

Using spatial design as a tool for crime prevention in low
income communities: A case study of Cato Manor in
Durban, South Africa

By

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DECLARATION

I, Thabiso Sacolo (student number: 214584223), declare that;

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DEDICATION

This research is dedicated to all the mothers who are unrecognised backbones of the educational system. The women who do everything to make sure they sacrifice their nice lives for the betterment of the educational system, and also indirectly provide for their children to have better futures and sacrifice their life plans for the fulfilment of the impossible dreams of their families. "A strong woman is a woman determined to do something that others have determined to be impossible" (Marge Piercy).

This work goes to all the women who are strong and courageous like my mother, Dr Thoko Esther Mnisi and it is to say thank you for her work of raising and educating me in every way. She is a perfect example that women are valuable, and as the late novelist Sir. William Golding (1911-1933) said, *"I think women are foolish to pretend they are equal to men, they are far superior and always have been. Whatever you give a woman, she will make it greater. If you give her sperm, she will give you a baby. If you give her a house she will give you a home. If you give her groceries, she will give you a meal. If you give her a smile, she will give you her heart. She multiplies and enlarges what is given to her. So if you give her crap, be ready to receive a ton of shit!"*

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ABSTRACT

The aim of the study was to explore the possibility of using spatial design concepts to address crime in low income communities. A case study of Cato Manor in EThekweni (Greater Durban) was selected as it was a perfect reflection of the crime problem faced by low income communities. A case study approach was used to better understand why low income areas are associated with high crime rates and then use the first-hand information of the community members to try formulate a spatial design concept that can be efficient and affordable in controlling crime in the area and similar communities.

The study was mainly guided by the Defensible Space theory and principles of the Smart Growth concept. There were three major data collection methods that were used which were structured questions, drawings and focus group discussions for an in-depth understanding of the problem. Moreover, the researcher also did straight observation to try to see the interaction of the people and the nature of the environment. Together the researcher and the participants analysed the problem then triangulated a plan that can potentially address this problem. Ultimately a spatial design that was seen to be potentially most efficient was drawn and refined. The captured data was analysed and interpreted thematically across the data sets approach, addressing all the research questions. The findings were that design is not effective if there is no human effort towards trying to maintain and protect their spaces, however some members felt that participating in the community would expose them to criminals and they will be targeted by the offenders for trying to fight crime. Therefore, this left room for further research on how to encourage participation and nurture a sense of community in a crime sensitive community. The study recommendations would be that all stakeholders get involved in the development and maintenance of the area which means the community must be involved in all stages of development so they can develop a sense of ownership. Secondly the government needs to play an active role in facilitating and funding the project towards maximising the opportunities of the community. Lastly the community needs to take an initiative to form community forums that will deal with monitoring and controlling crime in the area.

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LIST OF ACRONYMS

1. GC:Gated community
2. UV:Urban Village
3. UKZN.....University of KwaZulu-Natal

CHAPTER ONE

ORIENTATION OF THE STUDY

This chapter presents the background to the study. It begins by setting the context to the study, providing a rationale for the use of spatial design as a crime control tool. This is followed by a description of the problem statement, research questions and objectives and the methods that were used to generate the data. Concept definitions are also provided. Lastly, the chapter provides an overview of the full enquiry, outlining what each chapter entails.

1.1. INTRODUCTION

The key focus of the South African government's housing agenda is:

The establishment and maintenance of habitable, stable and sustainable public and private residential environments to ensure viable households and communities in areas allowing convenient access to economic opportunities, and to health, educational and social amenities in which all citizens and permanent residents of the Republic will, on a progressive basis, have access to housing. This includes permanent residential structures with secure tenure, ensuring internal and external privacy, and providing adequate protection against the elements, potable water, adequate sanitary facilities and domestic energy supply (Section 1 of the Housing Act 107 of 1997).

Revealing from this Act is the government's commitment towards providing sustainable human settlements. Such provision entails habitable accommodation, access to amenities and security in tenure. As plausible as this Act is, the evidence on the ground suggests that most low-income communities in South Africa, do not meet the minimum requirements of a sustainable human settlement. Recent findings also point to inefficiencies in the way human settlements are planned and developed in South Africa (Todes, 2011: 2012). Mchunu (2006) cites the Institute for Security Studies (ISS) which highlights that South Africa in general suffers social challenges related to high

unemployment and poverty levels. These challenges are closely associated with the constant increase in crime and lack of property safety and have raised concerns for personal urban planning and sustainability.

South Africa has been nicknamed 'the protest capital in the world' due to the enduring level of service delivery protests from community members (Bianco, 2013). Many explanations have been given for this *status quo*. Some have argued that violent community protests occur when community members feel that their concerns are being ignored; a situation which is often exacerbated when local authorities respond with force and arrests instead of responding to communities' demands (Good Governances Learning Network, 2011). Moreover, and especially considering the discriminatory apartheid policies, Atkinson (2008, 58) notes that these mass protests could be a culmination of frustrations that have built up over a long time. Whatever the explanation, it is undeniable that mass protests are an indication that there are problems with the enactment of state policies in responding to social challenges.

Apart from dissatisfaction with service delivery, it has also been noted that many home owners in low income communities are unhappy about the levels of crime in their communities (Levitti, 1999). Undeniably, safety is a key aspect shaping the quality of life, yet it is often ignored in urban planning. Research evidence has shown that violence and crime are social problems often characterised by socio-economic disadvantages (Gilbert, 2004). This gap in the planning of housing settlements suggests that the quality of human settlements is compromised, especially for the poor. It is against this backdrop, that this study was envisaged.

In essence, the study sought to contribute to the field of spatial planning and human settlements by exploring whether spatial design can be an effective crime control tool in low income communities. In order to achieve this, the inquiry assessed the feasibility as well as the affordability and maintenance of the spatial design concepts in the context of low income households.

1.2. RATIONALE OF THE STUDY

This research was initially influenced by a concern of the prevalence of crime in low-income communities. From this initial concern, the inquiry evolved to incorporate the link between crime and town and regional planning, a focus which naturally lent itself to spatial design. The principle aim is to evaluate the link between spatial design and crime control and further explore the extent to which if spatial design concepts can be used as a crime control tool in low-income areas.

It is also acknowledged that there is a gap in policies regarding crime and sustainable human settlements and that the best way to address this gap is to first engage local communities. Consequently, the study sought to engage the community members using participatory methods, such as visual diagrams and focus group discussions in order to get first-hand information of their perceptions of safe human settlements. This method was envisaged to create a level of comfort and involve community members in shaping ideas that can be used in a possible spatial design best suited to solve the crime issues in their communities. This idea was also influenced by the arguments of collaborative planning which advocate that sustainable planning must be with the people since it is for the people especially in a democratic country like South Africa whereby community participation is an important constitutional right.

It is of interest to explore a space that has not often been explored in terms of research in the past. There is plethora of literature on sustainable development and gated communities but nothing much has been explored by researchers in effective usage of spatial design in spaces for the low-income areas which are predominantly occupied by blacks. Current spatial design applied in both cities and elsewhere, were designed and disposed to the users. Moreover, the designs were influenced by the Eurocentric concepts and the users were not given the platform to contribute.

In essence, this study is therefore based on the interest of the researcher to generate ideas from participants and use them to develop a concept that can address or control spatial planning related crimes. The spatial concept and themes of the research are highly influenced by the information generated through the engagement of the participants. It is anticipated that the study will lay the foundation for many researchers in the field of the built environment since it will introduce an efficient aspect to consider when developing low income areas.

1.3. PROBLEM STATEMENT

Many low-income communities face challenges related to functionality, access to services, crime control and maintenance (Todes, 2012). Although the Government invests billions of Rands in these communities, there are further concerns of efficiency in service delivery. In this study, an assumption is made that the association between low-income areas and crime can be explained through spatial design. The Good Governances Learning Network (2011) points out that there are inefficiencies in the way communities are planned and developed which has led to dissatisfaction among community members, inevitably leading to a lack of sense of community and ownership. The poor spatial design and dissatisfaction of community members can be said to be the major contributors of crime in low-income communities, which is in contrast with housing policies, and goals that advocate for sustainable and safe communities. Levitt (1999: 95) points out that “the poor are more likely to be victims of robbery and aggravated assault, and this relationship has remained true over time.” The stigma of low income communities being associated with crime is the motivation of the research as it is recently seen as a fact rather than just an assumption.

1.4. RESEARCH OBJECTIVES

This research primarily stems from one research objective but broken down into different sub-objectives. These objectives are structured as follows;

Main objective;

- ✓ This study aims to explore the possibility of using spatial design in low income communities, as a tool for addressing their functional inefficiencies and crime

Sub-objectives;

- ✓ To investigate the extent to which spatial design concepts can minimise the issue of crime in low income residential developments
- ✓ To examine the feasibility and efficiency of spatial design methods in solving functional inefficiencies in low income communities
- ✓ To evaluate if spatial design concepts can be affordable and maintainable in the context of low income residential developments
- ✓ To propose a spatial design concept that can address crime in the area of Cato Manor

1.5. RESEARCH QUESTIONS

This research was guided by one research question but supported by other subsidiary questions. These questions are structured as follows;

Main question

- ✓ Can spatial design possibly be used as an effective tool for addressing crime in low income communities?

Subsidiary questions

- ✓ Can these different spatial design concepts minimise the issue of crime in low income developments?
- ✓ Can these different design methods be feasible and efficient in solving functional inefficiencies in low-income communities?
- ✓ Can these design concepts be affordable and maintainable in the context of low income developments?
- ✓ Which of these spatial designs can be most effective in addressing crime in the area of Cato Manor?

The study will focus largely on the prevention and or reduction of acquisitive crimes such as burglary and robbery in residential dwellings; street crimes like theft of vehicles, mugging and theft from vehicles, and other associated offences excluding domestic crimes, homicide and abuse. Therefore, due to the nature of these crimes the study will focus on residential areas and the areas surrounding the properties within the greater residential community.

1.6. POSITIONING MYSELF AS A RESEARCHER

The researcher is a built environment student who comes from a background of construction and land use management, and has had first-hand experience of living in a low-income neighbourhood. This background has enabled him to develop an understanding of both the crime control spatial concepts and observed the loopholes regarding safety in the context of low income communities which developed the desire to pursue the study.

1.7. CONCEPT CLARIFICATION

The concepts involved in this study are clarified below:

1.7.1. Gated communities

Gated communities are enclosed residential neighbourhoods that have non-residential amenities within the development; these neighbourhoods are inclusive of recreational facilities, socio-economic facilities and can be for both the financially well off as well as low-income earners depending on the features or facilities (Blakely & Snyder, 1997, p. 2; Landman & Schoneteich, 2002, p.71).

1.7.2. Urban village

Urban villages are urban residential development that are characterised by medium-high dwellings, mixed land use zoning; this includes active public spaces, good public transport and encourages walkability (Landman, 2003).

1.7.3. Smart growth concept

Smart growth is a collection of spatial design principles that influence sustainable land use planning in the modern world, usually in urban contexts. This is a mature concept that can be used as a theory that guides efficient urban development. This concept or theory fosters for mixed land-uses, compact building design, range of housing opportunities, walkable neighbourhoods, sense of community, preservation of open space and

natural beauty, community involvement, provision of a variety of transportation options especially non-motorised, and provides direction of development which makes development decisions predictable, fair and cost-effective. Moreover, the concept is aimed to achieve employment opportunities and preserve or enhance natural and cultural resources (Corrigan et al, 2004; Craig, 2011; US Environmental Protection Agency, 2011; Katz, 2002).

1.8. LITERATURE REVIEW

The literature reviewed takes on both a local (South African) and international perspective. Specifically, the review focuses on crime in low income areas and the interrelationship between spatial design and crime control. Further, case studies where spatial concepts have been applied are discussed. The theoretical constructs guiding the study are also reviewed. These include concepts that feed sustainable development as well as Defensible Space Theory.

1.9. RESEARCH DESIGN AND METHODOLOGY

1.9.1. Data Analysis

The data will be analysed and presented thematically across all data sets (which are mainly structured questionnaires and focused group discussions) and both outcomes of the data sets will be presented in all themes for a clearer analysis. The researcher chose to use Tesch's descriptive technique to identify the units of meaning and look for emerging themes that are informed by theories and concepts (Creswell, 2013). Qualitative data analysis was chosen for this study to organise the generated data into categories and to identify patterns among the categories (De Vos, 2005). With this process the researcher was able to draw conclusions which were in line with the critical questions, and also reflect the theories of the study (Babbie & Mouton, 2004).

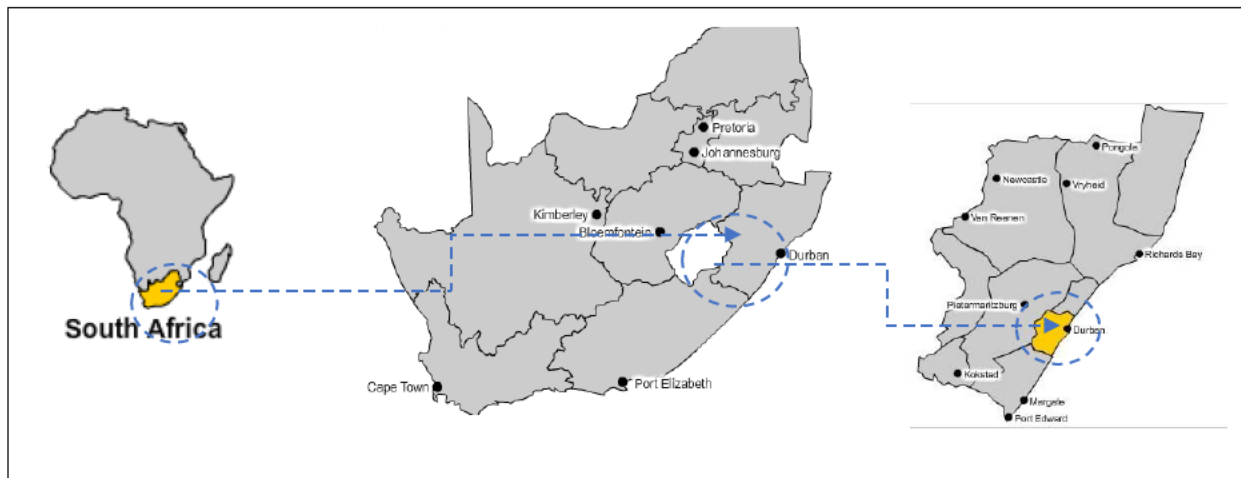
For this study, the recorded data that emerges from the focus group discussion following the viewing of the researcher's drawings on gated communities is transcribed verbatim as a means of eliminating researcher bias. The data from the structured questionnaires is then divided into meaningful analytical units, which were organised, summarised, identified, and linked to patterns and themes. This was done through data coding and

reading the data sets line by line to identify similar ideas. These patterns were then interrogated to establish the underlying meaning.

1.10. RESEARCH SETTINGS

The research was conducted in Cato Manor in the Greater Durban (Durban Metro) area (locality map shown in Figure 1) as a case study because it is dominantly a low-income community with high crime rates and issues of access to services. Therefore, it is a typical low-income development with the challenges that the research is trying to address.

Figure 1: Locality map of Durban from Africa, South Africa, and KwaZulu-Natal respectively



Source: (Travel book, 2015; Maplandia, 2015)

The study followed a qualitative interpretive approach and a case study design was used. The researcher opted to use purposive random sampling method in this study because the main objective is to explore the possibility of a spatial design in low-income communities as a crime prevention tool. Therefore, the participants were chosen from a low-income community, which is the special interest group of the research. The sampled population of the study included thirty males and females from Cato Manor in Durban, KwaZulu-Natal. The researcher chose to use structured questionnaires and focused group discussions; structured questionnaires are used as a triangulation method to explore the possibility of effectively using spatial design in low income communities, as a tool for addressing their functional inefficiencies and crime.

The structured questionnaires were followed by focus group discussions. The thirty-people formed part of the three sets of focus group discussions. Each group consisted of ten people; nine were general community members and one was a member of the police force who was used as a key informant. To guide the discussions, diagrams and visual aids were also used as a supportive tool to generate additional information.

Two sessions were planned with three groups of ten participants. The reason for dividing the large group into 3 was to enable control of the group discussions as well as to capture everything during the interaction. Each session lasted between 1 – 2 hours. The first session focused on sourcing the drawings/diagrams reflecting the participants' visual map of their community. The aim was to bring forth data and gain insights from the participants on possible crime spots, exit points and the nature of crimes thereof. The second session mainly focused on how the spatial designs can be used to improve the participants' local community. The visuals were used to guide the discussions and all discussions were audio recorded.

1.11. DELIMITATIONS OF THE STUDY

The study is located in the field of Town and Regional Planning and Human Settlement and it focused on exploring the extent to which spatial design concepts can be used as an effective crime control tool in low income communities. This included assessing the feasibility and ultimately determining the most appropriate concepts for application in the human settlement chosen.

1.12. POSSIBLE CHALLENGES THAT WERE ANTICIPATED

This was a small scale, qualitative study based on one low income area so, the findings may not be a true reflection of the population or other communities with similar characteristics. Secondly, there was a concern that the latest crime statistics could not be accessed by the public. Other issues of concern were that there was no assurance on the availability of participants and their willingness to participate. Moreover, there was a concern that the time frame of the study would limit the depth of the study and engagement of the researcher with participants. The researcher planned to deal with the problems by

acknowledging these limitations, use random sampling to create unanimity and also refer to the currently existing crime statistics to address these intentions. Moreover, the researcher planned to use the focus group discussion approach to generate more information within the short period of time and also cover the gaps left out by the statistics.

1.13. UNFOLDING OF THE STUDY

The dissertation is structured into six chapters, in which each contains a different aspect of the research, which are summarised as follows;

Chapter one

This chapter presents a generic outline of the study, which involves the motivation to use spatial design as a crime control tool. It also presented the aim and objectives of the study.

Chapter two

Chapter two presents the literature relating to the concepts and theories used in the study. The focus is on the smart growth concept, gated communities, urban villages and the theory of defensible space. The literature reflects the background of the concepts and how they have evolved over time. Moreover, two precedent studies are introduced to reflect their relevance.

Chapter three

In this chapter, critical literature arguments will be reviewed, focusing on the development of gated communities in South Africa, and how the urban village or gated community concepts can be used as a crime prevention tool. The chapter will also draw arguments for and against these spatial design concepts and theories. Ultimately, it will draw on literature reflecting the interrelationship between the theory of defensible space and the concepts being explored in the study, which are the urban village and gated community concept.

Chapter four

This chapter will outline the study methodology and design. As already indicated, a case study method nested in a qualitative approach was adopted. The chapter will also reflect on the sampling methods and data generation tools such as the structured questionnaires and FGDs, which will be used in this study. The strengths and weaknesses of the chosen tools will also be discussed.

Chapter five

This chapter will present, analyse and discuss the data that was generated in the research. The data will be presented thematically across the data sets and analysed against the literature and theories adopted in this study. The ultimately drafted spatial concepts of Cato Manor will be presented and discussed in this chapter.

Chapter six

This chapter will present conclusions and recommendations from the findings drawn from the entire study. This chapter will also present the implications of the research findings and further outlines the limitations of the research as well as suggests further research that could be pursued.

1.14. SUMMARY

The chapter introduced the study which is aimed at exploring the use of spatial design to control crime in low income areas. It presented the objectives and rationale of the research. Chapter two will present literature on the concepts and theory used in the study, and it will further introduce the precedent studies that were selected for the study.

CHAPTER TWO

STUDY THEORETICAL FRAMEWORK

2.1. INTRODUCTION

This chapter presents the synthesis of literature relating to the concepts and theories that were used in this study. The focus was on the smart growth concept, gated communities, urban villages and the theory of defensible space. The literature reflects the background of the concepts and how they have evolved over time as well as two precedent studies whose conceptual relevance to this study is explored.

The study is primarily underpinned by the principles of the smart growth concept. Concepts of sustainable development and new urbanism are also considered, since they share common principles with the smart growth concept. This is because all three concepts deal with mixed land use developments and safety which is basically incorporated in the proposed concepts of gated communities and urban village used for this study. The study also touched on concepts such as the neighbourhood concept, non-motorized transport and collaborative planning. Newman's defensible space theory is also discussed.

2.2. DEFINITION AND CLARIFICATION OF CONCEPTS

The next section clarifies the related concepts with the aim of introducing the conceptual framework in use for this study.

2.2.1. Gated Communities

In this study gated communities refers to;

“a generic term that includes enclosed neighbourhoods that have controlled access through gates or booms across existing roads, and security villages and complexes, including lifestyle communities which provide their enclosed residents with a range of non-residential amenities such as schools, offices, shops and golf courses” (Landman & Schoneteich, 2002, p.71).

This definition ties up with Grant (2005) cited in (Blakely & Snyder, 1997, p. 2) who defines gated communities as “residential areas with restrictive entrances in which, normally, public spaces have been privatized.” They can be a totally new developments or old reconstructed and vitalised areas, and also they can be developed in cities or suburbs, in either high income areas and/or poor neighbourhoods.

What should be noted from this definition is that gated communities have controlled access and their principal purpose is to offer security to the residents. They are enclosed and have non-residential amenities within the development, including recreational facilities. Moreover, gated human settlements can be found in both low and high income neighbourhoods.

2.2.2. Urban village

An urban village (UV) can be defined as an urban development that is characterised by medium-high density housing, mixed land use zoning, good public transit and encourages walkability and public space (Landman, 2003).

The concept can be properly traced back to the 1980s in Britain and the Urban Village Group (UVG) promoted it as a means towards achieving more human scale, mixed-use development and well-designed physical spaces. The concept has since been used in the planning discourse, and there are many developments built in line with the concept since then (Franklin & Tait, 2002).

Sucher (2010) narrows the concept by outlining the three rules that guide the development of an urban village. These are:

- ✓ Build to the side walk
- ✓ Make the building front more permeable
- ✓ Prohibit parking in front of the buildings

The urban village concept is more common in Chinese cities but has gradually been accepted globally as a means of rapidly providing rural migrants with housing that is easily accessible and affordable, and also providing decent, sustainable and safe

accommodation (Hao, Geertman, Hooimeijer & Sliuzas, 2013).

2.2.3. The smart growth concept

Although there is evidence that the smart growth concept was aimed at managing urban growth of the 1960s and the revolution of the 1970s and 1980s, its roots can be formally traced to the 1990s. Knaap (2006) comments that the concept was first introduced by the American Planning Association in the 1990s and was later drafted in the first edition of the Growing Smart Legislative Guidebook in 2002. Edwards and Haines (2007) state that the co-drivers of the Smart Growth and Neighbourhood Conservation Act was Maryland in 1997 that launched it as a public policy. Still, there is evidence suggesting that the concept first emerged formally in 1992 during the United Nations Environment and Development Conference which was held in Rio De Janeiro for the adoption of Agenda 21 (Haines, 2007; Knaap, 2006).

While there is lack of consensus regarding when it originated, it is generally accepted that the smart growth concept came as an initiative to try to minimize the issues of urban sprawl, traffic congestion, disconnected neighbourhoods, and urban decay, which come with the changes in urban dynamics (Bullard 2007). Therefore, the concept focuses on future growth and infill development close to jobs, services, and public facilities to maximize the use of existing infrastructure and preserve open space and natural resources (Sandag, 2006). Litman (2012) views smart growth as an urban planning tool for energy efficient design, highlighting transport systems as its main tool in achieving this. The concept further introduces planning principles based on transport systems that use various modes of transport and efficient land use patterns that came about as a counter intervention to the problem of increasing sprawl.

Szold and Carbonell (2002) argue that smart growth aims to achieve the principles of sustainability since it places high environmental consideration and preservation as well as socio-economic well-being and advancement. Smart growth is concerned with the use of a residential area which is transit-oriented, thereby maximising the use of public transport, bicycle riding and walking. Apart from being transit-oriented, smart growth communities also include mixed use development, and include infrastructure such as

schools, complete streets and a range of housing choices while also responding to fiscal policies, social issues and environmental sustainability (Craig, 2011). Moreover, the concept focuses on spatially locating complementary uses next to each other such as commercial and residential development, educational and residential etc., allowing for provision of high access street networks that focus on pedestrian and bicycle networks and public transport systems, enhance natural preservation, and sense of community place (Sandag, 2006).

2.2.3.1. Principles of Smart Growth

The principles of smart growth have been incorporated into planning policies and projects at different scales. The main aim is to achieve interrelation between the environment and urban planning (Litman, 2012). Moreover, the smart growth principles can help with strategic land-use planning and help create more accessible, multi-modal communities that are walkable, encourage cycling and public transit which helps with reducing energy consumption and car emissions.

Several scholars and agencies have identified a number of principles that resonate with smart growth (Corrigan et al, 2004; Craig, 2011; US Environmental Protection Agency, 2011). These are reflected in Figure 2 below:

Figure 2: Principles of smart growth

- ✓ Mixed Land-Uses
- ✓ Compact Building Design
- ✓ Range of Housing Opportunities
- ✓ Walkable Neighbourhoods
- ✓ Sense of Place
- ✓ Preserve Open Space and Natural Beauty
- ✓ Community Involvement
- ✓ Direction of Development
- ✓ Provide variety of Transportation Options

Source: (Litman, 2012; Craig, 2011; US Environmental Protection Agency, 2011)

Katz (2002) emphasises that the concept of smart growth is aimed at achieving a sense of community; expands the range of transportation especially non-motorized transport, employment and preserves or enhances natural and cultural resources.

According to the Environmental Protection Agency (2011) the smart growth concepts ties with sustainable development principles since it has social, economic and environmental benefits as reflected in Figure 3 below:

Figure 3: Benefits of a smart growth concept

- ✓ Reduces greenhouse gasses emissions
- ✓ Reduces energy costs
- ✓ Compact building design
- ✓ Reduces pollution
- ✓ Enhances safety
- ✓ Enhances quality of life
- ✓ Preservation of open spaces

Source: (US Environmental Protection Agency, 2011)

2.2.4. Defensible space theory

This is a theory that was developed by Oscar Newman in the early 1970s and it focusses on ideas of preventing crime in neighbourhoods to keep them safe and sociable. This theory was seen suitable for the study because the main aim of the study is to explore the possibility of using spatial design as a tool for addressing functional inefficiencies and crime in low income communities. Newman's theory provides explanations for social control, prevention of crime in neighbourhoods and public health in relation to community design (Shjarback, 2014). This theory has influenced the built environment, especially in the development of safe communities. It does not only help understand the processes enabling the interrelation of crime and the environment, but it has been the backbone of strategies of preventing crime (Reynald & Elffers, 2009).

Crime prevention through the manipulation of the physical environment has been used from the beginning of human existence, however the traces of documented scholarly

ideas of increasing the quality of social security through spatial design emerged in the 1930s. During this period, it was done through the manipulation of the physical architectural features to shape and alter some of the safety issues and to manage social interaction among residents with use of public housing bureaus (Schneider & Kitchen, 2007; Zen & Mohamad, 2014).

Newman's defensible space line of thought has been developed over the years and incorporated into the theory known as Crime Prevention through Environmental Design (CPTED) that has emerged and been adopted worldwide as one of the most effective strategies of controlling and reducing crime in neighbourhood developments (Ekblom, 2014). C. Ray Jeffery was the first to coin the concept CPTED in his published book called "Crime Prevention Through Environmental Design". However, his publication never got much credit until a year later when Oscar Newman came with his own publication called "Defensible Space: - Crime Prevention through Urban Design". This theory of defensible space was revised to incorporate other approaches that were supported by the CPTED strategy and Newman gave credit to Jeffery who was the one who coined the name CPTED. Jeffery CPTED which was a mere improvement of Newman's theory of defensible space was a great success so as a result Ray Jeffery's work was re-examined (Crowe & Zahm, 1994; Eck & Weisburd, 2015).

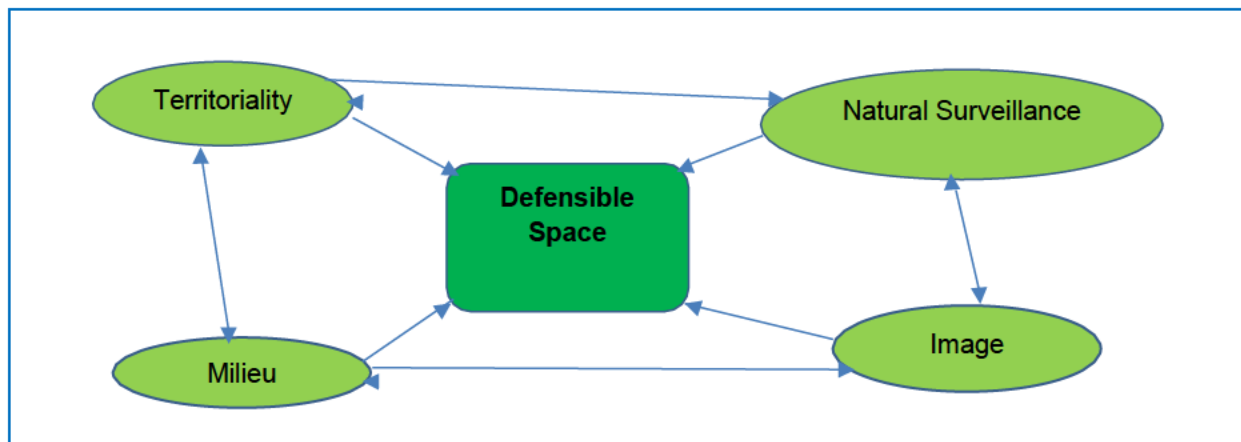
Newman (1972) suggests that defensible space theory creates a social structure that protects itself from potential criminal activities and aims at restructuring or developing an area in a way that allows the residents of that community to gain control over the area of residence through the establishment of common values, common activities and lifestyles. It is a structure for a residential environment which reflects social strength through the manipulation of the community environment whereby physical attributes are used to create safety features and strengthen community unity and sense of ownership (Newman, 1996).

Newman (1972) further argues that an area is safer and free from crime when people develop a sense of ownership and they feel responsible for that area or specific community. He further states that criminals are isolated and there is less room for crime

if a neighbourhood has a sense of ownership or each and every space in that neighbourhood is owned and cared for by the residents. It can be argued that the watchfulness of the community will create some uneasiness for any criminal to commit crime.

Shjarback (2014) says the issue of crime and lack of community sense of ownership can be bettered and controlled through spatial design and nurturing the defensible space pillars which are territoriality, natural surveillance, image and milieu as shown in Figure 4.

Figure 4: Attributes of Defensible Space



Source: (Shjarback, 2014)

Territoriality is the manipulation of the physical environment so that it can be seen as secured, managed or reflects a high sense of ownership that intimidates potential criminal offenders (Newman, 1972). It is the foundation of the defensible space theory and it can strengthen societal values which will make the residents take care of the environment (Mohamed & Elsayahli, 2010; Newman, 1972). The defensible space theory allows for functional community spaces for collective activities rather than individualisation and this breeds a sense of community. Consequently, this encourages the community to develop territorial attitudes (Zen & Mohamad, 2014).

Surveillance is defined to be the ability to view and observe public spaces and other residential dwellings (Newman, 1972; Crowe & Fennelly, 2013). Natural surveillance refers to the visibility of neighbouring apartments and the activities in their immediate

environment from public and private spaces, which enables the occupant and neighbours to oversee each other's space and public spaces from their properties (Welsh, Farrington & Taheri, 2015).

Mohit and Elsayahli (2010) define **image** and **milieu** as the combination of residential dwelling units, commercial structures and recreational facilities that allow natural surveillance. This is the overall appearance and features of the neighbourhood that can create either a positive or negative impression about that particular neighbourhood. This impression will determine or influence crime rates in that particular place; positive impression results in minimal crime activity possibilities as the potential offenders will be scared of committing crime in an area that seems to be well maintained and a negative impression encourages high criminal activity since criminals will see no risk in committing crime in an area that does not seem secured. This also speaks to the overall social environment, the location of the apartments in relation to a police station, community centre and so forth (Eck & Weisburd, 2015; Reynald, 2014).

While Oscar Newman's conceptual definitions do not explicitly state the interrelationship between natural surveillance, image and milieu, his descriptions clearly reflect that there is an interrelation between natural surveillance, image and milieu and they are co-functional components of territoriality in his defensible space theory. Natural surveillance, image and milieu are vital tools of territoriality and they influence the residents to have control of their environment (Reynald, 2014; Reynald & Elffers, 2009). Therefore, territoriality and its three sub-components are interrelated and linked in a way that the presence or absence of either one of them can either strengthen or weaken territoriality, ultimately determining whether the outcome is a defensible or indefensible space (Reynald & Elffers, 2009).

The defensible space theory manifests its principles through architectural attributes and elements (Zen & Mohamad, 2014). Newman's focus was on the physical design components that contribute to a safe and secure environment, territoriality and natural surveillance of what might be going on around the neighbourhood. He argued that

neighbourhood design can improve space territoriality and natural surveillance which can be an effective tool to control crime, resulting in defensible spaces (Crowe & Zahm, 1994; Crowe & Fennelly, 2013).

Newman (1996) says the defensible space theory relies mostly on self-help rather than being dependent on government intervention. This improves people's vulnerability to government's withdrawal of support while fostering residents' involvement in the process of reducing the occurrences of crime and removing the presence of criminals in the area. This theory provides an opportunity of mainstream life for low-income people if they take the initiative to better their worlds by taking ownership of their own space and build a sense of community and a safe environment (Newman, 1996; Shjarback, 2014).

Newman was initially criticised for social processes in territoriality (Reynald, 2014). The main argument brought forward was that his defensible space theory neglects complex fundamental social processes that influence territorial functioning. However, Newman addressed the gaps by looking into the social variables that encourage territoriality, and pointed out the importance of having residents with a common mind. He concluded that social characteristics of residents are the ones that predict crime in a development rather than the design itself. This means design alone cannot influence safety without the community having one mind and high sense of ownership of space (Newman 1976; Reynald & Elffers, 2009).

There is also criticism that the effect of socio-economic and spatial design variables on crime is not sufficient to reveal the role that social factors play in Newman's conceptual definitions. According to Newman's theory, the territorial attitude and behaviour of the residents represents a determining factor in creating a 'defensible space' as this depends on the residents' desire and ability to exercise and influence control in their space and surroundings (Reynald, 2014; Newman, 1972, 1976, 1996). However, the model is criticised for assuming that residents can be fully engaged and willing without mentioning the importance of social and psychological processes in influencing territorial functioning (Reynald & Elffers, 2009). Newman's theory is also criticised for the conceptual ambiguities and failure of being able to identify, define and measure

The relevance of this theory in the study is that it is in line with the arguments of scholars who have studied the relationship between crime and spatial design of neighbourhoods. The argument is that activities and locations are regarded safe or unsafe based on the presence or absence of natural surveillance, access control, and sense of ownership or territorial behaviour (Crowe & Fennelly, 2013).

The defensible space theory suggests that a spatial design of a community can either increase or limit people's sense of control and ownership over their space of residence. Neighbourhood spaces can be categorised into public space (like parks, roads and sports field), semi-public spaces (like the front gardens in front of the property), semi-private spaces (for example, the back garden outside the property) and private spaces (anything inside the property boundary). A defensible space is therefore clearly defined and people are aware of the owner or who is to use that specific space, and this means non-legitimate users will know that they should not be in that space or use it (Newman, 1972; Kim, Lee, Lee, Gordon, Janzen, Mazumdar & Davey, 2013).

Defensible space cannot be achieved by installing of physical barriers only; there must be other subtle symbolic interventions such as a changing the road colour or texture, or narrowing of the entrances to the development which will help in marking the area as private. It is not about physically blocking the people who might possibly be offenders from entering the neighbourhood. Rather, it is about convincing them that the neighbourhood is private and entering it means that they are crossing boundaries. Since the space is private, it also means that they will mostly probably be observed and/or challenged by the residents who stay in and own that particular residential space (Armitage, 2016).

2.3. PRECEDENT STUDIES

The study will refer to two international precedent studies. One is Santiago de Surco in an international context and another is Greenwich Peninsula Millennium Village in London.

2.3.1. International context (The Santiago de Surco)

The Santiago de Surco gated community in Lima, Peru was developed 30 years ago, by an association of neighbours from Las Casuarinas. Its primary purpose was to segregate the development to separate the nearby area of Pamplona Alta situated in the district of San Juan de Miraflores. Pamplona Alta is one of the poorest neighbourhoods in Lima (Boano & Demaison, 2012; Sabatini & Salcedo, 2007). The Santiago de Surco has cameras and guards to provide security for houses, which sprawl over 1,000 square metres (10,700 square feet), surrounded by pools and lush gardens. Meanwhile, on the San Juan de Miraflores side, residents often fall victim to robbery and theft. They live in houses of barely 25 square metres (270 square feet), made from scrap material, surrounded by the sand and earth characteristic of Lima's desert landscape (Boano & Demaison, 2012; Sabatini & Salcedo, 2007).

In this city, there is a huge contrast of class as most residents of Pamplona Alta live in informal settlements and do not have access to fresh or running water. Instead, they have to pay for water to be delivered by lorries. However, their affluent neighbours across the wall are the elite recognized by public authorities as landowners and they have quality services which include cheap water piped straight to their houses (Duarte, 2012; Sabatini & Salcedo, 2007).

2.3.2. International Context (Greenwich Peninsula Millennium Village, London)

A significant example of a modern urban village that can be seen in an international context is the Millennium Village located in Greenwich Peninsula, London. This urban village was designed by Ralph Erickson and was developed by the Urban Regeneration Agency formerly known as the English Partnership. The community reflects a safe and high quality modern community that presents traditional values of village life with a high sense of community. This was achieved by creating a balanced design of buildings and

public spaces, and creating a variety of transport systems, which includes an integration of public transport but promotes mostly non-motorised transport systems. This comprises pedestrianisation and the creation of a varied and sustainable close-knit urban fabric that allows for different land uses and activities (Landman, 2003; Madanipour, 2001). This modern urban village also incorporates high density residential units with green public spaces and provides opportunities for leisure activities and shopping. Moreover, the design of the village limits car usage and traffic since pedestrians have priority over cars within the community (Ambrosino, 2015).

The main streets of Greenwich Village run through the northwest and southwest borders of the development. There are also two main streets that run through the area which is similar to the layout of Cato Manor in the city of Durban. Therefore, the village serves as a good area of reference for this study. There is a dedicated and coloured two-lane busway which starts at North Greenwich station and passes through the village. On the south side of the village is a road that leads to the school parking lot. Besides these main roads, the development is car-free and priority is afforded to the non-motorised cyclists and pedestrians. Pedestrian and cycling pathways are also provided, which are separated from motor vehicle traffic throughout the village. Furthermore, safety is enhanced through monitoring of transit stops, cycle routes and pedestrian areas by CCTV which is what smart growth, as discussed in Chapter two, is advocating for. In the context of Cato Manor, street side barriers like walls or metal fencing can be used to secure the pathways that are meant for buses and non-motorised transport for the sake of cost efficiency (Ambrosino, 2015).

The main component of the design of the Greenwich Millennium Village was the provision of public spaces. The village includes an ecology park which consists of two lakes and flourishing wildlife, a village square, landscaped courtyards, and garden squares throughout the residential areas. Greenwich Millennium Village was designed to be a mixed-use development combining residences, retail, commercial and leisure spaces. The area includes a mix of residential tenure types for both high storey buildings located along the Thames River to provide more waterfront views, and a mix of lower rise flats and terraced houses situated around public squares located near the centre of the

development, making it convenient to walk or cycle a short distance when conducting shopping or merely viewing the area. The village square includes a small grocery store, a pharmacy and several cafes. The commercial space also has community facilities such as a school and health centre for convenient access of services (Ambrosino, 2015; Countryside Properties, 2016).

2.3.3. Relevance of precedent studies

Both the Santiago de Surco and Greenwich Peninsula Millennium Village are designed for affluent societies. They have high quality of life, security, services and facilities at their disposal and the low-income earners are side-lined. It can then be argued that the aspect of crime control and prevention from these communities can be adopted to create an efficient similar type of spatial design but in a low-income context. However, issues of affordability, maintenance and community involvement are questionable in the context of low income areas. This study seeks to explore these concepts so as to establish the opinions of people who live in low income communities regarding their feasibility.

2.4. SUMMARY

This chapter introduced the theories and concepts that informed the study. The key principles were also discussed and their relevance to the study established. Furthermore, the study introduced precedent studies and briefly discussed their relevance to this study. The next chapter will unpack literature that links to these theories, concepts and the precedent studies. It will then present an argument regarding the study which will unpack thematic arguments relating to the objectives of the study.

CHAPTER THREE

LITERATURE REVIEW

3.1. INTRODUCTION

This chapter presents the critical arguments put forth in the literature reviewed in this study, focusing on the development of gated communities in South Africa, and how the urban village or gated community concepts can be used as a crime prevention tool. The chapter also explores arguments for and against these spatial design concepts and theories. The chapter draws on literature that reflects the interrelation between the theory of defensible space and the concepts being explored in this study, which are the urban village and gated community concepts.

Literature review is an integral part of any research process as it lays the foundation for good research inquiry and endeavours (Fouche, 2005). It involves critical reading and examination of existing literature around a researcher's interest. Thus, various international and local intellectual voices will be engaged with in the chapter to follow in order to contextualise and underpin the study. This involves, but is not limited to, issues related to gated communities, sustainability, efficiency, integration and other aspects in respect of the principles of planning.

3.2. SPATIAL DESIGN AND CRIME PREVENTION

The idea of using spatial design to mitigate crime is not a new concept as scholars like Landman and Liebermann (2005) have previously argued that urban planning can be used as an effective tool to control, prevent and reduce crime in urban areas. Urban spatial planning is already used in the form of gated communities and security villages in creating safe neighbourhoods (Landman & Liebermann, 2005).

The idea of using spatial design as the primary tool of creating a crime repellent neighbourhood is mostly informed by the defensible space theory and smart growth concepts which are rooted in Newman's thinking, as discussed in the previous

chapter. Some authors such as Hillier and Shu (2000) have critiqued Newman's theory as nothing more than an ambiguous 'fashionable consensus' instead of an empirically vigorous theory that can be implemented to control neighbourhood crime effectively.

Armitage and Pascoe (2016) point out that the method of crime prevention through spatial design works by manipulating the built environment to block opportunities for criminal behaviour through indirect techniques that breed informal surveillance, a sense of ownership and guardianship, and set standards of physical security that will limit the risk of the occurrence of crime.

Landman (2004) states that in the context of South Africa where there are high levels of crime, many people consider enclosed neighbourhoods or security villages as the only options for safe living in cities. These spatial designs are seen mostly in wealthy areas but the question of whether these designs could be refined and applied in the context of low income communities to tackle issues of crime must be investigated. This is particularly so because low income areas are highly associated with crime in South African urban areas. Landman & Liebermann (2005) and Zahm (2011) suggest that design that enhances natural surveillance or passive surveillance and a sense of ownership in an area makes it more difficult for people to commit crime, thus spatial design can be used to alleviate the high rates of crime in lower income areas.

Over the decades planning has evolved from a technical outcome-based approach to a more people-centred approach that is based on the needs of the people. This approach also applies in South Africa where it is one of the main forms of planning in the country and is manifested through the Integrated Development Plan (IDP), which also outlines the importance and procedure for public participation. A people-centred approach is also mandated by the South African National Constitution of 1996 and the likes of the *Batho Pele* principles which advocate for the prioritisation of the people (Harrison, 2006). This prioritisation is even regulated through municipal budgets since the IDP and the budget go hand in hand. This is because no municipal budget can be approved without an IDP being drafted as a means to ensure that the needs of the people are prioritised and

municipalities are obligated to draft an IDP based on the needs of the people. This idea of planning in consultation with the people is the cornerstone of postmodern planning, known as collaborative planning. This consultative approach is applied in most democratic countries as a method of giving people the ability to influence their own development instead of a top down approach being implemented where development is merely imposed on people (Harrison, 2006; Landman & Liebermann, 2016).

In South Africa crime concerns are one of the top three priorities of the country, as outlined in various Municipal Integrated Development Plans. However, there is limited ability to incorporate precise and effective crime prevention strategies into local development plans even though there is a realisation of their importance. On the one hand this poses a challenge in South African communities but on the other it does justify the need for further studies on the issue of crime prevention in spatial design to be conducted (Landman & Liebermann, 2016).

Using spatial design as a crime prevention tool creates an opportunity for local government to respond to the needs of the people since crime is one of the major concerns of South Africans. The use of spatial design addresses the link between crime and place and aims to reduce the opportunities to commit, and thereby the occurrence of, crime. This can be achieved through the application of sound and effective spatial planning strategies that encourage a sense of territoriality, which will then minimise and control crime incidences by not only imposing physical barriers but through the vigilance of people themselves (Armitage, 2016).

There is a growing realisation that city governments need to better use their bylaws and make more significant efforts towards crime prevention because it is evident that spatial planning is another viable and effective tool to address crime. Landman and Liebermann (2016) suggest that there is a relationship between crime and the places where it occurs, and that this is why many people and businesses are opting for fast growing enclosed neighbourhoods to avoid being victimised. However, they argue for alternative approaches to be implemented to avoid the problems of restricted access and social exclusion resulting from the erection of barriers.

There are many benefits of involving residents in the planning and development of integrated safety and crime control strategies for their area and in the management principles of the built environment at large. The benefits include an increased sense of community and territoriality, which creates a subconscious defence mechanism. Residents will feel like they need to take care of the community, and to maintain and also defend their space as a collective. In turn this makes it risky for intruders to commit crime in these places (Landman & Liebermann, 2016).

3.2.1. General arguments and relevance of the spatial design concepts

The human settlements goals of municipalities in South Africa are geared towards integrated, sustainable and efficient planning. It is evident in previous research that the general opinion in many communities is that most developments do not meet the requirements of sustainable development. The government has committed itself towards improving the sustainability, crime prevention strategies and integration of communities through urban reconstruction and development as an approach to address inequality (Landman, 2004).

Policies such as the Reconstruction and Development Programme (RDP), and Growth, Employment and Redistribution Programme (GEAR) were developed as standard guides for planning which encourages the fulfilment of the basic needs of all people through the development and housing processes (Landman, 2004). According to Mchunu (2006), the Integrated Development Plans (IDPs) contain the guiding principles of sustainability in the context of South African development strategies with the support of the Municipal Systems Act (32 of 2000), which regulates the way municipalities go about implementing development plans. However, the question then turns to how crime can be reduced at neighbourhood level to respond to the crime concerns of the residents, with a special focus on low income areas as they are prime crime areas.

The relationship between spatial design and crime prevention is more than just physical restrictions which make it more difficult for people to be victimised, such as the use of burglar-bars, gates and high walls. Instead the relationship between the two aspects also

talks to creating a community in a way that the integrated spatial design will trigger a psychological factor, whereby residents in a community develop a sense of territoriality, one-mindedness and willingness to protect and take care of their space (Armitage, 2016; Landman & Liebermann, 2016).

As much as Newman's defensible space theory is about preventing crime by increasing the residents' control opportunities over their space and increasing the desire to defend their neighbourhood against crime, it is also about eliminating any characteristics that attract potential offenders. This can be achieved through increased territoriality, natural surveillance and image/milieu, each of which is primarily influenced by spatial design in order for them to effectively function as crime prevention tools (Reynald & Elffers, 2009). This means that effective crime prevention is not all to do with physical design but is also to do with spatial design, which plays a major role in stimulating the desire and mindsets of residents to defend their space by growing territorial attitudes. It is also about outsiders beginning to view the community as a crime repellent space.

An ideal sustainable urban concept is based on interlinked compact spatial nodes within a specific node. These neighbourhoods must grow around social spaces and commercial spaces must be located at conveniently accessible public transport routes. Moreover, these spaces must be close-knit in a way that people can walk or cycle from the house to work, or to social and commercial places. Together, these aspects and features form a compact city, because of the convenience of the networks between these spaces (Rogers, 1999). The design of a community should be in line with the principles of smart growth which guide modern planning. Spatial design concepts that are in line with Rogers's thinking are narrowed to gated communities and the urban village, which will be discussed in the sections to follow.

3.2.2. Arguments for and against gated communities

Previous research suggests that gated communities were initially a response to fear of crime. Subsequently, certain significant aspects have been recognised in association with gated communities (Atkinson, Blandy, Flint & Lister, 2004). A typical access gate used to control entry to and exit from gated communities is shown in Figures 5 and 6 below. There

is usually one controlled gate for both entrance and exit to control and limit access of people, as a security measure.

Figure 5: Woodland-Hills gated community entrance gate



Source: (Woodland Hills website, 2016)

Figure 6: Woodland-Hills recreational park with outdoor gym



Source: (Estate living website, 2015)

The most often cited benefits of gated communities are discussed further below, with the respective subtopics summarised as proximity and security.

Authors such as Atkinson et al. (2004) argue that gated communities have been developed as a response to the fear of crime. Other drivers for the proliferation of gated communities are the desire for status, privacy and the investment potential of gated dwellings, which all form important aspects of the motivation to live behind gates. Many scholars have argued that gated communities represent a search for community with residents seeking contact with like-minded people who socially mirror their own aspirations (Atkinson & Blandy, 2005; Le Goix, 2005; Salcedo & Torres, 2004). This makes gated communities appear as “segregated spaces with a social ecology that is planted into the fabric of the city; where the wall starts a new social area begins, whether one lives inside or out” (Atkinson & Blandy, 2005: 180). Shamir (2005) and Wilson-Doenges (2000), in line with the view of Atkinson et al. (2004), see gated communities as a response to the fear of crime and as a measure to curb crime which backs up the available police force, armed vehicles, cameras, sensors and alarm systems.

Wilson-Denges (2000) points out that communities' fear of crime increases as they become more urbanised, which might be because of the possession of more valuables and a loss of sense of community amongst residents. He continues to say that the fencing and the gates by themselves reduce the fear of crime, which is a benefit because it allows people to feel more at ease, and promotes social cohesion.

The need for urban security makes gated communities attractive, as security takes precedence in gated communities. This is supported by a survey that was conducted in the United States of America by Blakely and Snyder (1997), which shows that 70% of the people surveyed moved to gated communities primarily because of adequate security levels (Wilson-Denges, 2000). According to Atkinson and Blandy (2005), gated communities are the best solution to crime in communities since there is high sense of security.

As discussed above, gated communities are primarily developed for security purposes. The crime rate in southern American countries increased rapidly in the 1990s so consequently in Brazil gates and cameras were put in place as a security measure for both well-off and poorer communities. Furthermore, some roads were closed to limit access to a controllable entry and exit from the gated communities (Coy, 2006).

Developers have established gated communities as a tool to deal with crime. This is especially so in urban areas because as communities become more urbanised, there is concern about a decline in the sense of community and an increase in fear of crime (Wilson-Doenges, 2000). The aim of developers is to try to reverse the lack of sense of community by eliminating the fear of crime, which allows a more interactive environment. Wilson-Doenges (2000) further explains that developers create communities that are more close-knit (residential structures together with non-residential amenities) and safe by using the controlled access system.

Smith (2011) argues that a major concern for poor people is to protect their spaces and have a safe environment. As this is one of the components of sustainability the concept of 'gating' proves to be a solution to the provision of ensuring safe environments. This also shows that there is a need to explore the concept of gated communities in low income

areas to see whether gated communities can reduce the incidence of crime, especially in the context of South Africa.

Landman and Schoneteich (2002) define gated communities as enclosed neighbourhoods that have controlled access through gates or booms across existing roads, and security villages and complexes. They are inclusive of lifestyle facilities as well as a range of non-residential amenities such as schools, offices, shops and golf courses. Thus, basic services are available close to inhabitants' residences, which replicates the concept of smart growth that encourages mixed-use developments (Landman & Schoneteich, 2002; Sabatini & Salcedo, 2007). This proves to be a beneficial economic aspect because travelling costs are reduced since services and facilities are available within the community (ibid). Moreover, having these other facilities and infrastructure within the community provides the residents with job opportunities in the neighbourhood through the fact that shops and facilities within the community will require people to construct, maintain and run them. In addition, not only does the close proximity of services serve as a positive economic factor it also contributes to ecological efficiency. This is due to the fact that there will be a reduction in driving if the services are located within the community, which results in less fuel emissions (Landman & Schoneteich, 2002; Sabatini & Salcedo, 2007).

In contrast to the points discussed above regarding the benefits of gated communities, there are various arguments that have been raised in opposition to the establishment of gated communities. One of these arguments is that there is no sense of community amongst people who live in gated communities. For example, it has been suggested in some studies that people do not easily trust their neighbours to keep an eye on their property in a gated community since people tend to live their own lives. However, what was concluded from the survey by Blakely and Snyder (1997) across America suggests otherwise. The findings suggested, firstly, that sense of community is low only within the high-income group gated communities. Secondly, the sense of community in low income groups (both gated and non-gated communities) is indifferent, but is actually slightly higher in the gated low income communities. Nevertheless, while there may be a lack of

a sense of community in gated communities, various studies suggest that security levels are high in gated communities across both classes (Wilson-Denges, 2000).

A further point of contention put forth by several authors suggests that the prevention and control of crime is not about the degree to which buildings are isolated or walled, or to do with the fences around the communities, but is about spatial designs that produce communities that are attractive, neighbourly, and create a sense of ownership and natural surveillance (Crowe & Zahm, 1994). However, it can also be argued that a sense of territoriality and ownership is usually manifested in defined boundaries and spaces that are clearly outlined, therefore a clearly defined space creates some sense of ownership and an increased sense of community, which results in people being cautious of their environment. This leads to a decreased level of crime since outsiders feel out of place and the people of the area are always on the lookout, suspicious of strangers and thus protect one another (Armitage, 2016; Newman, 1972).

Atkinson and Blandy (2005) argue that living in gated communities comes with high costs due to the fact that all residents have to comply with the community's legalities and rules. These legalities and rules allow for the extraction of money from all residents for the maintenance of the community, which includes payment for common building structures and shared services such as rubbish collection, grass cutting, gym servicing and security guards. However, Webster (2003) states that it is important for residents to understand the importance of maintaining the community, because it reflects the fact that residents value the shared and reciprocated values and attributes of the community. This means that where there is a high sense of community, a person understands the importance of having certain facilities or services, and then contributing to the maintenance of the community will not be seen as money being 'extracted' but as an effort towards an actualisation of common goals. In the case of gated communities people can even volunteer to take turns in maintaining or guarding the area and each person will also act as surveillance for each other which has no financial implications.

3.2.3. Arguments for and against urban village

Landman (2003) argues that the concept of an urban village is worth considering, especially in South Africa, since it fosters good post-apartheid planning, by encouraging integration and sustainable development. Integration relates to spatial integration, integrated governance and environmental sustainability, and prioritises the local community-based needs. A typical example of an urban village can be seen in Figure 7 below.

Figure 7: Activity attractions in an urban village



Source: (America pink website, 2016)

The urban village approach allows people to interact by allowing several activities in one walkable space and discourages the concept of street parking to allow social interaction, which creates some level of comfort and eradicating the fear of crime. Furthermore, the interactions allow for local business support and human development (Landman, 2003; Zahm, 2011). According to the urban village principles, an ideal neighbourhood is designed to have a centre and an edge, and the ideal size is a quarter mile from centre to edge. The neighbourhood must have a mixture of activities, must have an interconnected network of streets, and must allow for public space and the convenient location of civic buildings (Madanipour, 2001).

Wei and Yan (2005) reviewed and analysed the issue of the feasibility of urban villages in the context of low income communities in China. They argue that the concept has evolved into low income communities and they thus analysed the method of transformation of urban villages used in China. In their study, Wei and Yan (2005) recommended that the government needs to play a larger role to make the concept of the urban village more efficient.

3.2.4. Development of gated communities in South Africa

In the context of South Africa, gated communities are a relatively new trend as an architectural concept (Landman & Schoneteich, 2002). Since the early 1990s gated communities have experienced phenomenal growth in South Africa, especially in the metropolitan areas of Gauteng (Landman & Schoneteich, 2002). In South Africa, gated communities, like most other places, have become popular primarily as a response to high levels of crime and the fear of crime. The development of gated communities raises interesting questions and has resulted in widespread debate around their likely future impact on urban life in South Africa (Landman & Schoneteich, 2002). Zulch and Vester (2010) argue that if clients receive a final product that is in line with their demands and they are satisfied with the product or feel they have received value for their money, then a strategic relationship may develop from such a project. This means that if gated communities provide such satisfaction for residents, it is worth pursuing the trend.

3.2.5. Development of urban villages in South Africa

The concept of urban villages gradually became noticeable from the beginning of the post-apartheid era and were introduced in an effort to correct the spatial segregation that was at the heart of apartheid planning. Policies like the Development Facilitation Act of 1995 and the Spatial Planning and Land Use Management principles, which have recently been adopted into an Act in 2013, influenced the rise of urban villages in South Africa as they advocated for integrated and mixed use settlements (Landman, 2003).

3.2.6. Current application in the South African context (Woodland Hills)

Woodland Hills' gated estate is the largest gated community in Bloemfontein, Free State, covering 1000 hectares of land and is located towards the northerly outskirts of Bloemfontein. It includes the nature reserve, lots of water and dams and more than 23 species of game already established on the estate, offers a unique lifestyle to its residents and several walking and bicycle trails for better social and environmental interaction (Woodland Hills, 2016a). This gated community focuses on exclusively safe living for the very high-income groups and it has all kinds of basic amenities. It is also located not far off from the city (Woodland Hills, 2016b). It consists of a combination of expensive modern homes inside a nature reserve where game roam wild among the houses; the game reserve provides a unique opportunity for residents to safely enjoy their environment. This makes Woodland Hills a very sought-after residential area in Bloemfontein.

This is the trend in South African gated communities as most focus on the elite who seek safety, luxury and an exclusive life for the financially well off as a target (Landman & Liebermann, 2016; Woodland Hills, 2016b). However, for this purpose of the study the focus was on the safety attributes and trying to adopt the application of the concept to fit in the context of low income areas.

3.3. ATTRIBUTES OF A SAFER PLACE THAT CAN BE ACHIEVED THROUGH SPATIAL DESIGN

Many scholars who have studied the use of design as a means of controlling crime have put forth various arguments in terms of what makes a neighbourhood safe. From the wide-ranging arguments regarding what makes a neighbourhood safe, several commonalities can be drawn. These will be discussed in the sections to follow.

3.3.1. Limited through movement

For this study 'through movements' will be defined as formal or informal footpaths (alleys, ginnels or alleyways) which link housing estates to other residential areas, shopping complexes, sports fields, bus or taxi stops, parks, work places or schools and are only accessible to pedestrians and not motor vehicles (Armitage, 2016).

The thought of limiting through movement as means of crime control is based on the understanding of crime pattern. In most cases offenders select their targets through the process of passing by their area of residence and becoming aware of the day-to-day activities of their targets. It is for that reason that properties located along or close to travel pathways, especially ones that are not always busy, will experience relatively more crime. If criminals have selected targets that they study to understand their routines, then there is an increased likelihood of a success of their criminal act and a reduced risk of being caught. They will therefore select targets where they have easy access and escape routes. It is thus important to limit through movement and restrict access in housing developments to try and reduce the likelihood of criminal offenders of being aware of vulnerable property (Armitage, 2016). Limiting through movements will also reduce the likelihood that the criminal will make rational choices in terms of the crimes that they attempt to commit offering more reward than being a risk.

Cozens, Saville and Hillier (2005) argue that the effectiveness of using design as a crime control tool is based on the thinking that the crime can be controlled or prevented by reducing opportunities for criminals to commit crime and increasing the risks of the offenders being apprehended. Therefore, this idea of limiting through movements will reduce the chances of crime happening and will also increase the risk of the criminals of being caught, which makes it one of the viable options for controlling crime.

3.3.2. Defensible space and territoriality

The concept of creating defensible spaces through territoriality is based upon the notion of building a mentality of one-mindedness and sense of community through development of communities. Newman (1996) argues that clearly defined spaces grow a sense of ownership since residents are clear about where their area ends and outsiders also see that they are not in their space. Authors such as Landman and Liebermann (2016), Gilbert (2004) and Armitage (2016) also suggest that physical designs have to be complemented with a sense of ownership which will make residents want to take care of their space. On the other hand, outsiders will feel intimidated when they are in the community where they see a high level of unity amongst the community whereby all the residents seem to be actively involved in protecting their spaces. This can not only be developed by the

outcome but should also involve the members of the community being included in the planning and physical construction of their spaces. This will allow them to feel like the product is an outcome of their own efforts, which will promote a sense of ownership and territoriality.

3.3.3. Surveillance

Newman's concept advocates for natural surveillance as a subcomponent of spatial design that influences territoriality because it is key in enabling the resident to have control over their neighbourhood space (Reynald, 2014). In addition, Newman (1972) says that natural surveillance is the capacity of spatial design that enables the residents an opportunity for surveillance opportunities from their own homes or in passing in common places. Natural surveillance can be maximised by building houses in a way in which windows and doors face each other along the street fronts, and by building pathways or common spaces in the vicinity of the windows of the houses to enable better visibility of the spaces from a natural setting. A defensible space can be created by building the housing units and other properties to face each other and to overlook the other public spaces to increase the probability of spotting criminals in action. Moreover, the apartments should not have any obstructions, allowing for a better view of the surroundings and for them to be visible from the surroundings (Armitage, 2016; Reynald & Elffers, 2009; 2014).

As has been established, surveillance reduces fear amongst the residents and generates a feeling of comfort since people know they are under constant observation by other residents, which enforces territoriality and sense of community. The increased sense of security is an outcome of increased natural surveillance and frequent use of spaces by the members of the community, and builds the desire to protect (defend) their space (Newman 1972; Crowe & Fennelly, 2013).

3.3.4. Physical security and target hardening

The notion of target hardening talks to the physical crime prevention features used in defensible neighbourhood developments as a means of controlling crime, such as those that are seen in gated communities. Gated communities are seen and have long been

seen as a common rational response to crime and victimisation. These physical crime prevention features include boom-gates or barricades, walls and fences for restricting access and keeping out certain elements (Breetzke, Landman & Cohn, 2014). This is the cornerstone of all defensible spaces as the theory states that the physical design of an area can either reduce crime or result in a high crime rate (Shjarback, 2014; Newman, 1972).

3.3.5. Image/management and maintenance

Image and milieu are also central to the creation of defensible space, as they are essential spatial design components and influence the uniqueness, isolation and stigma of the area and how people perceive it (Newman, 1972). This suggests that the appearance of a community creates an image of the area which symbolises the residents' lifestyles. A negative image, for instance when an area is isolated, decrepit and neglected, is viewed in a negative light and makes it vulnerable to crime. On the other hand, if an area appears properly maintained and potential offenders see it as well looked after and controlled by residents, then it is viewed as a symbol of warning and a greater risk for the potential offenders to be apprehended if they commit a crime in that area.

Another reinforcing attribute of the image of an area is the territorial attitudes of the residents of that particular area, which is indirectly influenced by the spatial design of the neighbourhood. The argument is that if the design of an area creates a positive image it allows the inhabitants to develop a sense of pride and an increased desire to maintain their space. In contrast, a negative image creates neglect, discourages the residents from maintaining their neighbourhood and most significantly increases the fear of spending time in the actual space. As a result, this destroys the territorial behaviour and sense of community and the effectiveness of natural surveillance is thus reduced.

3.4. AFFORDABILITY AND MAINTENANCE OF THE SPATIAL PLAN

Sullivan and Ward (2012) point out that over the years, sustainability and safety of neighbourhoods has been associated with the elite and financially well-off as it was driven by status. However, lately there is growing realisation that complete urban sustainability will only be achieved if low-income areas are also included. Self-help housing and do-it-

yourself housing construction and improvements can be used to achieve affordable housing and sustainable low income neighbourhoods. Contemporary sustainable housing applications can be integrated into the currently existing housing stock in low-income and informal settlements. In 1998 the African National Congress (ANC) recognised the need to use self-help aided housing as a means of accelerating housing delivery since there was an increasing deficit of housing and thus a need to adopt People's Housing Process. This strategy is argued to be an effective strategy of delivering sustainable, affordable housing and also gives power to the people to influence their development. This is a way of fostering a sense of territoriality through community participation and also minimising unnecessary construction costs so that more money can be available for the betterment and maintenance of other components of the community (Gilbert, 2004).

In South Africa housing was proposed to be a tool to address poverty and to rectify social and racial segregation that occurred under apartheid. This is why there was a need to have a powerful incentive of offering subsidies to improve the delivery of houses (Sullivan & Ward, 2012). It must be noted that the spatial concept that will be adopted in the area of Cato Manor as a "replica" for low-income areas in South Africa will not be a privately functional entity but a private state oriented and managed community that will require both the efforts of the people as well as a government subsidy for the endeavour to be viable.

3.5. SUMMARY

This chapter reviewed different arguments from a range of scholarly work relating to the notion of using spatial design as a crime control strategy, specifically within gated communities and urban villages. The chapter focused largely on the context of South Africa; however, the findings of previous studies from both international and local contexts were also considered in order to broaden and to contextualise the issues relating to spatial design, security and crime prevention. The next chapter elaborates on the methods used in the study for data generation and analysis. It also expands on what transpired during the preparation for the field and on the field.

CHAPTER FOUR

RESEARCH DESIGN AND METHODOLOGY

4.1. INTRODUCTION

This chapter outlines all the actions in the research setting, with the participants and the researcher with the aim to get data which responds to the critical questions of the study. Therefore, a full description of the research setting, the participants and their roles, the researcher's role, research assistants' roles and details of each data generation session will be given. Issues of ethics run throughout the research process, following Creswell (2013) who argues that ethics have to be observed in formulating the research problem, question, data generation, data analysis and also in writing and disseminating the research. Therefore, this chapter will also explain the ethical issues involved. The chapter also reflects on the sampling methods and data generation tools which were used in this study, that is, the structured questionnaires and focus group discussions. The strengths and weaknesses of the chosen tools are also discussed. In essence, this chapter is an outline of the study design and methodology with focus on the low-income area of Cato Manor.

4.2. RESEARCH DESIGN

The study followed a qualitative and interpretive paradigm. A case study design was also used as determined by the research objective.

Chillisa and Preese (2005) point out that qualitative research refers to the type of study where the researcher reports the findings in words instead of statistics. Qualitative researchers stress that reality is "socially constructed" (Denzin & Lincoln, 2003: 271). People actively construct their social world rather than being objects of research. They understand their context and are able to construct their worlds by attempting to address the needs, which are best known to them. The researcher drew from the participants' inputs and from how they interpret their worlds.

A paradigm serves as "the lens or organising principles" by which reality is constructed (Nieuwenhuis, 2007: 48). It is a model for observing and understanding, which shapes

what we see and how we understand it (Babbie & Mouton, 2004). As a result, the researcher was guided to use the interpretivist paradigm to explore the “participants’ views of the situation being studied” (Creswell, 2013: 8) - which is to use spatial design as a crime control tool in low income communities.

4.3. RESEARCH METHODOLOGY

The concept methodology refers to a philosophy or guiding principle in research practices while method denotes the actual practices, tools and techniques that are employed in the data generation process. The researcher found it necessary to highlight the differences as the two concepts cannot be used interchangeably. (Cram, 2013; McGregor & Murnane, 2010).

A case study was the design of inquiry that was used for this study. A case study according to Yin (2009) and Creswell (2013) undertakes an exhaustive examination of an existing phenomenon within its real-life context. A case study was chosen because it allows for in-depth exploration of the possibility of effectively using spatial design as a tool addressing crime in low income communities since they are in the context of the interest group where the concept is being explored. This allowed the convenience of accessing the community’s inputs and views in a natural setting while allowing for various other sources of evidence to be used (Yin, 2009). Therefore, the case study approach was seen to have the potential to unearth the inputs regarding this study since it was being done in a natural setting while allowing for various other sources of evidence to be used (Yin, 2009).

4.4. SAMPLING PROCEDURES

The researcher opted to use a purposive sampling method in this study because the main objective is to explore the possibility of a spatial design in low-income communities as a crime prevention tool. It is for this reason that the participants were chosen from the low-income community, which is the special interest group of the research. Purposive sampling is the deliberate selection of participants who are thought to be able to yield the most or rich information about a topic (Denscombe, 2005; Leedy & Ormrod, 2005). The target population of the study was thirty males and females from Cato Manor in Durban,

KwaZulu-Natal and who were targeted because they are within the low-income bracket as the focus of the study.

4.5. METHODS OF DATA GENERATION

This is a process of gathering information whereby the researcher interacts with the groups involved in the study which may include primary and secondary data (Mason, 2002). In qualitative research the term data 'generation' is preferred as opposed to data 'collection'. Mason (2002) argues that data generation places emphasis on engagement between researchers and participants during the research process, meaning that they are all active generators rather than passive providers of data.

In this study data was generated through the use of structured questionnaires, which had five sections involving thirty participants (18-60 years including key informants and general members of the community). This was followed up by the use of drawings by participants as a visual aid and a research tool to bring forth data and a method to gain insight of the participants. This was complemented by three focus group discussions of 7-10 economically active participants. In the next section's discussion, the data generation methods that were used are explained and the rationale for choosing these research tools is outlined.

4.5.1. Structured questionnaires

Structured questionnaires refer to a data production method which produces data amenable to qualitative analysis, and data gathered by such loosely structured methods "is normally not subjected to statistical analysis, or if it is, is usually of a simple sort" (Phellas, Bloch & Seale, 2011, p.198). The 'structured' approach means that the researcher figures out ahead of time what kind of response, is going to be counted as relevant for the research problem. The most important goal of a study using such a research tool is to learn about the feelings, ideas, knowledge, opinions, perceptions, attitudes, and self-reported behaviours of a defined population (Phellas, Bloch & Seale, 2011). The structured questionnaires were also used as a triangulation method to explore the possibility of effectively using spatial design in low income communities, as a tool for addressing their functional inefficiencies and crime. The participants filled in a semi-

structured questionnaire that comprised of 5 sections. Section 1 recorded the biographical details of the participants. Section 2 was aimed at interrogating if the participants think there is a high level of crime in the area. Section 3 focused on interrogating the participants' understanding regarding the nature of crimes. Section 4 was aimed at determining the existing crime control initiatives in the area. Section 5, the final section asked about their familiarity with the concepts and willingness to participate (see appendix 4).

4.5.2. Drawings

The researcher also used drawings to stimulate a discussion as drawings can be used to facilitate research in many ways (Derry, 2005; Stuart, 2005). Various researchers have used drawings as forms of expressions, reflection and therapy including studies, which aim to access perceptions and insights in relation to education and health (Weber & Mitchell, 1995). Drawings can both be generated by the participants and be followed up by a discussion or the researcher can use his own drawings as a research tool to elicit data and a method to gain insight of the participants. In this case the researcher engaged the participants in drawing of the visual map of the area of Cato Manor and had a discussion which helped identify the crime spots and type of crimes in the area. Derry (2005) used her own drawings as a research tool and as a method to gain insight into her perception of self-study of her own experiences of being bullied at school. Therefore, drawings it seems are well suited to revealing experiences and perceptions of others and also to create clarity. Viewing drawings affords researchers and stakeholders some insights into participants' points of view. In this study the drawings were used to improve comprehension of what was discussed by creating the visuals for a more accurate identification of the crime spots on the visual map of the area drawn, mark them on the drawing and this was to inform the spatial concept that was designed for the area.

4.5.3. Focus Group Discussion

The ultimate research tool was a focused group discussion which was used to get a more in-depth insight of the participants and also clarify some issues regarding the study. A focus group discussion can be described as a form of group interview that taps into

communication between the researcher and research participants in order to generate rich data (Bryman, 2004). While several authors are not specific about the number of participants to be included in a group, Marshall and Rossman (2010) recommend 7-10, while Kitzinger (1994) recommends between 8-12 participants as an ideal composition. For this study the researcher opted to use 7-10 participants for a more intimate set up which stimulated more discussion and involvement of every participant. A focus group discussion comprises of a group and assures that the discussion remains on the topic of interest. It is a tool for studying ideas in a group on a topic determined by the researcher. A focus group interview has the potential to obtain data that could not be easily obtained with observation and individual interviews (Morgan, 1997). This tool is used to get different ideas of the participants towards a suitable spatial design that will be effective in controlling crime in the area of study. For this study there was a more detailed discussion of the structured questions in a more open and interactive setup. Moreover, the focus group discussion was to identify the types of crimes and further discuss the measures that could be taken to address the issues of crime. These measures were incorporated in the spatial design to best fit the area.

4.5.4. Data analysis

The data generated is presented in themes across all data sets and the outcomes of the data sets are presented in all the themes for a clearer analysis. Tesch's descriptive technique was chosen and used to identify the units of meaning and to look for emerging theoretically and conceptually informed themes of the research (Creswell, 2013). Qualitative data analysis is an inductive process of organising data into categories and identifying patterns among the categories (De Vos, 2005). This process is done for the purpose of drawing conclusions which are in line with the critical questions, interest of the study and also reflect theories of the study (Babbie & Mouton, 2004). For this study, the recorded data that emerged from the focus group discussion following the viewing of the researcher's drawings on GCs was transcribed verbatim as a means to eliminate researcher bias. The data from the structured questionnaires was divided into meaningful analytical units and the researcher organised, summarised, identified, and linked the patterns and themes.

This was done through data coding, meaning the data sets were read line by line to identify similar ideas and then the patterns are explained as understood.

4.6. VALIDITY, RELIABILITY AND RIGOUR

In qualitative research the key criteria for trustworthiness are credibility, applicability, dependability, and confirmability (Lincoln & Guba, 1985).

4.6.1. Credibility

The key factor in credibility is congruence of the findings with reality. The instrument should measure that which it is purported to measure. To ensure credibility the study was left open to the scrutiny of peers who helped authenticate the data to ensure that the instruments measure that which they are purported to measure as; Straits & Singleton (2011) suggest. Following Maree and Westhuizen (2007), the instruments used to generate and analyse data were reviewed by a panel of experts to ensure that the data is trustworthy and credible. Credibility is concerned with how a researcher can convince the audience that the findings represent descriptions or interpretations of the views of the participants such that people who share the same experience can recognise the descriptions (Mnisi, 2014). Using different methods of data-generation facilitates crystallisation, and in this case FGDs and structured questionnaires was used to ensure that multiple facets and aspects of the experiences of the students are revealed, thereby increasing the trustworthiness of the study (Maree & Van der Westhuizen, 2007). In addition, the data generation sessions were audio-recorded to strengthen credibility.

4.6.2. Applicability

Transferability is the degree to which findings can be applied to other contexts and settings (Poggenpoel, 1998). Guba (1981) refers to transferability as the measure against which applicability of qualitative data is assessed. However, demonstrating wide applicability is difficult in qualitative research hence the concept transferability is used. In this qualitative research, one community, in an informal setting participated therefore applicability cannot be assured possible but the findings can hopefully, be applied to other contexts. A thick description of the research process is provided, that is, “dense circumstantial information about the participants, research context and setting” (Chillisa & Preece, 2005: 170)

4.6.3. Dependability

Dependability refers to obtaining similar results if using the same instruments were to be repeated in the same context, using similar methods with the same participants (Shenton, 2003). In order to ensure dependability focus groups and structured questionnaires were used. The authenticity of the FGD and structured questionnaires were put through consistency checks by coding the data into categories and/or themes. Producing the same results in cross-checking (using information from one source and finding similar results in another) enhances dependability and assumed that serves as evidence of trustworthiness in the instruments.

4.6.4. Confirmability

Confirmability is defined by Shenton (2003) as a qualitative researcher's equivalent to the quantitative researcher's concept of objectivity. Shenton (2003) elaborates that objectivity may prove difficult since it is inevitable that the researcher's biases will intrude. During the focus group discussions recordings were done which helped in minimising such intrusion. In addition to the above, the data generation method in use, that is, FGDs are commended for yielding results of high levels of trustworthiness because the method is readily understood; more people pool their views at the same time and so their findings appear to be believable (Flick, 2008). However, this is not the only data generation method used; structured questionnaires and straight observation were used to enhance the credibility of the study.

4.7. ETHICAL ISSUES AND INFORMED CONSENT

Maintenance of ethical values is important in research for the protection of study participants, to build trust with research participants and uphold the truthfulness of research findings (Israel & Hay, 2006). To do so the UKZN ethical procedures such as obtaining ethical clearance, informed consent and confidentiality procedure were upheld by requesting for permission from participants. Amongst other things, throughout the

study, the researcher maintained the following ethical principles, which are pertinent to the study: full disclosure, freedom from harm and discomfort, protection from exploitation, self-determination, fair treatment, and privacy (Polit & Beck, 2012). To ensure informed consent, during data generation, the researcher provided the participants with sufficient information pertaining to the study (See appendix 2). The information covered the different aspects of the above ethical principles and it was offered such that participants fully understood it. Based on this information, participants were given the liberty to choose to participate or not to participate in the study and they were also made aware that they can withdraw from the study anytime without any implications.

The study followed a participatory approach and consequently, the participants were constantly receiving feedback during the sessions. Over and above that a copy of the dissertation and the designed spatial concept was to be made available for everyone to access at the Cato Manor police station and an offer to give out soft copies to individuals upon request was made.

4.8. PART TWO: PREPARING FOR THE FIELD WORK

This section of the research reveals the steps and preparations the researcher took to ensure the actual data generation is a success. This involves piloting the study, organising the necessities, and also acquiring the necessary permission for all that was needed to be done. In order to ensure that the research would be a success the researcher had to organize some resources. Firstly, the researcher had to print the research structured questionnaires as well as the gate keeper's letter as proof that there was permission to conduct the research. The next thing was to buy stationery that was to be used during the course of the research like when drawing visual maps and answering questionnaires. Moreover, the researcher had to buy and prepare refreshments for the focus group discussions with the aid of the research assistants.

4.8.1. Piloting data generation tools

Before the researcher started with the data collection process there was a pilot study to ensure all loopholes of the research were covered so as to ensure a successful data generation process. A pilot study is basically a study or data generation trial process

which is of a relatively smaller scale done before the actual data generation process as means of trying to assess the practicality of the research and test the effectiveness of the data generation tools (Hulley, Cummings, Brouner, Grady & Newman, 2013; Yu, 2013). When doing a pilot study, the researcher assesses factors such as feasibility, time, cost, and any adverse events that may affect the study to try to improve the study design before the full-scale research. Moreover, this is done to try to identify potential problems which may possibly affect the research findings or compromise the research and to then try to put measures in place to resolve those possible problems (Hulley et al., 2013). According to Creswell (2009) it is necessary for a researcher to pilot a qualitative research to be familiarized with the research tool and also close possible gaps in the research for effective data generation. This is necessary given that a qualitative study has to be a systematic, controlled and a self-correcting investigation.

The piloting of the research tools for this research was conducted in another section of the same community but on a smaller scale and also with less detail. However, the composition of the participants was the same in a sense that only the economically active youth of the low-income area were selected as participants. The piloting of the data generation tools helped the researcher realise the need to have research assistants since this was a highly interactive study.

4.9. PART THREE IN THE FIELD

This section focusses on discussing what transpired in the field when data was being generated. The first order of business was to find a venue in which the focus group discussions were to take place. The researcher had to talk to one of the administrators at the Cato Manor public hall (The Wiggins Community hall) only to find that it would be a process of three or more days just to get the hall for a day and it would also cost a lot of money given that it was only a student research. Given the time frame and research budget the best alternative was a neighbouring library formally known as the uMkhumbani Library. The researcher then booked a room there for the three days for the focus group discussions. Secondly, the researcher notified the local police station after the ethical clearance (attached in appendix 7) was granted to the researcher and confirmed the time and place with the station commander. When all the preparations were done, the researcher continued with the research and the process unfolded as follows;

4.9.1. Introducing ourselves

Before the research data generation process began the researcher recruited three people to assist in the field to make the process much easier and quicker. The data collection was scheduled for September 2016 with the aid of three female research assistants from the University of KwaZulu-Natal (see table 1). As discussed before, the participants were members of the Cato Manor community in Durban. The researcher and the assistants were introduced to every participant before engaging them. The participants also introduced themselves with some engaging in a general conversation to break the ice and create a level of comfort and trust before starting with the research questionnaires.

Table 1: Research assistants

Name	Gender	Age (Years)	Level of Education
Mandisa Dlamini	Female	22	3 rd year University student
Asanda Dlamini	Female	19	2 nd year University student
Andisa Cele	Female	21	2 nd year University student

Source: (Research, 2016)

The researcher had several training sessions with the research assistants over three days before going into the field. These sessions were inclusive of briefing them about the research, familiarising them with the data generation tools to be used, photography skills, voice recording, presenting themselves to the participants, how to use video cameras and how to work as a team. The researcher further explained the research questions and aims of the study.

4.10. DATA GENERATION

This section presents the processes followed during the fieldwork and how the respective data collection tools were applied. These include structured questionnaires, focus group discussion and straight observation and are presented as follows;

4.10.1. Structured questionnaires as a data generation tool

In the beginning of the field work the researcher and the research assistants randomly went door to door requesting the possible research participants to fill in the questionnaires and clarified the next step which was to involve them as part of the focus group discussion which was to follow (see Figure 8). The researcher and the assistants divided into two groups and went to different houses in order to speed up the process. The participants were given clarity with regard to what the questions meant and brief discussions followed where the participants felt the need to clarify or expand.

Figure 8: A photo of the researcher and assistants in the respective groups conducting a door to door household survey



Source: (Researcher, 2016)

The questionnaires were a build up towards the focus group discussions as the participants engaged in the structured questionnaires which were also needed to take part in the focus group discussion. The researcher and his team had a tough time trying to get willing participants for the focus group discussions and it took them longer than expected to get the required number of participants due to the fact that the participants had to be willing, assured safety and confidentiality rather than persuaded to take part in this research.

4.10.2. Focus group discussion as data generation tool

The second data generation tool used for the research was focus group discussions. During the focus group discussions, the community members (participants) and the researcher engaged in a discussion then they also developed and drew maps of the area which indicated the crime hotspots which were to feed into the spatial design concept to help manage crime in the community (see Figure 9). When the researcher started engaging the participants in the focus group discussion they seemed more relaxed as it was a private setup and they were guaranteed confidentiality so throughout the sessions they freely spoke as long as they were not photographed or video recorded.

Figure 9: A photo from the discussion, with participants sketching and eating during the focus group discussions



Source: (Researcher, 2016)

The information generated from the focus group discussion was used to guide the drawing of the visual maps and these visual maps further stimulated discussions about the issue of crime in the area and the possible solutions thereof. From all that was discussed the researcher and the participants drew a map of the area, highlighting the crime hot spots as reflected in Figure 11 and the group members were very cooperative in helping identify exit points and possible solutions.

The focus group discussions were accompanied with refreshments and the last focus group discussion was scheduled to make alterations to the visual map and put the security measures and strategies towards creating the defensible community in place that would be able to minimise the levels of crime.

Even though many of the community members were unavailable at the same time as most of them were working and some had other commitments the process went relatively smoothly because the groups were divided into 8-10 according to their availability. So, in order to make sure everyone who was recruited got the opportunity to participate the researcher and his team divided the thirty participants into three groups and gathered at different times that were suitable for everyone.

4.10.3. Straight observation as a data generation tool

As discussed in the data generation tools, the research was not only restricted to structured questionnaires and focus group discussion as the researcher also did straight observation, before, during and after the questionnaires and focus group discussion period which is captured in Figures 11-14.

4.11. DATA ANALYSIS

The researcher analysed all the data generated, organising it, interpreting and formulating meaning as a requirement of qualitative research (McMillan & Schumacher, 1993). The researcher did a deep interpretation of the data against theories and concepts that were used in this study then formulated findings and conclusions as recommended by Bezuidenhout and Cronje (2014). Nieuwenhuis (2007) suggests that in qualitative research

data generation and data analysis must be done simultaneously then findings can be presented separately which is the approach the researcher adopted for this study.

The researcher transcribed the information simultaneously with the data analysis process for better understanding of relevance of the transcribed information as Bezuidenhout and Cronje (2014) state that it is essential for the researcher to first transcribe the data into textual words and arrange the information in the correct sequence for easy analysis and better understanding. The researcher started by reviewing the images and notes that were taken during the data generation process then listened to the voice recordings from the focus group discussion to remember what transpired. The researcher also reviewed the responses to the semi-structured questionnaires to compare the data generated with the other tools then made a general analysis by connecting all the data generated as Mnisi (2009) suggests that a researcher must identify patterns from the data generated to make it easy to filter and categorise the findings into themes.

4.12. LIMITATIONS OF THE STUDY

As suggested by Marshal and Rossman (2011), every research project is bound to have limitations and problems either deriving from conceptual framework or from the design of the study. These problems and limitations may be anticipated to some certain extent but some are just unforeseen. This section talks to the problems and limitations that occurred during the course of the research and data generation (both anticipated and unforeseen), then it also discusses how these problems and limitations were managed to ensure the study of the research.

4.13.1. Anticipated limitations

The researcher could not access the latest crime statistics since there were some pending sensitive cases and the minister had not yet released the officially confirmed statistics. Secondly there was no assurance on the availability of the participants and their willingness to participate. Moreover, the time frame of the study limited the depth of the study and engagement of the researcher with participants.

4.13.2. Unforeseen limitations

During the course of data generation there were days where the community members were protesting about service delivery and crime in the area so the researcher had to reschedule the meetings. At times, there were issues of venue double booking when the allocated time for the focus group discussion was given to another group of people. Most significantly the fact that the majority of the participants did not want to be recorded or photographed was a huge limitation to the study as it was going to be more fruitful and credible.

4.13.3. Addressing the limitations

The researcher dealt with the problem by acknowledging these limitations, used random sampling to create unanimity and used overall crime statistics to address some points. The researcher then confirmed the latest statistics when they were later released during the course of the study. Regarding the venue double booking the researcher negotiated with the library manager to move the focus group discussions into study rooms that were not in use.

4.13. SUMMARY

This chapter presented an outline of the study design and methodology followed when conducting data generation. The researcher clarified all the concepts and tools used in this study and briefly discussed the reason behind using these instruments for this study which helped create a platform for better understanding. The researcher then discussed how these instruments were used to generate the data and also presented how the problems that emerged were managed. Moreover, the strategies used for analysing the data generated were discussed. The following chapter presents the findings of the research and critical discussion, linking the findings and the theories adopted for the study.

CHAPTER FIVE

PRESENTATION OF FINDINGS AND DISCUSSION

5.1. INTRODUCTION

This chapter presents the data generated, themes and categories of findings which were formulated based on the research objectives, literature review and what transpired in the field. It presents and analyses the data collected from the field. In addition, the chapter also discusses the interrelation between what the literature reviewed says and what was discovered from the fieldwork.

5.2. BACKGROUND TO THE STUDY

The study area was the Cato Manor township which is a working-class area dominated by low income families. It is located seven kilometres from the city centre of Durban, South Africa. It was initially a place where Indian market gardeners settled in 1855 under the mayor George Christopher Cato, after whom the place was named. The area covers a land area of about 0.30 km² (0.12 sq mi) and has a population of over 93 000 people (EThekweni Municipality, 2016).

The area of Cato Manor was recognised when there was change in settlement dynamics in the 1920s as a large population of black Africans settled in the area by renting land from Indian landlords who were there from as early as the 1850s. As time passed by people started brewing beer to sell to the workers around the area as a means to earn a living (South African History Online (SAHO), 2017).

The area attracted much more attention during apartheid and towards the end of World War II the area was flooded with shacks that had been built by squatters which started a big race riot and fights between the people and the government over these informal settlements. The government tried to force the people to move from the area to townships (McNulty & Stiebel, 2008).

In January 1960, a mob attacked police officers at the Cato Manor Police station and forcefully invaded the area and since then the area began to come to life again. In the

early 1980s the Cato Manor Development Association (CMDA) was formed and it was responsible for delivering an improved infrastructure. All this was funded by the European Union and the Cato Manor Area Based Management which was instituted by the EThekweni Municipality to oversee all the new developments in the area to what it is today and accommodate all the invaders (SAHO, 2017, EThekweni Municipality, 2016; Cato Manor Development Association (CMDA), 2000). However, since the 1960s the area remains characterized by its high unemployment rate, high crime rates and social fragmentation. At the same time, Cato Manor residents are seemingly reluctant towards improving their area hence the area has remained a typical low income area with a high crime rate and poor community participation (SAHO, 2016; Jackson, 2006).

5.3. DATA PRESENTATION

During the time the researcher and research assistants went on the door to door questionnaire process, the trend was that almost every participant engaged had once been a victim, witnessed or knew someone who had been a victim of crime in that area. Some of the participants complained about having outside toilets and taps along the road which enables criminals to come into their yards or pass right behind the house and use the toilets and tap which enables the potential criminal offenders to study the patterns and the house targeted to see what they have and what the patterns of the occupants are like. One lady said "*Bahlezi belunguza, benze ngathi bedlula ngendlela*" (meaning "they are always peeping, pretending to be passing"). With that information at hand the criminals can break in and steal clothes from the washing line as well as in the house to take some or all the valuables. Another participant spoke of criminals that broke into her neighbour's house and took housing appliances and movable furniture. The participant mentioned that the neighbour viewed it as pointless to involve the police as he felt they would be incapable to assist him in any manner. Other participants expressed that there were many similar cases of mugging, theft and hijacking that the members of the community never report because it is regarded as something that happens all the time. This shows a lack of confidence in the police and reflects a poor partnership between the police and the community. In essence most of the participants that the researcher spoke to complained about house breaking and theft of clothes from the washing line.

One participant spoke of an incident where he witnessed a girl being forcefully dragged and beaten by a large group of boys who seemingly wanted to sexually assault her. However, he just passed without saying a thing nor alerting any authorities so as to stay safe. He went on to say if the issue does not concern you directly then it is better to keep your mouth quiet if you do not want to die trying to help or be killed for “snitching” by telling the police who might not even help. When he got home he told the wife about it and only then did she call the police who actually proved him right by not showing up. This is another example which shows that people have lost compassion due to the fact that there is a high level of crime occurrences and a lack of solid partnership between the police and the community. However, most of the community members stated that street rape cases were not a common crime hence this particular story stood out.

There were many more stories told in trying to understand the nature of the common crimes and the crime spots of which most of them involved mugging, house breaking, theft of clothes from washing lines and car hijacking to a limited extent. As the data generation process went on there were odd events that occurred one of them including an incident as the researcher was going from house to house looking for participants. The researcher was approached by a drunk man and as soon as he heard the research had to do with crime he requested that the research team inform the police on his behalf to stop carrying guns in these kinds of neighbourhoods. The man stated that the criminals usually outnumber the police and take these guns from them then use them to kill innocent people during their crimes. In as much as the man was drunk and it was easy to disregard all that he said, his request created a sense of questioning as to exactly where these criminals get these unlicensed guns. This connected to a story that one family told the researcher about which had recently happened to a couple of matric students who were attending an evening class for revision when they were robbed at gun point and their cell-phones were taken.

What was picked up from this process of data generation was that the participants were willing and open to telling the stories about all the criminal activities they experience in their community but they were afraid to do so in the presence of other people. Most of

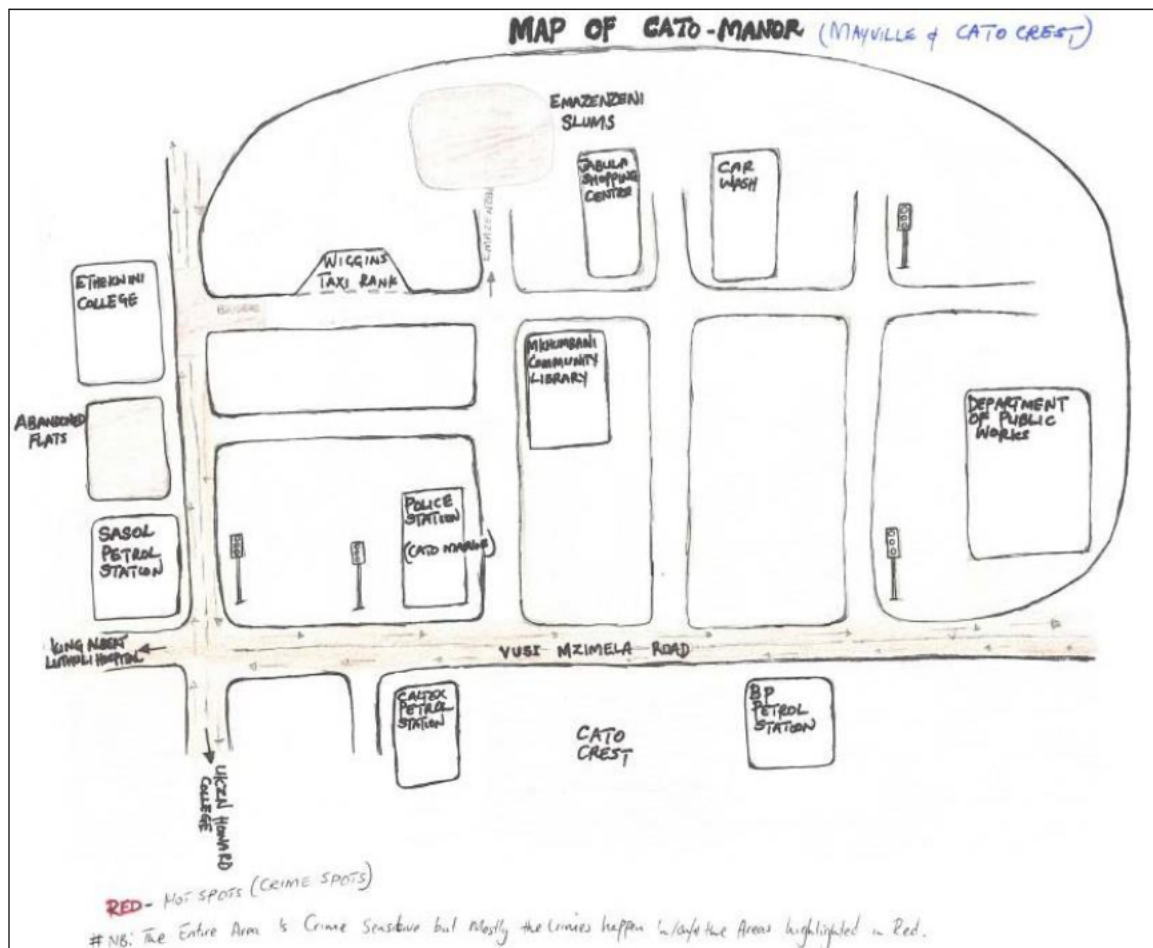
these people were very afraid of being associated with the police and being known as people who ratted out the local criminals. They feared for their lives and the lives of their children and were also concerned that they would become crime victims if they participate in the research. They made it very clear that they do not want their names or physical address included in the research and most of them did not allow for pictures and videos to be taken. They said “*singaze sibulawe, kuthiwe simpimpa abantu*” which means they might get killed for being snitches or blabbermouths so they did not feel comfortable with being seen with us and they definitely did not want to be photographed or video recorded. Only a few of the participants agreed with the researcher to audio recording.

During the focus group discussions, the participants opened up that they feel that the crime rate where they are located is too high and they do believe that it is very unsafe there. However, they pointed out “*Emazeneni*” (The place of fleas) which means that troublesome people stay there, Cato Crest, Vusi Mzemela road and the bridge connecting Cato Manor and Chesterville as the biggest crime hotspot in the area as highlighted red in Figure 10. The participants mentioned that most of the untraceable criminals reside nearby these areas and they spread out over the entire Cato Manor to commit their criminal acts especially at night. They then run to the informal settlements (shacks) after they have committed the crimes and they are said to be undocumented foreign nationals, which might be an issue of stereotyping or xenophobia.

All the participants asserted their lack of confidence in the police system saying “*abasisizi ngalutho labo, bayazisabela nabo njengathi*”, meaning that the police do not help much even if they would do their best but the community never reveals the criminals due to a high level of fear and the police are scared for their lives as much as the community. It is that the crime rate is increasing every year and the area has become non-redeemable hence everyone lives in isolation just to survive. What also came up as the drawing of the visual maps was proceeding is that there is actually another dangerous crime spot that people hardly consider as a danger zone because it is not a place where there are housing developments like “*Emazeneni*” but a lot of crime happens there because it is a quiet and isolated place so much mugging and car hijacking happens there. This place is the bridge that is located near the EThekweni College along the road that leads to the

Westville Pavilion Mall. It is said that the people who commit these crimes could either be from Chesterville, Westville, Mayville or Kwamasxha since the bridge links all those areas. The visual map on Figure 10 was drawn by the participants and refined by the researcher. It shows the major existing structures, roads and crime spots in the area.

Figure 10: Final visual map of Cato Manor reflecting the crime hot spots



Source: (Researcher, 2016)

What was observed during the course of the research was that in this community crime has actually become a way of life for the people. The researcher observed that during the day there would be an ambulance parked outside a local tavern (see Figure 11) where many people with guns drink. This was an indicator that people fight and injure each other when drunk in such places and instead of anyone doing anything to stop this, there are ambulances waiting for such events to happen so they can deal with them as everyone has accepted that it will happen. It seemed like everyone was aware of the gun issue but no one was willing to work with the police in dealing with this.

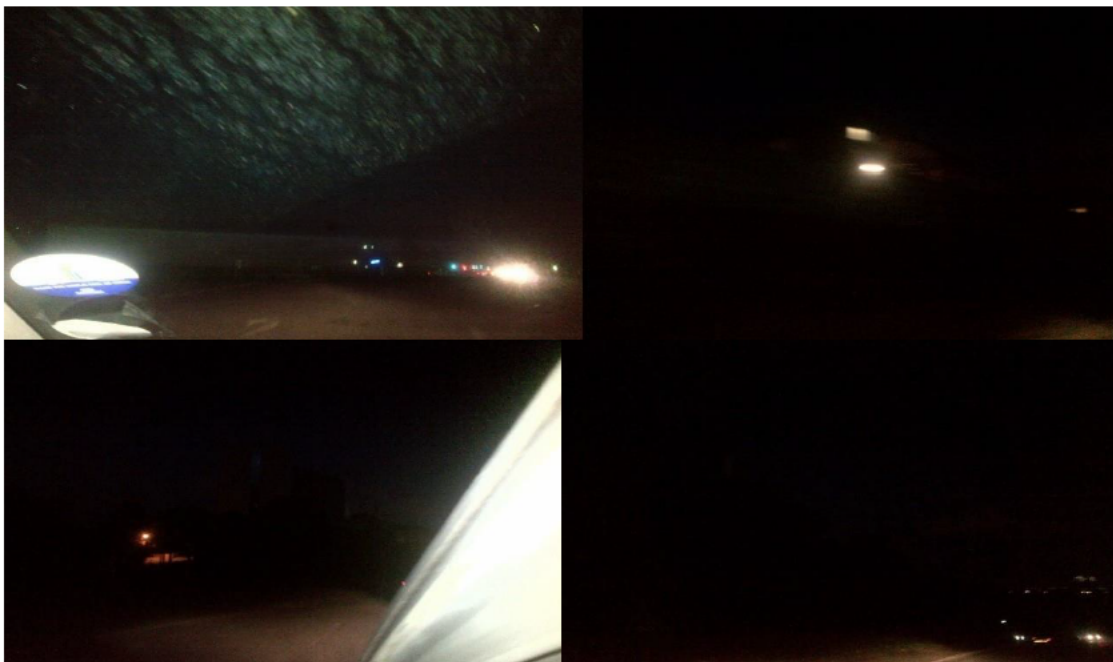
Figure 11: A photo of an ambulance on standby near the tavern and local taxi



Source: (Researcher, 2016)

What also stood out from the things that were observed was that there was no street lighting so the roads and streets are dark at night as seen on Figure 12 and this is one of the reasons why the crime level is so high because there is less risk for the criminal offenders to be apprehended. Moreover, this makes it difficult for the community members to do some surveillance when all the streets are dark.

Figure 12: A photo showing dark roads and streets with no lighting



Source: (Researcher, 2016)

During the course of the research the researcher and the participants spotted a person being violated, mugged and robbed of his things in the dark streets and other people just passed by like it was something normal as they showed no sense of sympathy or humanity to even say something (see Figure 13). This shows that there is very little sense of community and humanity in the area hence this is not a defensible space. This also proves Newman's theory about surveillance to be true that crime is usually high in areas where there is poor lighting and poor surveillance (Newman, 1976). As seen in Figure 13, you can hardly see the people doing the mugging so this means there will be little chance for them to be apprehended. The low risk of criminals being apprehended gives them the confidence to commit the crime.

Figure 13: A photo of a pedestrian getting mugged and harassed in the dark streets



Source: (Researcher, 2016)

Lastly and most importantly there was a community protest against crime and poor service delivery. The community was at standoff with the local police and blocking

movement through and to the area. The community was burning things and blocking and stoning police cars that were passing by Vusi Mzimela road as shown in Figure 14;

Figure 14: A photo of community protest against crime and poor service delivery



Source: (Researcher, 2016)

The protesters were shouting at the passing police as they stoned the cars saying the police never help them. This protest was apparently sparked by the criminal incident whereby a group of armed criminals mugged and robbed school children in and around the library area as they were preparing for examinations. This incident reflected that there was contrasting thinking in terms of sense of community and unity. They could gather

as a community to stand against poor service delivery and poor policing but then they cannot stand as a collective in fighting crime in the area.

5.4. SUMMARY OF FINDINGS AS ANALYSED ACROSS THE DATA SETS

The collected data was analysed across the data sets and the findings were narrowed and presented as follows;

5.4.1. Findings generated from structured questionnaires

Fear of being victimised perpetuates crime - The community members seem to fear standing against crime for the reason that these criminals might target them if they had to point them out to the police. This creates a level of comfort for the criminals because they know that no one will report the crimes and this means the police would not be effective in managing crime if the community cannot stand against it (Eck & Weisburd, 2015). From the literature reviewed it can be seen that fear of crime and low sense of community seems to be the one factor that gives criminals a wrong image about the community which makes it an easy target (Zahm, 2011; Newman 1996; Landman & Liebermann, 2016).

The crime has no specific season but it is mostly at peak during the nights of an ending month. Mostly in dark small streets and bridges – the stories told by all the participants show that there is no specific season for crime in the area, it is randomly consistent throughout. However, some suggested that there are times where the incidences increase which is generally the nights around month end and the criminals target the working class as they come back from work or even break in their houses in search of the money.

There are no effective community based policing groups that the people participate and volunteer on towards crime eradication – the fear of standing against crime makes it difficult for the community to form a community based policing organisation or for even individuals to play their roles. However, from the discussions there was a proposition that if the spatial design and the police patrol would be successful then there would be a decrease in the crime occurrences. Nevertheless, given that the theory of defensible

space suggests that the community needs to play a more proactive role and grow a sense of territoriality for this spatial design to work then a suggestion could be that the community forms a forum and has open messaging and a call line where any member can alert the forum then the police shadow them for protection because after all the community knows better.

5.4.2. Findings generated from focus group discussions

The area as a whole is generally affected by crime –The area as a whole needs a radical spatial alteration and a commitment of both the community and the police towards changing the attitudes towards protecting the area against crime. This is because the area as a whole is affected by crime and needs interventions in terms of spatial design.

There are clustered houses and no restriction of access to any part of the area hence the high number of crimes – the way the houses are developed seems to perpetuate crime as there are small through movements (pathways) behind and along the clustered houses which enable criminals to pick through houses and study their targets easily. The clustered houses make it difficult for the people to determine their boundaries therefore there is no way of restricting a person from passing by your space therefore it becomes difficult to study suspicious behaviours (Zahm, 2011). Consequently, the researcher and the participants came to an agreement that the best way was to build triple story duplexes to create more spaces for clear spaces of movement for pedestrians and clearly outlined property boundaries. Moreover, this enables the residents to effectively see and observe the spaces around their houses and neighbours (Zahm, 2011; Newman, 1976).

People live in isolation so they do not watch out for anything that does not concern them – the discussions raised concern based on the level of fear as most of the participants stated that if they encounter crimes they usually look away in fear of being killed if they say or do something. This makes it difficult and almost impossible for the spatial design to be effective because Newman (1972) suggests that managing crime in an area is not just about gates, fences or physical design but rather takes sense of territoriality and good spatial design hence the need of street patrols used in gated communities.

5.4.3. Findings generated from straight observation

The lack of street lights perpetuates the crime – in terms of what was drawn from the aspects of physical design and surveillance by Newman (1976) is that street lighting is a major tool that helps improve visibility and surveillance to make it difficult for potential criminal offenders to commit crimes (Armitage and Pascoe, 2016). In the case of Cato Manor, it seems to be the opposite because the streets are dark at night and that helps the criminals to go on with their business with no fear.

There is no sense of humanity and no one seems to be concerned with helping a person being victimised – as the researcher was conducting his research he witnessed a person being harassed and mugged of his belongings along Vusi Mzimela road and what stood out was that there was no sense of sympathy or concern for the person who was victimised. Everyone just passed by and continued with their business like nothing was happening and again this points to a poor sense of community and lack of humanity. This reflects that people cannot work as a collective towards fighting crime which needs a radical change of thinking and hopefully the proposed spatial concept can help with building the sense of territoriality and unity as literature theory suggests.

People and the police do not work as a team towards crime prevention – as it was brought up during the questionnaire and focus group discussion that the community has no confidence in the local police it was then witnessed from the protest action. A protest was started which intended to show concerns of the community regarding poor service and lack of cooperation from the police in dealing with crime. On the other hand, many raised that they were reluctant to even report any crime incidence firstly because of fear of being killed for it by the criminals and also because apparently, police hardly do anything if they are alerted. Some say the police have given up on the area because the crime is unmanageable and some say the police fear for their lives to come at night as they usually get hijacked or overpowered and relieved of their firearms. Whatever the case may be this shows a poor level of partnership between the police and the community and cooperation is important from all parties when it comes to managing crime in a community.

The findings generated using the three main data sets that were discussed above are summarised in Table 2 as follows;

Table 2: Categorised findings

Structured questionnaires findings	Focus group discussions findings	Straight observation findings
✓ Fear of being victimised perpetuates crime.	✓ The area as a whole is generally affected by crime.	✓ The lack of street lights perpetuates the crime.
✓ The crime has no specific season but it is mostly at peak during the nights of an ending month. Mostly in dark small streets and bridges.	✓ There are clustered houses and no restriction of access to any part of the area hence the high crimes	✓ There is no sense of humanity and no one seems to be concerned with helping a person being victimised.
✓ There are no effective community based policing groups that the people participate and volunteer on towards crime eradication.	✓ People live in isolation so they do not watch out for anything that does not concern them	✓ People and the police do not work as a team towards crime prevention.

Source:(Researcher, 2016)

5.5. CREATING THE IDEAL CRIME CONTROL SPATIAL CONCEPT ACCORDING TO THEORY

Based on general and scholarly arguments an idea effective and affordable crime control spatial concept can be created to suit the context of low income communities. The concept can be narrowed as follows;

5.5.1. Safe living and working

An efficiently functional and safe development must allow for a safe residential place and also allow people to work or create employment opportunities.

The Department of Human Settlement goal as informed by the Constitution and principles of smart growth is to create secure, quality places where people can live and work. This design is one of the key aspects of sustainable development which talks to socio-

economic development. This is a key attribute relating to crime prevention through design (Turner, 2006; Armitage & Pascoe, 2016).

5.5.2. Physical design

An area should promote active street frontages as a means of enclosing the public realm. When designing a safe neighbourhood, the fronts and backs of buildings should be clearly defined to ensure places are easily understood, physically secure, and feel safe and pleasant. This means the pathways must be in the vicinity of people to avoid having dodgy and crime prone passages. Main entrances, recreational spaces, and commercial spaces should be in the public vicinity where there are windows, more active rooms should face the public spaces, and blank walls or inactive physical spaces should be avoided to limit crime spots. Moreover, these spaces should not be dominated by parking or servicing areas. Parking arrangements should be catered for in ways that do not detract from the effectiveness of the built-up frontage in defining public areas; however, these parking areas should be secure, attractive and monitored (Turner, 2006; Armitage & Pascoe, 2016).

It is important that the design prevents crime spots, dead spaces, blank spaces, hiding spots and segregated routes. The building design should allow for maximised opportunities of surveillance of public spaces, and the streets and other public spaces should be well lit and visible (Armitage, 2016).

There must be beautiful plantations or well-maintained natural spaces for attractive public spaces which will allow people to engage with recreational spaces; however, these plantations should not obstruct the people from natural surveillance and must not lead to potential hiding places. Along the pathways, the plantations must be short and wherever the footpaths run next to buildings or roads the path must be open to view and be on the frontage of busy buildings. Most importantly these plantations must be carefully selected to avoid high maintenance.

The neighbourhood routes, spaces and entrances must be well defined and visible and the convenience of movement should not compromise any security.

The layout must be clear and must allow good movement framework; the routes must be direct to where people want to go to avoid under-used alleyways, shortcuts and unclear access points that might breed potential for crime.

The routes for pedestrians, cyclists and vehicles generally run alongside one another, and they have to be within clear vicinity so any vulnerable or isolated pedestrian routes can be avoided.

Proper layout of the physical spaces can discourage crime occurrences and encourage people to freely engage with the space without any fears. Besides the public spaces and pathways being in the public vicinity, the area must be well lit and kept active to avoid any dead dark spots. Mixed-use activity areas must run along pathways, with buildings facing those active spaces so that people can act as natural surveillance and also people will access their needs most conveniently (Armitage & Pascoe, 2016).

Communal areas parks, open space and play areas must be designed to be centred to allow proper supervision from nearby dwellings, and allow safe routes for people to access it. The play areas must be fenced and secured to easily monitor unnecessary activities or dodgy people. Moreover, the street furniture must not be planted in areas where there might be a possibility of criminal groups to congregate or areas that are too isolated (Reynald, 2014; Newman, 1996).

5.5.3. Role of the community

According to the principles of defensible space theory the attitude of the community plays a major role in creating a safe community; their participation in passive surveillance plays a major role in controlling crime in their space. This comes with a high sense of ownership.

If both physical design and community participation is effective then it should be easy to prevent crime, reduce the fear of crime and promote safety in the community.

The places must be designed in a way that the people feel some sense of ownership so that they can play an active role in community monitoring and crime control interventions. This can be done through fencing and restricted access so that the residents can see the

boundary of their area and feel it is privatised rather than a person focusing on just their personal house.

If there are any front boundaries of individual houses, they must be kept low to have a clear view of the streets and also for neighbours to be on the lookout for any criminal acts that might happen in the yard. Suitable garden plantations must be set back from paths and must be planted to avoid obstructing visibility. However, the community boundary needs more defensive barriers and the walls or fencing to a minimum height of 1.8m to avoid any people monitoring activities in the community or a chance for them jumping inside (Armitage & Pascoe, 2016).

The maintenance and a sense of ownership of public spaces in these areas will play an important role in maintaining the safety of the environment and people must play an active role to take the responsibility to them. Again, proper lighting is important and sensitive to the needs of residents and users, but must not result in glare and compromise privacy. Lighting is mostly needed in crime prone places such as the park, and play areas.

5.6. CREATING THE ULTIMATE CONCEPT PLAN WITH THE PEOPLE

This section discusses what the participants regard as essential towards creating the most suitable concept for their community.

5.6.1. Safe living and working

The community acknowledged that the crime occurrences in the area do not only affect the people who are victimised but also affect the economic development opportunities. People are scared to open businesses in the area because of the high levels of crime. The already operating businesses close early due to fear of being robbed and they have fear of expanding their businesses because that increases the risk of them being a target. In a nut shell, everyone who participated sees the importance of having a safe living and working environment as it is essential for social-economic growth of the area.

5.6.2. Physical design

The inputs of the research participants are the ones that informed the proposed spatial concept of the research. They concurred that the physical barriers can help reduce crime

in the area and also reduce the fear of crime if all the physical attributes are incorporated as seen in Figure 15. They said lighting and clear pedestrian pathways would make surveillance of the area easier and at the same time increase the risk of offenders to be apprehended whenever they commit crimes.

5.6.3. Role of the community

The participants concur with the theory of defensible space and literature about the concepts suggested regarding the importance of community participation in creating a safe neighbourhood. However, there is a level of fear of victimisation and most members are skeptical towards working with the police or playing an active role in fighting the crime as a collective.

5.7. VARIENCES AND SIMILARITIES

From the findings drawn from literature, theory and participants in this study regarding the ideal concept that can address crime in this low-income area there are cross-borders in terms of similarities. However, there are also slight differences given that the context of the area is different from the conventional set-up where spatial design is usually used. These similarities and difference are summarised and discussed as follows:

Newman (1972) suggests that community participation is essential in making sure that the spatial design works because they are the ones that need to develop territorial mentalities and the spatial design is only to enable them to better defend their space and improve the image of the community. However, the findings reflect division in the willingness to participate and work together with the police towards fighting crime.

The issue of improved surveillance was incorporated through building high rise buildings towards the roadside of the roads, houses facing the recreational facilities and community service structures like shops, hall, library, soccer field and community garden. Moreover, there was a proposition for street lights to improve the visibility.

There was also a proposition that the slums be eradicated and people should be accommodated in high rise structures to save space for community gardens so people can equip themselves. There was a unanimous voice that “*Emazeneni*” should be

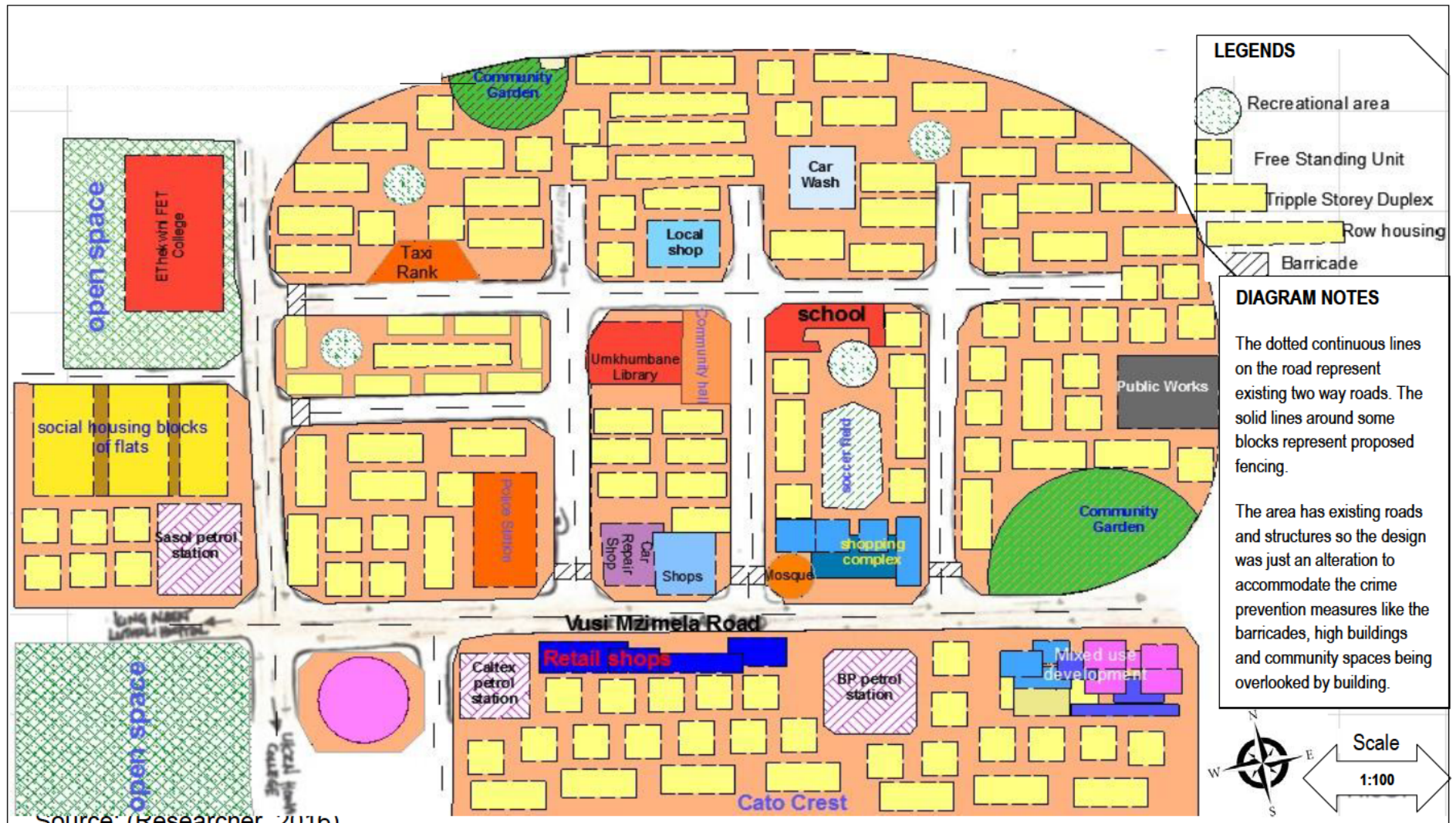
eradicated to make a community garden and the people should be distributed into the proposed high rise buildings so that they can be in different groups. Another site that was proposed to be a garden was the area near the public works as it was informally used as a community garden already.

Then there was the issue of creating boundaries as means of protection from outside offenders to control the movement of goods stolen from the community and the community proposed barricades and fences instead of walls and gates. This was after considering the issue of affordability and maintenance since it is a low-income area. Some of the participants suggested that it must be a strict exit control rather than controlling entrance in the area because this might cause traffic in the adjacent main roads passing by the community and after all the concern was to keep their stolen goods from leaving the area and making sure that outsiders do not commit crimes and just leave.

The ultimate spatial concept was drafted based on literature reviewed, theories and data generated by the researcher from the field but mostly shaped by what was proposed by the participants. The concept reflects that the major existing structures are not destroyed but the area is merely reconstructed around the existing layout for better defensibility of the area and to create an improved sense of community and functionality (note that the concept is not based on an accurate scale). The layout of the roads did not change; the major routes are shown on the map and they have dotted lines to reflect that they are a two-way road. Some blocks in the area are fenced off to make sure that there is restricted access in the area so everyone coming in or out of the area has to pass through one of the barricaded areas to limit uncontrolled crimes that may be caused by outsiders or people moving stolen goods from the area. This is shown by the solid lines around the blocks on the spatial concept. Moreover, the recreational spaces, pathways and other community spaces will be overlooked by the houses to help monitor activities and through movements in the area. To ensure that the members of the community have food security and a means of maintaining their livelihoods, the existing community garden near public works will be extended and a new one was proposed where there was the *Emazenzeni* shacks to eradicate the shacks. The people from the informal shacks will be accommodated in the proposed high rise buildings and row houses that can take the high populations from the shacks. All the informal houses will be upgraded and proper structures will be developed to allow for proper pathways, improve visibility and improved security. This is shown on the concept in **Figure 15**;

However, from a detailed scale after analysing the area cadastrally, there were some important details that were picked up hence the concept proposed by the community in Figure 15 would not be fully feasible, and there was a need of alterations from the concepts drafted with the community to a more cadastrally informed spatial concept. **Appendix 8** reflects what is currently existing in the area which informed what could be feasibly proposed in **Appendix 9**. The major differences were that there will be a need to adjust the boundary lines to make the area more manageable. Only two controlled access and exit points onto the main roads passing along the area, (one on the north of the area, onto the side of Westville and one on the south-west of the area towards EThekwini FET College along Harry Gwala road). The other shorter routes will be closed by either proposed developments or open spaces towards the end of the road, as shown on appendix 9. Secondly the existing layout will just be improved and slightly altered to accommodate the current developments by following the footpaths of the community. Community gardens will be located in the most suitable spaces near roads for easier access, the remaining green spaces will be maintained but some improved for recreational purposes. Sports facilities will be extended near the school to make sure they are regulated and maintained by the school but used by the general public. The proposed residential developments will accommodate the people moved from the informal settlements like “*Emazenzeni*” and accommodate other uncounted possible population growth and they will be designed to overlook pathways and other public spaces for improved surveillance in the area as recommended by Newman (1976). Light industries and commercial zones will be maximised to improve services and employment opportunities for the area as suggested by Armitage and Pascoe (2016). There is also proposed health care facilities and worship areas to improve the overall functionality of the area.

Figure 15: The ultimate spatial concept for Cato Manor



5.8. THEMES AND CATEGORIES OF FINDINGS

The themes of the findings were based on the data generated in line with the objectives of the research and they are presented as follows;

5.8.1. Efficiency of spatial design in crime management

The research showed that the use of spatial design in the management of crime has been efficiently applied across the globe. Many authors have researched and proven that the adopted concepts have been most effective in controlling crime. Crime statistics also have proven that urban villages and gated communities have helped minimise crime occurrences both internationally and in South Africa. Even though the concept of gated community is only seen mostly in the communities of the rich there is no doubt that it is an effective crime prevention tool as it was initially coined to prevent crime before it was attached to class. The concepts are seen to be effective and efficient in all contexts applied but the only thing at question is the affordability in the low-income community context.

5.8.2. Affordability

From the research the issue of affordability of the concept is a major concern as the concept adopted is usually used in communities of the rich and elite. However, the way the researcher and participants designed it, it accommodates the low-income communities because only the security aspects are adopted from the concept of gated communities and urban villages to form one concept that fits the community. This will however take a high level of community participation and volunteering to make it possible since the community need to play a more proactive role towards defending their space against crime. The design will only make it hard for possible offenders to commit crime and also enable the community to effectively monitor and maintain their space towards a crime free community. The community members will work as a collective and will be assisted by police to do patrols and guard by the boom gates. Moreover, the police will help train the community members on how to do effective policing, how to stay safe and how to handle situations.

5.8.3. Feasibility and management

Even though this concept has not been explored much in the low-income context before the theories and literature reviewed point to the fact that all it takes is the design that makes it difficult for people to commit crime and allow effective surveillance, However, it needs the commitment of the community in playing a more proactive role towards taking control of their community in fighting crime and maintaining their community thereby creating a defensible community.

5.8.4. Suitable concept

The suitable concept to address crime was narrowed to be a gated community and urban village features of which the attributes of these concepts were taken and adopted to fit the context of Cato Manor. This was formulated from what the literature suggests, what was drawn from the theoretical principles adopted by the study and mostly from what the participants suggested as the best way to manage crime from a personal experience point of view.

5.9. SUMMARY

This chapter presented the heart of the research by presenting the findings drawn from the research and categorised the information into meaningful text. The researcher compared the data generated from all the data generation tools and created meaning and patterns from all the information gathered. This information was then used to create the ultimate spatial concept for the area as informed by all the tools. The next chapter presents a summary of the research, conclusion, possible recommendations and conceptual contributions of the research that might be used by other researchers to shape the idea or other similar lines of thought.

CHAPTER SIX

RESEARCH CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

6.1. INTRODUCTION

This chapter presents the conclusions that were drawn from the study, summarising the contributions of the study, and recommendations by the researcher informed by the findings of the study. This chapter further presents the conceptual contributions by the study and space paved for further research. The aim of this study was to explore the possibility of using spatial design in low income communities, as a tool for addressing their functional inefficiencies and crime, and also propose the best spatial concept that can be a best fit for low income areas, giving special considerations to affordability and feasibilities. The primary research question for the study was, “Can spatial design possibly be used as an effective tool for addressing crime in low income communities?” and, “Which spatial concept can be most efficient and affordable in the context of low income communities?”

6.2. SUMMARY OF FINDINGS

The major findings drawn from the study are that the people have fear of crime since the whole area is generally affected by crime hence a poor sense of community and reluctance from the community members towards fighting crime. Secondly the design of the area does not allow or make it easy to control crime since there are issues like poor lighting, clustered housing and pathways are hidden. This means there is a need to create a defensible space that will make crime controlling easier and decrease the fear of crime in the area which will further make people comfortable to fight crime as a community.

The findings also suggest that there is no partnership between the police and the community members themselves and there is a low sense of community. Everyone lives in isolation which makes it easy for criminal offenders to target the place. There is a need for a community to work as a unit because even if the spatial design is adopted it would not be

enough if the community does not work as a collective. The design makes it easy for the community to fight crime. All this was based on Newman's theory of defensible space which speaks to using physical design as a tool to stimulate the creation of social structures (communities) that can protect and defend themselves from crime by restructuring or developing communities in a way that enables the residents to gain control over their area. This is the thought that was adopted for this study and it seems reasonable for the local government to join and commit towards achieving this (Newman, 1996).

What can also be drawn is that the concept of gated communities and urban villages does not need to be stigmatised for what it is typically used for as there are positive aspects that can be adopted in creating sustainable and safe low income areas as reflected in this study. Also, this means that the image of the community can create fear for the potential offenders and also create confidence in the community about their area which will create a will to take care of their environment. Therefore, developers and the government need to note that spatial design is important and they can adopt this concept and create areas that have improved surveillance, restricted unregulated access, improved safety features, outlined boundaries and an improved sense of territoriality to have safe and sustained low income areas. Lastly the spatial design does not only improve the ability to control crime, it creates a positive image of the area which makes potential invaders hesitant to commit their criminal acts. Moreover, the fencing and restricted access make it difficult for criminals to commit crime or escape after committing their criminal acts.

6.3. CONCLUSION

What can be concluded from the findings of the research is that the idea of using spatial design can be an efficient tool as both literature (theory) and the participants seem to both agree to this effect. However, Newman's defensible space theory suggests that physical design alone is in vain if there is no sense of community. The design is meant to be a tool that enables the community to defend and maintain its space and from what the finding of the research presents there is no sense of community which means this spatial design would be doomed to fail unless the community changes its mentality.

Physical design and safety prove efficient if there is sense of territoriality and sense of ownership which is grown by the clearly outlined boundaries of the area. This means that not only do the barricades and fences used in this concept act to restrict unregulated movements they also play a psychological influence in the community's minds since it will make them feel that this is their area hence the sense of territoriality. It is also concluded that if communities are developed by and for the people that have common values, common activities and lifestyles then the area is bound to have a sense of territoriality, and a positive image which will then make it difficult for criminal offenders to commit their crimes (Newman, 1972).

6.4. RECOMMENDATIONS OF THE STUDY

The municipalities need to involve people throughout the development process from the planning stages throughout to post development of the low-income communities to create a high sense of ownership. Moreover, this can minimise the costs of development since the developments will be mostly self-help with a few professionals supervising and training the members who will be developing the area. Secondly the government should work towards being committed to high short term investment when it comes to creating self-sustained low-income communities which will indirectly minimise their long-term costs. Lastly the government must roll-out community management training on a frequent basis which will focus on creating a pro-active community that will actively take care of their space, and have a high level of commitment towards controlling crime in the area.

The communities need to formulate social groups that can be supported by other external structures and government bodies towards improving community participation and strategies on how they can protect themselves from crime.

The government can help maximise the good things which happen in the context of low income communities to improve the standard of living in the area so it would be easier to maintain the area. Local governments can try to adopt the principles of this design and implement them in other low income areas. Moreover, the government also needs to invest in effective street lighting to improve the liability and safety of the people. In a matter of fact for future research it can be recommended that all other stakeholders be involved around this discussion for more fruitful findings and get a more rounded view & opinions.

The study is located in the field of Town and Regional Planning which is part of the built environment so it also feeds to the areas of land use management, community development and sustainable development. This study introduced a new line of thinking towards the development of communities and dealing with crime especially in the context of low income communities. Municipalities need to consider in depth the aspect of community involvement because it is essential in building a sense of territoriality and sense of community. The theory and conceptual principles used in developing this concept for this study area can be adopted, scrutinised and possibly replicated in other similar contexts.

6.5. SUMMARY

This chapter presented all the conclusions drawn from this study, the contributions of the research, recommendations, and suggestions for further research. Most of the findings of the research seem to be similar to those made in the literature reviewed from other similar research studies regarding the effectiveness of spatial design in managing crime as done by other researchers. However, in the context of low income areas there is a clear differential when it comes to willingness to work as a collective with the help of the police towards creating a defensible space that can control the occurrences of criminal incidents. The sample of the research was just a small group of the economically active youth from an urban low income community of Cato Manor reflecting on their challenges of crime which was aimed to identify the crime hot spots, the types of crime and to jointly create a spatial design with the researcher that can possibly help in managing crime in the area. The findings reflect that firstly there is fear of participating in fighting crime because that could isolate them then create vulnerability in a sense that they will be targets of the criminal offenders and there is also a reluctance towards teaming up with the police. Nevertheless, everyone seems to agree that spatial design would be an effective tool or at least a good start towards making their space defensible, and they also acknowledge that it would take an effort from their side to play an active role to make this effective.

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APPENDICES

APPENDIX 1: GATE KEEPERS PERMISSION TO CONDUCT RESEARCH


UNIVERSITY OF
KWAZULU-NATAL
INYUVESI
YAKWAZULU-NATALI

Friday, 20 May 2016

To whom it may concern

Thabiso Sacolo (Student No: 214584223), a Masters student in the School of Built Environment and Development Studies in UKZN (Howard College) formally requests permission to interview staff of the Cato Manor police department and some members of the Cato Manor community and to use the data collected. He would like to use this data for his Masters dissertation entitled: **"Using spatial design as a tool for crime prevention in low income communities: A case study of Cato Manor in Durban, South Africa"**. The dissertation will acknowledge the police department and the findings of the research will be shared with the station if requested but participants will be kept anonymous unless participants requested that their names are included.

_____ regards

Thabiso Sacolo
Cell: 0720277958
Email: sacolathabiso@yahoo.com

Supervised by
Dr. Lovemore Chipungu
School of Built Environment and Development Studies
Email: chipungu@ukzn.ac.za
Tel number: (031) 260 3801

Permission to _____ use data granted by:

Name: Z. _____

Signature: _____

Position (Optional): COMMANDER

Date: 20/5/16

SOUTH AFRICAN POLICE SERVICES
STATION COMMANDER
25 MAY 2016
CATO MANOR
KWAZULU - NATAL

Built Environment and Development Studies, University of KwaZulu-Natal, Howard College Campus, Durban 4041

APPENDIX 2: INFORMATION AND CONSENTFORPARTICIPANTS



INFORMATION AND CONSENT FOR PARTICIPANTS

6 July 2016

Dear Sir/Madam

My name is Thabiso Sacolo and I am a Master of Town and Regional Planning student at the University of KwaZulu-Natal, College of Humanities, in the School of Built Environment. I kindly request you to participate in my study: *Using spatial design as a tool for crime prevention in low income communities: A case study of Cato Manor in Durban, South Africa*. The objectives of the study are:

Main objective

- ✓ This study aims to explore the possibility of using spatial design in low income communities, as a tool for addressing their functional inefficiencies and crime

Sub-objectives

- i. To investigate the extent to which spatial design concepts can minimise the issue of crime in low income residential developments
- ii. To examine the feasibility and efficiency of spatial design methods in solving functional inefficiencies in low income communities
- iii. To evaluate if spatial design concepts can be affordable and maintainable in the context of low income residential developments
- iv. To propose a spatial design concept that can address crime in the area of Cato Manor

From the nature and purpose of the study, there are no anticipated risks from participating in the study and no direct incentives will be provided. Your participation will involve responding to structured questionnaire and taking part in one focus group discussion. With your permission, the discussions will be audio- and video-taped, and the transcripts from them will be analysed and used for research purposes only.

Your involvement in this study is voluntary and you may withdraw at any point without any disadvantage to you if it becomes impossible for you to continue to participate. Your identity will remain confidential throughout the research project as your real name will not be used in any of the reports and possible publications. The data generated will be kept safe and confidential for a period of five years and at the end of the specified period all research data will be disposed accordingly. All documents will be shredded and all other materials, such as audio recordings will be incinerated.

If you are willing to be interviewed, please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:

	Willing	Not willing
Audio equipment		
Photographic equipment		
Video equipment		

If you feel that you have been harmed in any way by participating in this study or you have any concerns, please contact the University of KwaZulu-Natal Humanities and Social Sciences Research Ethics at the Govan Mbeki Centre. You may contact the Office through Mr Prem Mohun, Tel: +27 (0) 31- 260 4557, E-mail: mohunp@ukzn.ac.za and Fax number +27 (0) 31- 260 4609.

Your participation will be appreciated. If you have further questions about the study, you can contact me or my supervisor.

Thank you

.....

Mr Thabiso Sacolo

Cell: 0720277958

Tel: 0317014570

Email: sacolothabiso@yahoo.com

Supervisor: Dr Lovemore Chipungu

Tel: 031 260 380

Email: chipungu@ukzn.ac.za

Using spatial design as a tool for crime prevention in low income communities: A case study of Cato Manor in Durban, South Africa

CONSENT

I, (full names of participant) hereby agree to participate in research: *Using spatial design as a tool for crime prevention in low income communities: A case study of Cato Manor in Durban, South Africa.*

I understand that I am participating freely and without being forced in any way to do so. I also understand that I can stop participating at any point should I not want to continue and that this decision will not in any way affect me negatively.

I understand that this is a research project whose purpose is not necessarily to benefit me personally in the immediate or short term. I agree to the tape-recording of the discussions in which I will be participating and that to be used in compiling final reports and any publications that may arise.

I understand that my participation will remain confidential.

I hereby agree to participate in the study:

.....
Signature of participant

.....
Date

ISIVUMELWANO NALABO ABAZOBAMBA IQHAZA KUCWANINGO

06 July 2016

Mnumzane/Nkosikazi/Nkosazane,

Igama lami ngingu Thabiso Sacolo, ngingumfundi ofundela iziqu zobu Ngcweti kweZokukuhlelwa kwamaDolobha neZifunda [Master of Town and Regional Planning] esikhungweni Se Mfundo iNyuvesi yaKwaZulu-Natal, Ikoloshi lezeSintu [College of Humanities], eSikolweni SeZakhiwo Zendawo Okuhlalwa Kuyo [School of Built Environment].

Ngokuzithoba ngicela ukuthi usebenzisane kanye nami kulomsebenzi wocwaningo osihloko sawo sithi: *Ukusetshenziswa komqondo we spatial design njengethuluzi lokuvikela ubugebengu emphakathini ophila ngeholo eliphansi, ohlala ezindaweni ezingabizi kakhulu: Ucwano sigameko se Cato Manor in Durban, South Africa* [Using spatial design as a tool for crime prevention in low income communities: A case study of Cato Manor in Durban, South Africa].

Inhloso nenjongo enkulu yalolucwaningo:

- ✓ Luhlose ukuhlola ukuthi kungenzeka yini kugwemeke ubugebengu emphakathini ophila ngeholo eliphansi ngokusebenzisa umqondo we spatial design, njenge thuluzi lokwehlisa ubugebengu nezinsalelo obhekene nazo nsuku zonke.

Ezinye izinjongo:

- i. Ukuphenya ukuthi umqondo we spatial design ungalinciphisa kangakanani udaba lobugebengu emphakathini ophila ngeholo eliphansi obuye uhlale nasezindaweni zamanani aphantsi nangokwentuthuko yezokuhlala
- ii. Ukubheka ukuthi kungenzeka yini lomqondo we spatial design usebenze kahle njengesixazululo sezinsalelo ezibhekene nemiphakathini ephila ngeholo eliphansi
- iii. Ukusinga isimo mayelana nomqondo we spatial design ukuba ungalilungela yini iphakethe lomphakathi ophila ngeholo eliphansi ohlala ezindaweni ezingabizi kakhulu
- iv. Ukuveza isiphakamiso somqondo we spatial design esingasebenza kahle, nesingalungela ukubhekana nobugebengu endaweni yase Cato Manor

Ngolwazi enginalo lenhlobo yocwaningo ayinabo ubungozi obungabhekeka futhi akukho inzuzo ephathekayo engiyithembisayo. Kubhekeke ukuthi ngokusebenza nokuzibandakanya kwakho kulomsebenzi wenze loku okulandelayo: ukubhala uphendule imibuzo mayelana nawe nendawo ohlala kuyo, ukwenza imidwebho eveza isithombe sendawo iCator Manor ngokugcwele nangokuqoyinda kwakho, uphinde ucelwe ukubamba iqhaza ngesikhathi sezingxoxo zamaqembu nokuphendula imibuzo eqondene nenhlobo. Ngemvume yakho, izingxoxo ziyiqoshwa kusetshenziswa isiqophamazwi nomshini wokuthatha izithombe. Inkulumbo eqoshiwe iyoshicilelwa phansi ibe ngamazwi abhaliwe kepha iyosetshenziselwa lolucwaningo kuphela.

Ukuzibandakanya kwakho kulolucwaningo akuphoqiwe, ungaphuma noma inini ngale kwengcindezi uma uhlalabazana nenkinga yokungakwazi ukuqhubeka. Igama lakho liyogodlwa nobuwena bogcinwa buyimfihlo ngasosonke isikhathi noma sekubhalwa umqulu ophelele sekuphele lolucwaningo.

Khumbula ukuthi ngiyokujabulela kakhulu ukuzibandakanya kwakho nalomsebenzi, futhi kubalulekile. Uma unemibuzo nanoma ngani ungathintana nami noma umphathi [usupervisor] wami kulolucwaningo:

Ngiyabonga, Ozithobile

.....
Mr Thabiso Sacolo

Cell: 0720277958

Tel: 0317014570

Email: sacolothabiso@yahoo.com

Supervisor: Dr Lovemore Chipungu

Tel: 031 260 380

Email: chipungu@ukzn.ac.za

The University of KwaZulu-Natal's Humanities and Social Sciences Research Ethics Committee (HSSREC) can be contacted as thus:

Mr. Prem Mohun

University of KwaZulu-Natal

HSSREC Research Office

Govan Mbeki Centre

Durban

4000

Tel: +27 (0) 31- 260 4557, E-mail: mohunp@ukzn.ac.za

ISIVUMELWANO

Isihloko socwaningo: Ukusetshenziswa komqondo we spatial design njengethuluzi lokuvikela ubugebengu emphakathini ophila ngehlo eliphansi, ohlala ezindaweni ezingabizi kakhulu: Ucwango sigameko se Cato Manor in Durban, South Africa

Mina..... (igama nesibongo ngokugcwele) ngiyaqinisekisa ukuthi konke okuqokethwe ilencwadi nohlobo lwalomsebenzi wocwaningo ngiyalwazi ngichazelwe ngalo. Ngiyavuma ukuzibandakanya nalomsebenzi

.....
SAYINA LAPHA

.....
USUKU

APPENDIX 3: SIGNED CONCENT FORM



INFORMATION AND CONSENT FOR PARTICIPANTS

6 July 2016

Dear Sir/Madam

My name is Thabiso Sacolo and I am a Master of Town and Regional Planning student at the University of KwaZulu-Natal, College of Humanities, in the School of Built Environment. I kindly request you to participate in my study: *Using spatial design as a tool for crime prevention in low income communities: A case study of Cato Manor in Durban, South Africa*. The objectives of the study are:

Main objective

- ✓ This study aims to explore the possibility of using spatial design in low income communities, as a tool for addressing their functional inefficiencies and crime

Sub-objectives

- i. To investigate the extent to which spatial design concepts can minimise the issue of crime in low income residential developments
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- iv. To propose a spatial design concept that can address crime in the area of Cato Manor

From the nature and purpose of the study, there are no anticipated risks from participating in the study and no direct incentives will be provided. Your participation will involve responding to structured questionnaire and taking part in one focus group discussion. With your permission, the discussions will be audio- and video-taped, and the transcripts from them will be analysed and used for research purposes only.

Your involvement in this study is voluntary and you may withdraw at any point without any disadvantage to you if it becomes impossible for you to continue to participate. Your identity will remain confidential throughout the research project as your real name will not be used in any of the reports and possible publications. The data generated will be kept safe and confidential for a period of five years and at the end of the specified period all research data will be disposed accordingly. All documents will be shredded and all other materials, such as audio recordings will be incinerated.

If you are willing to be interviewed, please indicate (by ticking as applicable) whether or not you are willing to allow the interview to be recorded by the following equipment:

	Willing	Not willing
Audio equipment		✓
Photographic equipment		✓
Video equipment		✓

If you feel that you have been harmed in any way by participating in this study or you have any concerns, please contact the University of KwaZulu-Natal Humanities and Social Sciences Research Ethics at the Govan Mbeki Centre. You may contact the Office through Mr Prem Mohun, Tel: +27 (0) 31- 260 4557, E-mail: mohunp@ukzn.ac.za and Fax number +27 (0) 31- 260 4609.

Your participation will be appreciated. If you have further questions about the study, you can contact me or my supervisor.

T 

Mr Thabiso Sacolo
Cell: 0720277958
Tel: 0317014570
Email: sacolothabiso@yahoo.com

Supervisor: Dr Lovemore Chipungu
Tel: 031 260 380
Email: chipungu@ukzn.ac.za

Using spatial design as a tool for crime prevention in low income communities: A case study of Cato Manor in Durban, South Africa

CONSENT

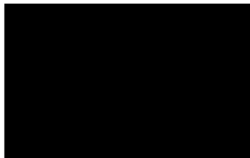
I, Zinle Msimango (full names of participant) hereby agree to participate in research: *Using spatial design as a tool for crime prevention in low income communities: case study of Cato Manor in Durban, South Africa.*

I understand that I am participating freely and without being forced in any way to do so. I also understand that I can stop participating at any point should I not want to continue and that this decision will not in any way affect me negatively.

I understand that this is a research project whose purpose is not necessarily to benefit me personally in the immediate or short term. I agree to the tape-recording of the discussions in which I will be participating and that the recordings will be used in compiling final reports and any publications that may arise.

I understand that my participation will remain confidential.

I hereby agree to participate in the study:



Signature of participant

24-09-2016

Date

APPENDIX 4: STRUCTURED QUESTIONNAIRES



QUESTIONNAIRE

SECTION 1 – Biographical information

Name	
Surname	
Occupation	
Physical address	
Sex	
Age	
Ethnic group	
Highest qualification	
Number of household members	
Personal income per month	
Household income per month	

SECTION 2 – Levels of crime

Do you think the area is safe?	
How often do you hear of or experience crime?	
Are the crimes seasonal or consistent throughout the year?	

SECTION 3 – Nature of crimes

What are the common crimes that you experience in the area?	
What times of the day do these crimes happen?	
What are the prime spots for crime in the area?	
Where are the common exit points for criminals in the area?	

SECTION 4 – Existing crime control measures

Do you have effective policing?	
Do you have other means of crime control besides police?	
Are members of the community involved in crime control measures?	

SECTION 5 – Familiarity with concepts and willingness to participate

Are you familiar with the concept of gated communities?	
Are you familiar with the concept of urban villages	
Would you be willing to volunteer towards improving surveillance and security in the area?	

APPENDIX 5: FOCUS GROUP DISCUSSION GUIDE AND PROMPTS

FOCUS GROUP GUIDE AND PROMPTS

The FGDs will be conducted after the structured questionnaire. To guide the discussions, diagrams and visual aids will also be used as a supportive tool to generate additional information. Two sessions are planned with 3 groups of ten participants. The reason to divide the group into 3 is to be able to control the group and capture everything during the discussion. Each session will last between 1 – 2 hours. The first session will aim at sourcing the drawings/diagrams reflecting the participants visual map of their area, that is, Cator Manor. This is aimed at bringing forth data and gaining insights from the participants on possible crime spots, exit points and the nature of crimes thereof. Each participant will draw his/her own sketch and all 10 will be placed on the wall and be used for the discussion.

The prompt to be used is:

- ✓ With the material provided please draw a rough map using your understanding of Cator Manor and clearly indicate crime spots and exit points.

All notes will be recorded and the researcher will also be 'observing' all non-verbal. The researcher will then present 2 different spatial design concepts to the participants and allow them to look at them and follow up with a prompt:

- ✓ Can these different spatial design concepts minimise the issue of crime in low income Developments?
- ✓ Can these different design methods be feasible and efficient in solving functional inefficiencies in low-income communities?
- ✓ Can these design concepts be affordable and maintainable in the context of low income Developments?

The second session would be mainly focusing on how the spatial designs can be used to improve the participants' area. The participants will draw a visual for Cator Manor and adopt a spatial design which they think would be ideal for Cator Manor. The visuals again will be used to guide the discussions and the prompt will be:

- ✓ Which of these spatial designs can be most effective in addressing crime in the area of Cato

APPENDIX 6: ANSWERED QUESTIONNAIRES



QUESTIONNAIRE

SECTION 1 – Biographical information

Name	[REDACTED]
Surname	[REDACTED]
Occupation	
Physical address	[REDACTED]
Sex	Female
Age	32
Ethnic group	AFRICAN
Highest qualification	Grade 10
Number of household members	4
Personal income per month	1200
Household income per month	

SECTION 2 – Levels of crime

Do you think the area is safe?	No
How often do you hear of or experience crime?	WEEKEND / WEEKLY
Are the crimes seasonal or consistent throughout the year?	CONSISTENT

SECTION 3 – Nature of crimes

What are the common crimes that you experience in the area?	MUGGING
What times of the day do these crimes happen?	NIGHT / MIDNIGHT
What are the prime spots for crime in the area?	DUNBAR ROAD
Where are the common exit points for criminals in the area?	SMALL PASSAGES & CARS

SECTION 4 – Existing crime control measures

Do you have effective policing?	NOT REALLY
Do you have other means of crime control besides police?	NO
Are members of the community involved in crime control measures?	NO

SECTION 5 – Familiarity with concepts and willingness to participate

Are you familiar with the concept of gated communities?	NO
Are you familiar with the concept of urban villages	NO
Would you be willing to volunteer towards improving surveillance and security in the area?	NO

APPENDIX 7: APPROVED ETHICAL CLEARANCE LETTER



18 August 2016

Mr Thabiso Sacolo 214584223
School of Built Environment and Development Studies
Westville Campus

Dear Mr Sacolo

Protocol reference number: HSS/1200/016M
Project Title: Using spatial design as a tool for crime prevention in low income communities: A case study of Cato Manor in Durban, South Africa

Full Approval – Expedited Application

In response to your application received 4 August 2016, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

You

.....
Dr [Redacted] (Chair)
Humanities & Social Sciences Research Ethics Committee

/pm

Cc Supervisor: Dr Lovemore Chipungu
Cc Academic Leader Research: Professor Oliver Mtapuri
Cc School Administrator: Ms Nolundi Mzolo

Humanities & Social Sciences Research Ethics Committee

Dr Shenuka Singh (Chair)

Westville Campus, Govan Mbeki Building

Postal Address: Private Bag X54001, Durban 4000

Telephone: +27 (0) 31 260 3587/8350/4557 Facsimile: +27 (0) 31 260 4609 Email: ximbap@ukzn.ac.za / snymanm@ukzn.ac.za / mohunp@ukzn.ac.za

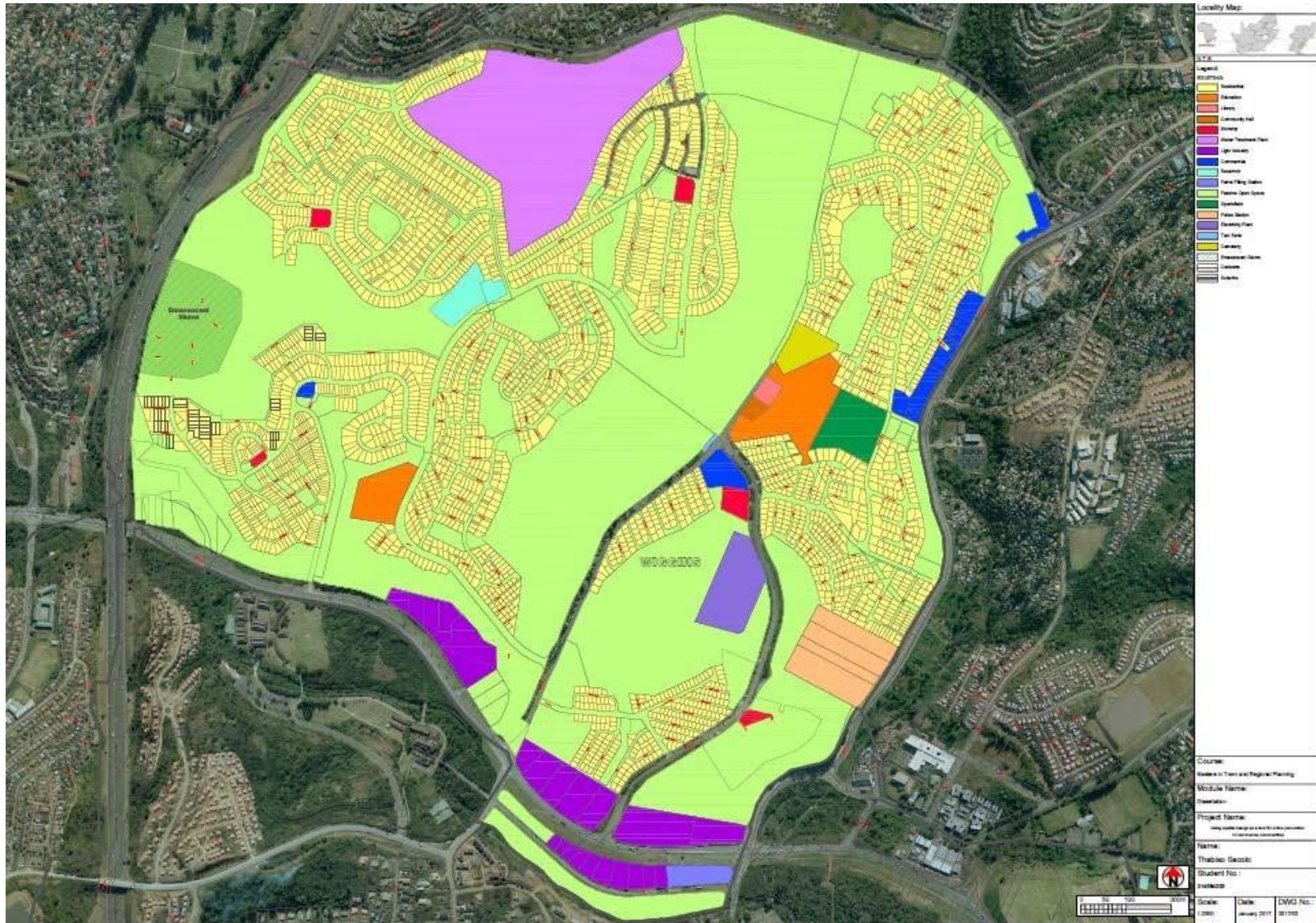
Website: www.ukzn.ac.za



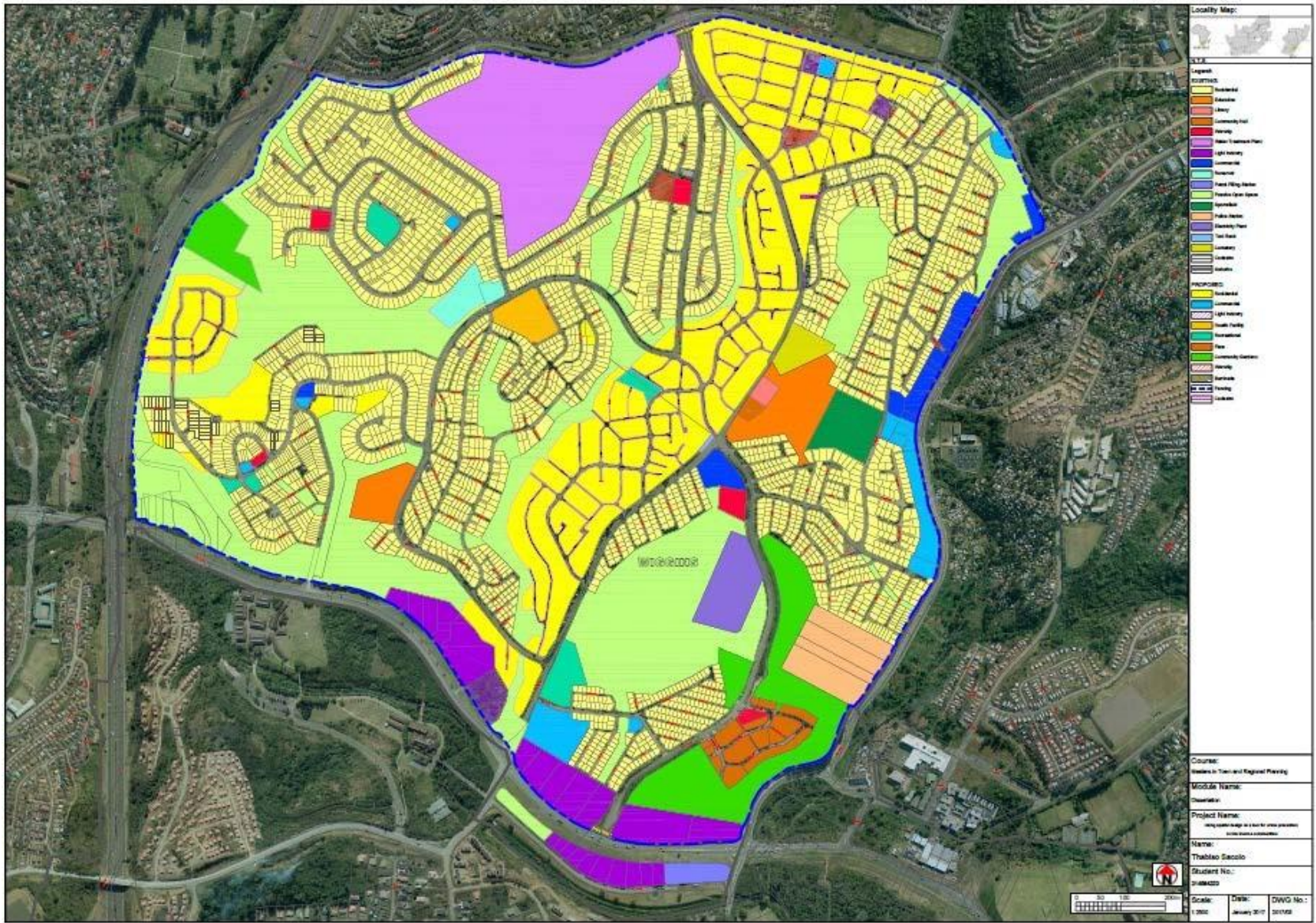
100 YEARS OF ACADEMIC EXCELLENCE

Founding Campuses: Edgewood Howard College Medical School Pietermaritzburg Westville

APPENDIX 8: CADASTRIALLY INFORMED EXISTING VISUAL MAP



APPENDIX 9: CADASTRIALLY INFORMED PROPOSED SPARTIAL CONCEPT



APPENDIX 10: TURNITIN RESULTS

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Using spatial design as a tool for crime prevention in low income communities: A case study of Cato Manor in Durban, South Africa

By

Thabiso Sacolo

Submitted to partially comply (in the module TNPL8SDH2) with the conditions for the degree

Master of Town and Regional Planning

School of Built Environment

College of Humanities

University of KwaZulu-Natal

Durban

Supervised by

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