided for them. Residents felt that they would ideally prefer more privacy in that regard. Residents were relatively happy with the location of the home however they would prefer to be more integrated into the community with at least a pleasant view of social activity from the home. Social or co-mingling spaces do exist however the placement and configuration of some do not appear adequate. Overall the building presents great scope for improvement.

Kendra Gardens overall exhibits a well guided system of design that functions well and fulfils most pragmatic obligations. Most elderly residents showed a great sense of approval and admiration towards the home. The building offers a more luxurious hotel like environment as opposed to one that simply meets the need for accommodation. The home is suitably located amongst schools and places of worship and both residents and staff agreed on the positive nature of this. However, the home lacks adequate outdoor social spaces that promote a convenient symbiotic relationship between the residents and school children. The building also lacks private social spaces to accommodate large family visits. The general sense of place although refreshing, appears somewhat institutionalised and lacks the warmth and intimacy expected in a home.

Similarly Garden Grove appears to operate optimally to address the needs of its occupants. However, according to staff the greatest cause of concern is the need to manoeuvre a stretcher as quickly and conveniently as possibly without inconveniencing residents. This is a difficulty in certain areas. Residents greatly favoured the convenience of the private clinic on the premises. Similar to Kendra Gardens, the quality of light and contact with nature appears to be exceptional in most areas. The building also allows for wholesome views of the surroundings due to strategic orientation and well placed windows and balconies. The building has adequate social spaces but all are exclusive to the residents or their visitors. Overall, the building offers a warm homely sense of place that enhances the general architectural character of the community.

CHAPTER 7:

Analysis And Discussion

7.1 INTRODUCTION

The dissertation investigated the relationships between architectural environments and the elderly. It drew upon key theories related to ageing, society and meaningful architecture. It unpacked the physical and social impacts of ageing and contextualised various needs and issues related to the elderly. Thereafter it investigated the manner architecture can contribute to fostering care for the elderly. Three precedent studies have been examined to exhibit the manner the application of theory has been implemented in the built environment. Similarly three case studies were investigated and explored architectural environments that function as a platform for caring for the elderly in the Durban environment. The following chapter shall offer an analysis and discussion of the findings from both the primary and secondary data that shall be compared and contrasted to establish correlations and variance amongst the theoreticians and current findings based on the empirical research.

7.2 ANALYSIS AND DISCUSSION

One of the key theories discussed in the dissertation is the Activity Theory of Ageing that reflects the view that in order for people to age well they must maintain social roles and meaningful activity and interaction rather than remove themselves from the social sphere. This was further emphasised during interviews with Dr Suhaima Hoosen (A professional social worker who has worked extensively with elderly individuals and occupants of old-age homes) and Sheila Rice (The building manager of *TAFTA on Ridge* - old-age home). It was not recommended that questions regarding life satisfaction and state of health be posed to the elderly as these questions are of a sensitive nature. However, there is a general consensus by the elderly that were interviewed in old-age and retirement homes, that it would be beneficial for their immediate architectural environment to accommodate more functions that have scope for them to participate in physical activity and socialise easily and conveniently with the wider public. The elderly also held strongly to the view that it is favorable to incorporate gardens and courtyards with planting, trees and water features as they are generally aesthetically pleasing and have an enlivening effect. The residents of Kendra Gardens (retirement home) also enjoy

the activity of gardening and are of the opinion that working in the little vegetable garden provided at the home is an excellent past time. This further emphasises the validity of Emi Kiyota's (2009) study relating the positive outcome of interaction between the elderly and nature.

Most elderly people and younger generations that were interviewed were of the opinion that a symbiotic relationship between the younger and the older generations should exist as either group may share pertinent knowledge with the other. However, a platform for this type of activity to unfold easily and conveniently without either group going completely out of their way to initiate it should be present. The elderly residents residing in old-age and retirement homes felt that it would be greatly beneficial if the home offered more opportunities to socialise with the use of exciting gardens, courtyards, tea rooms, cafes, multi-use rooms and lounges. They were also of the opinion that it would be highly favourable to have a view of a hub of activities such as people playing sports, relaxing and having picnics; and being able to join in this activity and socialise conveniently without the need for transportation due to its close proximity to the place they reside. It must be noted that residents were of the opinion that if other age groups were to live in the development they reside in, it should be strictly controlled.

Kendra Gardens (retirement home) and Garden Grove (retirement home) displayed an excellent quality of natural light in most habitable spaces. All residents interviewed were also highly satisfied with the quality of light. TAFTA on Ridge however, appeared to be lacking in terms of optimal quality of natural light. Having said this, it was interesting to note that many residents were not of the opinion that the quality of light was poor however they did agree that more natural lighting would be favourable. According to Sheila Rice, certain residents complained of poor quality of light as a result of the deterioration of their visual perception.

Herman Hertzberger was of the opinion that occupants of buildings should engage with the environment by adding personal touches to it rather than simply accepting things as they are. In the case of the elderly, this may be a means of preventing them from becoming more passive (Suckle, 1980). In Garden Grove and TAFTA of Ridge scope for this type of engagement exists mostly within the occupants' individual rooms where they are expected to provide and furnish their rooms with their personal furniture and belongings. It was also noted in both TAFTA on Ridge and Garden Grove that some residents were even fond of the task of neatly setting the cushions upon the sofas in the communal lounges. Far less scope for this type of engagement

exists in Kendra Gardens where the rooms are already fully furnished and loose cushions are nonexistent on the sofas.

All the residents that were interviewed from the three case studies were completely satisfied with the colour schemes incorporated in the homes. According to Cheskin (1948) although colours have a varying effect on humans, cool colours are generally known to have a sedative effect on the mind whereas warm colours should be used to stimulate the mind. Interestingly, all the homes displayed a harmonious balance between calming and stimulating colours.

All places depict a particular character and one of the elements that defines the character of a place is its degree of openness (Norberg-Schultz, 1980). The transparency or solidity of the boundaries of a place may make it appear remote and inaccessible or part of a more graspable entirety. All three homes that were visited displayed a prominent sense of solidity with a low degree of openness. Garden Grove appeared to display the most favourable character with the use of a large degree of planting to blur the boundaries between public and private spaces. Also the use of low rise walls that allowed a degree of transparency effectively increased the degree of openness of the development. The facades of the latter homes appeared solid and uninviting. This may be on account of the sense of privacy or security the development seeks to attain. The three homes visited each expressed its own distinct character. One appeared dull and cold. Another fresh and enlivening and the last a depiction of the days gone by. Overall, regardless of the architectural character, the spaces were enlivened by the occupants whose presence added the most integral of dimensions to the scheme.

7.3 CONCLUSION

Most elderly individuals that were interviewed held strongly to the belief that it is necessary to improve architecture with regard to housing and street design to better accommodate their needs. They agreed on the need to integrate the elderly into the community as opposed to isolating them. They were also fond of effectuating a symbiotic relationship between the elderly and the younger generations through architecture. From these findings conclusions and recommendations were suggested thus concluding the study.

CHAPTER 8:

Conclusions And Recommendations

8.1 CONCLUSIONS

The overarching findings of this study is that architecture is not a means of replacing social care but when designed in a manner that responds to the needs of its occupants, it has the ability to assist and foster care for the elderly. Care for the elderly through meaningful architecture goes beyond the pragmatic issues such as grab rails and accessibility ramps and also seeks to comprehensively address the social and behavioural needs of the elderly. As a result of comprehending these needs and responding to them through the built form, meaningful architecture shall be the derivative. The following summation of the research outlines how architecture can influence care for the elderly.

The built and natural environments have the ability to influence the elderly, with positive or negative outcomes. The choice of site and the manner the building is integrated into the community is integral when seeking to encourage community and family interactions and participation of the elderly in the social sphere. The choice of site and composition of the scheme also affects public attitudes and stigma towards the elderly and architecture that seeks to respond to their needs. If the architectural composition is designed in a manner that responds to the needs of the elderly, it has the potential to empower them and promote active ageing. The architectural composition can also aid in community development or the strengthening of 'weak ties' by offering a platform for a symbiotic intergenerational relationship between the elderly and other generations. The benefits of which are multifarious. Also, a harmonious relationship between natural elements and built form is paramount in environments that seek to address the needs of the elderly. In addition, when determining the design of the facility, dire consideration should be taken towards the historical, physical, and cultural context of the particular environment and more so the sentiment of the populace. This shall aid in creating a sense of place that is positive and possibly inclined with the inherent spirit of place.

8.2 RECOMMENDATIONS

The above conclusions can only be meaningful if they are truly addressed. Hence recommendations shall be provided based on the conclusions to aid the design of a modern

intergenerational mixed-use development that promotes care for the elderly. These recommendations, shall be implemented in Part II of the study.

The overall development should be exclusive to a wide range of people rather than exclusive to one particular group. The development should be integrated into the fabric of the community and it should allow community interactions to occur conveniently and as naturally as possible. As inclusive as the development is, it must ensure a balance between privacy and communal vigour. The development should offer and promote opportunities for the elderly to actively engage with the building and its facilities but in a manner that is not burdensome. The quality of the building should ensure an aesthetic that is not institutional but appears relaxed and informal while still maintaining necessary rules and regulations to ensure safety and smooth operations. Private and public spaces should allow for an adequate degree of flexibility to accommodate changes in occupants needs, demographic changes and modern advances in formal structures related to care for the elderly. The aesthetic of the buildings and the facilities it provides should be a means of remodelling any public stigma towards the elderly and care facilities and should encourage interaction between the occupants and the community. The environment should ensure a high degree of legibility in terms of movement and wayfinding. The development should also provide spaces that promote education and a symbiotic relationship between various generations. The building and natural environment should be harmonised and occupants should have the benefit of adopting a favourable relationship with natural elements such as fresh air, greenery, water, light and open-air spaces. A variation of colours should be incorporated with a subtle dialogue between warm stimulating colours and cool passive colours. Additional to formal spaces for social interaction, the development should also create spaces that allow for informal chatter between occupants in the form of co-mingling spaces that promote social interaction. Lastly, the design of the development should responsibly address the existing *spirit of place* that is linked to the chosen site and surrounding environment and should create a *sense of place* that shall be in tune with the needs of the occupants and their surroundings.

Building Typology and Schedule of Accommodation

The building typology and schedule of accommodation are derived from the analysis of the overall findings from the dissertation. The dissertation is drawn towards the proposal of an intergenerational mixed-use development that seeks to integrate the elderly into the community and create a symbiotic relationship between the younger and elder generations through an environment that is exclusive to a wide variety of ages as opposed to simply the elderly. The building should also accommodate a wide array of functions that promote meaningful activity and services for its occupants. Social and communal spaces should be rife but without infringing on private space. A strict hierarchy of private to public space should exist to promote a balance between privacy and communal vigour. The schedule of accommodation should also allow for flexibility of space and allow occupants to have a certain degree of engagement with the building to add personal touches where they see fit. Lastly, the building and its form and functions should have scope to draw the wider public towards it and be a means of enriching the community.

Criteria for Site Selection

The particular choice of site is integral when taking into account the public's stance or stigma towards the new development. If the development is positioned in a remote location, this could imply that the elderly are to be discriminatively removed from society and are not worthy of participation in the larger community. The overall intent regarding the criteria for site selection is to select a site that is well integrated into a community and has scope to serve a cross section of society. The site should be easily accessible and encourage community interactions to occur conveniently and naturally as possible. The site should have a relatively close or convenient link to community facilities and amenities such as public transport routes, health care, places of worship, recreation and entertainment. This will also be a means of avoiding the burden of long distance travelling. The buildings in the surrounding environments should have a similar occupancy density to that of the proposed development. This will be a means of avoiding complete visual isolation of the proposed building. To promote a convenient symbiotic relationship between the elderly and the younger generations, the site should also have a relatively close link with a crèche, school or higher education facility. Also, a site with fewer undulations that is not overtly steep would be preferable to minimize the need for lengthy ramps and stairways.

During Part II of the study, other mechanisms shall also be explored to enhance the quality of the proposed composition and address other pragmatic issues related to the site and proposed building that are equally important when seeking to address the needs of the elderly and effectively offer a positive contribution to society.

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APPENDIX 1

CARE FOR THE ELDERLY THROUGH MEANINGFUL ARCHITECTURE

Questionnaire

Page 1

The aim is to note the quality of the architectural environment and experiences of the elderly residing in old-age/retirement homes and to also note any suggestions they have related to old-age/retirement homes.

Please circle your chosen answer.

1. Do you feel that it is necessary to improve architecture with regard to housing and street design for the elderly?

A - Strongly disagree B - Disagree C - Neither agree nor disagree D - Agree E - Strongly agree

2. Are you satisfied with the location of this particular residence?

A - Strongly disagree B - Disagree C - Neither agree nor disagree D - Agree E - Strongly agree

3. Would it be preferable if shops and amenities such as recreational facilities, health care, public transport routes are located closer to where you reside?

A - Strongly disagree B - Disagree C - Neither agree nor disagree D - Agree E - Strongly agree

4. Do you feel that it would be beneficial if the particular home offered more opportunities to socialise with the use of exciting gardens, courtyards, tea rooms, cafes, multi-use rooms and lounges?

A - Strongly disagree B - Disagree C - Neither agree nor disagree D - Agree E - Strongly agree

5. Would you like to live in an environment where you had a close view from your home of a hub of activities, such as people playing sports, relaxing and having picnics in a park and being able to join in this activity and socialise conveniently without the need for transportation due to its close proximity to the place you reside?

A - Strongly disagree B - Disagree C - Neither agree nor disagree D - Agree E - Strongly agree

6. Do you think that mixing and socialising with younger generations important and beneficial?

A - Strongly disagree B - Disagree C - Neither agree nor disagree D - Agree E - Strongly agree

7. Do you feel that the home should offer more opportunities to socialise and mix with younger generations conveniently on the premises?

A - Strongly disagree B - Disagree C - Neither agree nor disagree D - Agree E - Strongly agree

8. Do you think it could be beneficial if the particular home provided residence for other ages as opposed to only those over sixty years old?

A - Strongly disagree B - Disagree C - Neither agree nor disagree D - Agree E - Strongly agree

9. Do you feel that certain residents have much wisdom and knowledge to impart and given the right platform or opportunity to socialise and make themselves heard, they could benefit others including the younger generations?

A - Strongly disagree B - Disagree C - Neither agree nor disagree D - Agree E - Strongly agree

**CARE FOR THE ELDERLY
THROUGH MEANINGFUL ARCHITECTURE**

Questionnaire

Page 2

10. Do you feel that it would be beneficial to have opportunities for further education or to learn new skills on the premises with multi-use halls, auditoriums, computer rooms etc?

A - Strongly disagree B - Disagree C - Neither agree nor disagree D - Agree E - Strongly agree

11. Would you prefer to be able to cook our at least help with the preparation of your meals at times?

A - Strongly disagree B - Disagree C - Neither agree nor disagree D - Agree E - Strongly agree

12. Do you think it would be beneficial to incorporate more recreational and health orientated facilities in the building such as a wellness centre, gym, pool etc.

A - Strongly disagree B - Disagree C - Neither agree nor disagree D - Agree E - Strongly agree

13. Do you feel it would be beneficial if the house had a closer contact with nature in the form of gardens, courtyards, more planting and trees and water features that have the ability to enliven the development?

A - Strongly disagree B - Disagree C - Neither agree nor disagree D - Agree E - Strongly agree

14. Are you satisfied with the layout and proximities of different functions such as the individual rooms, lounges and dining areas?

A - Strongly disagree B - Disagree C - Neither agree nor disagree D - Agree E - Strongly agree

15. Do you feel that it is simple to manoeuvre through the building?

A - Strongly disagree B - Disagree C - Neither agree nor disagree D - Agree E - Strongly agree

16. Are you satisfied with the layout and proximities of different functions such as your private rooms, communal lounges and dining areas?

A - Strongly disagree B - Disagree C - Neither agree nor disagree D - Agree E - Strongly agree

17. Are you satisfied with the quality of lighting?

A - Strongly disagree B - Disagree C - Neither agree nor disagree D - Agree E - Strongly agree

18. Do you think that more natural lighting and ventilation would be beneficial?

A - Strongly disagree B - Disagree C - Neither agree nor disagree D - Agree E - Strongly agree

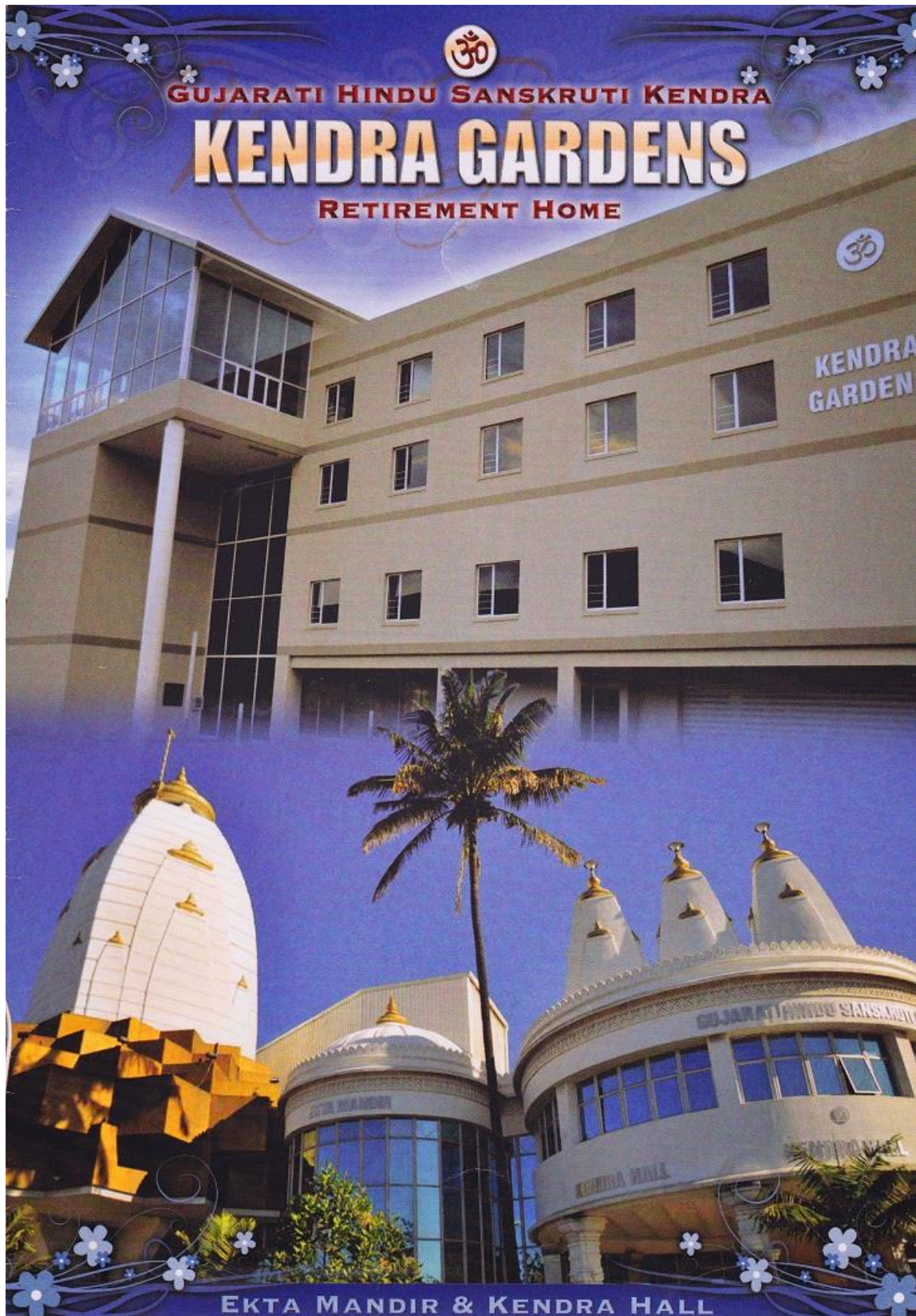
19. Are you satisfied with the colour scheme within the home?

A - Strongly disagree B - Disagree C - Neither agree nor disagree D - Agree E - Strongly agree

20. Are you satisfied with your individual room and the furniture provided?

A - Strongly disagree B - Disagree C - Neither agree nor disagree D - Agree E - Strongly agree

APPENDIX 2



WELCOME TO ONE OF THE FINEST R

The Kendra Gardens Retirement Home allows you the opportunity to enjoy the rewards of your endeavours in the golden years of your well deserved retirement.

The home has been carefully designed to let you continue the gracious lifestyle to which you are accustomed and is the ideal haven for couples or singles who want to make the most of the richest years of their lives. Whether you prefer solitary interests or enjoy the company of like minded individuals, you will find the Kendra Gardens Retirement Home offers superb opportunities to maximise your retirement lifestyle.

The rooms incorporate the best design features. The choice of amenities caters for the needs of all. The magnificently landscaped gardens within secure surroundings will be the envy of your friends and provide peace of mind for your family.

Your future starts at Kendra Gardens

Retirement is the time to live life to the fullest and enjoy every moment!

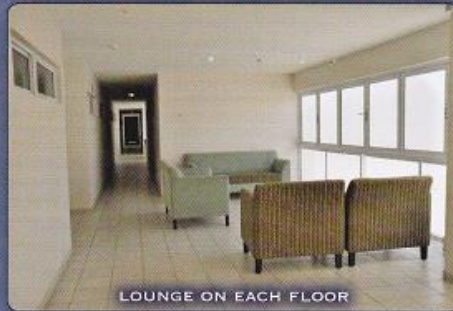
It affords access to the Temple as well as to numerous religious and cultural activities that take place at the Kendra.



OUTSIDE GARDEN



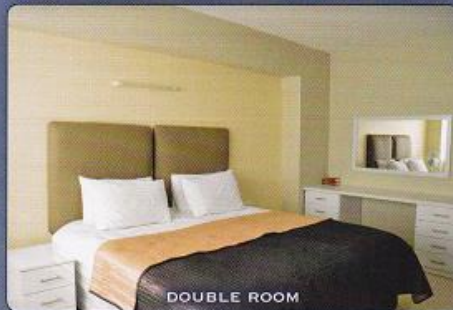
RECEPTION



LOUNGE ON EACH FLOOR



LARGE



DOUBLE ROOM



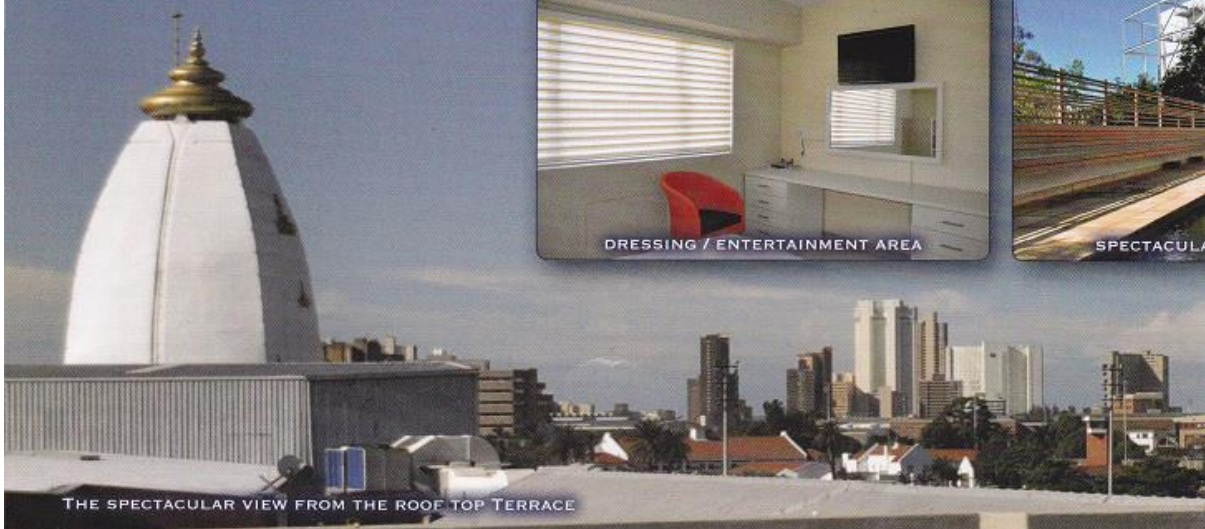
SIN



DRESSING / ENTERTAINMENT AREA



SPECTACULA

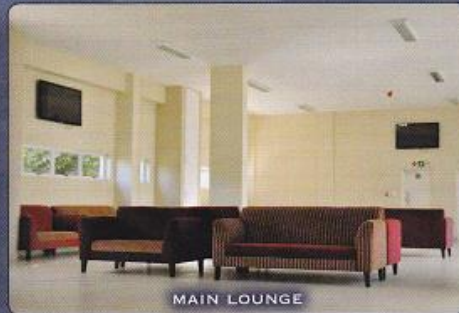


THE SPECTACULAR VIEW FROM THE ROOF TOP TERRACE

RETIREMENT HOMES IN SOUTH AFRICA



FRONT DESK



MAIN LOUNGE



DINING HALL



FULLY FURNISHED ROOMS



ROOM



DESIGNER EN SUITES



WATER FEATURE



UNDERCOVER PARKING

The Kendra gardens has been specifically designed to afford you maximum relaxation and a spirit of community with your fellow residents.

The Home's list of facilities makes for impressive reading and comprises of the following:

- Magnificent lounge for residents & guests
- Three Mini lounges on each floor
- Large dining room
- Gymnasium for a light workout
- Day care centre
- A library for quieter moments
- Full laundry facilities
- Secure under-cover parking
- Generator - you will never be in the dark
- Internet Room
- Hair dressing salon
- 24 hour security with CCTV cameras
- DSTV Channels, Indian Bouquet, SABC, eTV, Radio
- Water & Electricity
- Housekeeping daily
- Fully equipped central kitchen provides meals catered by chefs from India
- Tea / Coffee station on tap
- Piped music in public areas
- Two elevators
- A recreation room
- 3 Consulting rooms
- First floor garden with water feature for peace and tranquillity
- Roof terrace with great views of Botanic Gardens, Race course, Golf course, Moses Mabhida Stadium and Curries Fountain.
- Intercoms & telephones



MONTHLY ACCOMMODATION COST

The all inclusive charge is **R4900** per month for single accommodation (i.e.. **R163 per person daily**)

The double accommodation is **R5900** per month (i.e.. **R98 per person daily**)

This includes:

- Accommodation with en suite private bathrooms
- Electricity and water
- Housekeeping
- Laundry
- All meals
- DSTV and Radio
- Intercoms and receive incoming calls
- Parking (one vehicle per room)
- VAT Inclusive

Kendra Gardens is one of the finest retirement homes in South Africa, come see for yourself...

DONATIONS ALSO WELCOME: TAX DEDUCTABLE

Donations to certain designated Public Benefit Organisations (PBO) qualify for a tax deduction made in the year.

The Kendra is a registered Public Benefit Organisation (Registration number: 004-387 NPO) in terms of Section 30 of the income tax act.

The entire donation will be eligible for tax deduction, under Section 18A of the income tax Act. Deductions are limited to 10% of taxable income.

Please contact your financial advisor for advice pertaining to your specific circumstances.

GUJARATI HINDU SANSKRUTI KENDRA

Registration number: 004-387 NPO

CONTACT MR RAMNIK JUTA, JOLENE GANAS OR EKTA GANDECHA

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Durban, 4001
Postal Address: : P.O. Box 2302, Durban, 4000
Website: : www.kendra.org.za

BANKING DETAILS

Name of Account : GHSK-Kendra Gardens
Retirement Home
Name of Bank : Standard Bank
Branch of Bank : Albert Street
Account Number : 052 666 107
Branch Number : 040 826

IMPORTANT INFORMATION



No Smoking in
the building



Wheelchair Friendly,
Elevator equipped



24/7 Security
& CCTV Cameras



Fantastic 360°
Roof top View



Adjacent to the
Botanical Gardens



Pure Vegetarian
Meals prepared by
Chefs from India



Ekta Mandir
Sanathan Dharma
Hindu Temple on site



Friendly Staff
ensure a
comfortable
environment