

**Evaluating the Accomplishment of Social Sustainability as a Planning Principle:
The Case of Cornubia Housing Project**

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DECLARATION

I Mahlangabeza Kwame Jordan declare that:

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DEDICATION

I dedicate this work to my parents, Mr. Andile Jordan and Mrs. Sihle Jordan. I thank God that I get to celebrate this achievement on this day with you both, it can only be through His endless grace. Thank you for everything. Thank you for blessing me with a comfortable life which has granted me the opportunity to study. Thank you for being the most incredible support system. Thank you for instilling in me the importance of education, discipline and ambition from a very tender age. Thank you for your support throughout this study and the overall support throughout my education. Thank you for helping me pursue my dreams. Thank you for supporting me in everything I have aimed for in life. *Ngiswele imilomo eminingi engingabonga ngayo.* I am forever grateful for the endless love, understanding and sacrifice of each of you throughout this journey. I hope I have made you proud.

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LIST OF ACRONYMS

BNG	Breaking New Ground
BRT	Bus Rapid Transport
CBD	Central Business District
DFA	Development Facilitation Act
DOH	Department of Housing
EIA	Environmental Impact Assessment
ETA	eThekwini Transport Authority
FLISP	Finance Linked Individual Subsidy Programme
HA	Hectare
IDP	Integrated Development Planning
IFAD	International Fund for Agricultural Development
IGR	Intergovernmental Relations
IRDP	Integrated Rural Development Program
LUMS	Land Use Management Systems
MOU	Memorandum of Understanding
MSA	Municipal Systems Act
NDP	National Development Plan
NEMA	National Environmental Management Act
NMPR	Northern Municipal Planning Region
NUDC	Northern Urban Development Corridor
ODPM	Office of the Deputy Prime Minister
OISD	Oxford Institute for Sustainable Development
PDA	Kwazulu-Natal Planning and Development Act

PHP	People's Housing Process
POE	Post-Occupancy Evaluation
RDP	Reconstruction and Development Plan
RSA	Republic of South Africa
SDG	Sustainable Development Goals
SLA	Sustainable Livelihoods Approach
SPLUMA	Spatial Planning and Land Use Management Act
SSHC	Social Sustainability Health Check
SSIP	Socio-Economic, Sustainability and Innovation Programme
THD	Tongaat Hulett Developments
UK	United Kingdom
UN	United Nations
UNDP	United Nations Development Programme
WACOSS	Western Australia Council of Social Services
WCED	World Commission on Environment and Development

ABSTRACT

Global urban growth trends place significant pressure on cities to accommodate the increasing urban populace and ensure housing opportunities with sufficient access to basic services and economic opportunities. This challenge is further compounded by the need to reduce unemployment and inequality while minimizing the negative environmental consequences of development. Past experience shows that the social needs of new communities are often overlooked in the drive to deliver housing on a large scale. Housing is prioritised over local facilities and often residents move into settlements with few facilities to support local social life. This dissertation rests on the argument that the conditions faced by the beneficiaries of low income housing projects are as a result of the manner in which these project are delivered. The main aim of the study is to evaluate the applicability of the mass housing project approach in the eThekweni Municipality context, specifically the Cornubia Housing Project and determine its impact and sustainability through the use of social sustainability. The main research question is: to what degree has the Cornubia Housing Project been able to accomplish social sustainability? This study employed the qualitative research approach which revealed that to date, the Cornubia Housing Project has been unsuccessful in delivering a socially sustainable settlement as it lacks the necessary economic opportunities, social infrastructure, amenities and services required to ensure social sustainability. With regards to the provision of housing opportunities for the poor, the study recommends government interventions that ensure the delivery of places of employment, social infrastructure, services and amenities simultaneously as the houses. Literature revealed that in projects where social infrastructure is provided concurrently with the houses, the social sustainability of those settlements and communities is ensured. Housing is a basic component of the built environment and social development and directly affects the quality of life.

CHAPTER ONE: INTRODUCTION TO THE STUDY

1.1 Introduction

The human settlement issue in South Africa has posed a great challenge to the post-apartheid government. Due to apartheid, South African human settlements are characterised by spatial separation of residential areas according to class and race, urban sprawl, disparate levels of service provision and the concentration of the poor in the urban peripheries and the wealthy in core and intermediate areas (Khan, 2003). Some of the low-income housing initiatives are mere additions to apartheid's black townships, saddled with the same problems of distance from workplaces and lack of proper community facilities.

The issues around spatial inequality in housing projects for the low income population are also experienced by other developing countries across the globe. In view of these issues, South Africa has committed itself to eradicating the backlogs by initiating programmes that deal with the provision of social and economic facilities. The National Housing Code (2009) specifies the current national housing programmes including the Integrated Residential Development Plan (IRDP) upon which the Cornubia Housing Project has been developed. The IRDP was informed by how housing programmes post-1994 still continued to be located on the urban periphery without the provision of social and economic amenities as in the apartheid era. The government has also attempted to deal with housing inequalities, lack of service delivery and urbanization through the implementation of the Breaking New Ground (BNG) policy aimed at improving housing provision.

As stipulated in the BNG policy, South Africa has moved towards creating sustainable human settlements through the provision of housing opportunities alongside exposure to economic and social opportunities. This study therefore seeks to come up with an understanding of how the provision of these opportunities contribute towards the accomplishment of social sustainability. In support of this, the 11th goal of the Sustainable Development Goals (SDGs) states that cities and human settlements must be made to be inclusive, resilient and sustainable (UN-Habitat, 2015).

This study focuses on sustainable housing development within eThekweni Municipality, specifically regarding the Cornubia housing project. This project has been used to reflect the extent to which EThekweni Municipality has been delivering on its sustainability intentions

with regards to social sustainability. The study will offer conclusions based on the case study of the Cornubia Housing Project. The conclusions which stem from the information and experiences gathered from the case study area will enable the creation of more meaningful assumptions with regards to how the consideration of social sustainability in housing projects for the low income population affects the overall sustainability of the development.

Every research is undertaken for a specific purpose and it is necessary to establish the needs for the research and to clearly set out the intentions of the research from the onset. Thus, this chapter sets out the general overview of the study and provides explicit discussion of the background to the research stemming from the problem statement, the preliminary literature review alongside the clear definition of the study's aim and objectives. The justification of the study and the outline of the structure of the thesis is also presented.

1.2 Problem Statement

The spatial form of South Africa's urban settlements poses a huge challenge in terms of social sustainability. This is historically due to the impact of the apartheid planning ideologies. The apartheid planning ideology was associated with segregation and systematically re-located black and poor communities on urban peripheries with few economic and social opportunities (Behrans and Watson, 1996). Low income housing on peripheral locations fuels urban sprawl and fragmentation. South Africa's government is faced with the challenge of providing housing for its citizens, especially the historically disadvantaged population who seek job opportunities and improvement on their life style in urban areas (du Plessis, 2002). As the South African urban landscape is characterised by low-density sprawling urban areas and a lack of integration of urban opportunities such as places of employment and economic activity, recreation, education and health facilities and residential areas (Dewar, 2000).

The distinctive features of South African settlements include poor quality public spaces and long distances between places of living and working. This is due to the fact that focus of housing delivery has been mainly on the delivery of large numbers of housing units, rather than on the creation of vibrant human settlements that encompass a range of housing types and a variety of urban opportunities and activities (Department of Local Government and Housing – Western Cape, 2005). This illustrates the existing knowledge gap in literature with regards to the social aspect of the tripod-stand of sustainability. Literature has revealed that there is lack of clear conceptualization of social sustainability and that there is a lack of clear case for sustainability benefits. The dominance of environmental and economic drivers at the expense

of social and economic issues and lack of long-term perspective is another contributing factor that limits the understanding of sustainability within the social dimension, (Kubey, 2018).

In view of the above, it remains evident that in the context of planning and housing, social sustainability remains largely neglected in mainstream sustainability debates (Woodcraft et.al, 2012).. Born from this problem is the need for research to establish how sustainable development concepts could be integrated into housing construction processes, with a view to develop strategies to achieve affordable housing that enhances social sustainability, to cater for South Africans in need of viable housing. As current planning methodologies and practice have not resulted in sustainable and integrated cities due to urban settlements remaining socially unsustainable despite several years of integrated planning and the inclusion of spatial integration measures in post-apartheid urban spatial policy.

1.3 Preliminary Literature Review

Sustainable development is categorised under the tripod-stand of sustainability; economic, environmental and social. It is the foundational principle towards ensuring a decent quality of life for future generations. Diesendorf (2000), describes sustainability as the goal of sustainable development or economically sustainable and socially just development which enriches the natural environment and human well-being. Sustainable housing development is therefore no different to sustainable development and should be looked at from a holistic perspective. According to Woodcraft *et.al* (2012), social sustainability is largely neglected in mainstream sustainability debates and therefore priority has been given to economic and environmental sustainability in particular in the context of planning, housing and communities.

Across the world, the housing crisis is escalating. Mass migration to cities has led to rapid urbanisation on an unprecedented scale. Mass housing is one of the primary solutions implemented by the construction industry to meet the current rapidly growing housing demand. While mass production is currently practiced in the construction industry, the literature indicates that it does not effectively incorporate sustainability goals (Wallbaum, 2012). Social sustainability goals are particularly under fulfilled, if not compromised, in mass housing. According to Power (2012), mass housing has contributed to negative social outcomes such as social inequality and disadvantaged neighbourhoods. Therefore there is a need for closer evaluation of sustainability in mass housing projects from the social standpoint since it has been neglected the most out of the three pillars of sustainability (Olakitan, 2019).

In South Africa, since the introduction of the 1994 White Paper on Housing, housing opportunities have been created, ranging from the subsidised free-standing house to the more recent social and rental housing (DoH, 2004). Yet the lack of access to housing is a key reason for service delivery protests in South Africa, along with demands for economic access, inclusion and plans to address the growing inequality. Furthermore, the housing provided has been on the periphery of cities, which reinforces the spatial legacy of apartheid.

Social sustainability consciousness is important to enhance sustainability of housing for the low income population as spatial inequality continues to hold profound implications for the poor. From a social perspective, housing not only provides shelter, but also gives a sense of a secure future and builds up communities. Turner (1972), defined the idea of house as both a noun and a verb. When the term ‘house’ is not considered a noun, it refers to the way in which people came about being housed and the way they sustain their living in and from a house (Burger & Swilling, 2009).

1.4 Aim of Study

The main of the study is to evaluate the applicability of the mass housing project approach in the eThekweni Municipality context, specifically the Cornubia Housing Project and determine its impact and sustainability through the use of the social sustainability.

1.5 Objectives of Study

The objectives of this study are:

- 1.5.1 To identify the indicators of social sustainability in a housing project.
- 1.5.2 To determine the nature, extent and effect of the Cornubia Housing Project.
- 1.5.3 To determine the characteristics of the Cornubia Housing Project and how they contribute towards the achievement of social sustainability.
- 1.5.4 To identify the challenges that inhibit the achievement of social sustainability.

1.6 Main Research Question

To what degree has the Cornubia Housing Project been able to accomplish social sustainability?

1.7 Subsidiary Questions

- 1.7.1 What are the indicators of social sustainability in housing projects?

1.7.2 What is the nature, extent and effect of the Cornubia Housing Project?

1.7.3 In what ways do the characteristics of the Cornubia Housing Project incorporate social sustainability as a means to sustainability?

1.7.4 What are the challenges that inhibit the achievement of social sustainability?

1.8 Hypothesis

The study hypothesizes that the consideration of social sustainability in the development of housing projects can positively result in the creation of viable, integrated and sustainable human settlements.

1.9 Justification for the Study

The aim of creating sustainable human settlements is to result in the improved quality of household life. Given the renewed drive for sustainability in the world, it is fitting that such a study should be conducted to establish how the Cornubia Housing Project, as the province's largest sustainable integrated human settlement initiative and as an Integrated Rural Development Program (IRDP) has performed in delivering a integrated human settlement, in a well located area that provides convenient access to urban amenities and services, including places of employment and the creation of social sustainability.

1.10 Structure of Dissertation

Chapter One: Introduction

This introductory chapter outlines the research topic, problem statement, the study's objectives, and the focal research question, and subsidiary questions, followed by the hypothesis. The chapter also presents conceptual framework, the justification for the study and lastly, the limitations of the study.

Chapter Two: Conceptual Framework, Theoretical Framework and Literature Review

This chapter presents the conceptual framework and theoretical framework adopted for this research and the literature relevant to the study. The theoretical framework underpinning the study is the sustainable livelihoods approach and the right to the city approach. Both international and South African literature relevant to socially sustainable housing will be discussed as well as literature relating to the development of housing projects for low income beneficiaries and livelihood strategies.

Chapter Three: Background of Case Study

This chapter provides the background of the case study in the context of the Cornubia Housing Project, its geographical location and the broader perspective of Cornubia in order to obtain a holistic overview of the case study area.

Chapter Four: Research Methodology

This chapter focuses on the research methodology used to conduct the study. The study will adopt the qualitative research to achieve the objectives of the study. This chapter will further provide both the primary and secondary sources of data that were used to collect relevant information for the study as well as the sampling method.

Chapter Five: Research Findings, Data Analysis and Interpretation

This chapter presents the detailed results from the interviews and the study's findings arising from the data analysis and interpretation in line with the themes that emerged.

Chapter Six: Summary of Findings, Conclusion and Recommendations

This chapter provides a conclusion based on the study's objectives and research questions. It then presents recommendations which stem from the study's findings.

CHAPTER TWO: CONCEPTUAL FRAMEWORK, THEORETICAL FRAMEWORK AND LITERATURE REVIEW

2.1 Introduction

The aim of this chapter is to firstly, discuss the conceptual framework, in order to fully understand the research topic, it is important to define and outline the terms and concepts that were used in this study. Secondly, this chapter unpacks the theoretical framework that informs the study which is the Sustainable Livelihoods Approach and The Right to The City Approach. Thirdly, the literature that has been used to frame the analysis be unpacked and lastly the legislative framework that governs the delivery of housing in South Africa will be discussed. The literature intends to examine and outline relevant literature and contextualise it to the study. The literature presented also provides preceding case studies which are necessary in understanding the importance of social infrastructure in new settlements.

2.2 Conceptual Framework

In order to unpack the research topic, concepts of relevance were selected and have been defined below. Therefore, the conceptual framework of this study is as follows:

2.2.1 Social Sustainability

Sustainability as a policy concept has its origin in the Brundtland Report of 1987 (WCED, 1987). The term was defined as “the development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs. There are three dimensions of sustainability, namely: economic, social and environmental sustainability and for sustainability to occur there is a need for a balance these dimensions. According to Blowers (1997), sustainability highlights the significance of maintaining ecological systems while developing and enhancing social capital, addressing issues of social bias, involving people in decision making and ensuring that decisions taken are economically sustainable and viable.

Social sustainability, as an independent dimension of sustainable development, but when it comes to sustainability, social sustainability is the least defined and least understood of the different ways of approaching sustainability and sustainable development (Omann & Spangenberg, 2002). This dimension of sustainability has had considerably less attention in public dialogue than economic and environmental sustainability yet it is equally important as the economic or environmental dimension but still lacks broad recognition by scientists as well

as by decision makers (Woodcraft et al, 2012). Due to this, there is limited literature that focuses on social sustainability to the extent that a systematic study of this concept is still missing.

According to the Western Australia Council of Social Services (WACOSS) (2005), social sustainability occurs when the formal and informal processes, systems, structures and relationships actively support the capacity of current and future generations to create healthy and liveable communities. Woodcraft et al. (2012), define social sustainability as a process for creating sustainable, successful places that promote wellbeing, by understanding what people need from the places they live and work. Therefore, social sustainability combines design of the physical realm with design of the social world with infrastructure to support social and cultural life, social amenities and systems for citizen engagement and space for people and places to evolve (Woodcraft et al, 2012).

Social sustainability in housing means creating inclusive, secure and healthy communities, which are well-integrated into wider urban systems (Yu, 2015). Social sustainability concerns how individuals, communities and societies live with each other and set out to achieve the objectives of development models which they have chosen for themselves. According to Chiu (2000), socially sustainable communities are equitable, diverse, connected and democratic and provide a good quality of life. Socially sustainable communities are well-managed entities in which economic growth and social development are in balance with the carrying capacity of the natural systems on which they depend for their existence and result in sustainable development, wealth creation, poverty alleviation and equity (Western Cape Department of Local Government And Housing, 2005).

The concept of social sustainability encompasses: social equity, liveability, health equity, community development, social capital, social support, human rights, labour rights, place making, participation, social responsibility, social justice, cultural competence, community resilience, empowerment and human adaptation. Therefore, social sustainability an aspect of sustainability that is related to the satisfaction level of the end-users as it blends traditional social policy areas with the notion of happiness, wellbeing and quality of life (Chiu, 2000). The social sustainability outcomes in housing projects are best achieved by taking into account the satisfaction of the end users and ensures the successful completion of the project. This implies a system of social organization that alleviates poverty as it establishes the connection between social conditions such as poverty and decay (Ruttan, 1991). Thus social sustainability entails reductions in social inequality especially social exclusion and the decrease of social

discontinuity or destructive conflicts (Hediger, 2000). Thus to be socially sustainable there needs to be equitable distribution and consumption of resources and assets, harmonious social relations and acceptable quality of life. Hence social sustainability echoes with the principles of sustainable development defined by WCED, i.e. equity and social justice for this and future generations.

Social sustainability is a leading aspect of the livability of a place and comprises of criteria that contributes to social quality. This criteria provides the possibility for the evaluation of social sustainability of several housing projects (OISD, 2009). In view of this, a criteria of social sustainability, in the form of the indicators of social sustainability are used in the study as a tool to identify the indicators that exist within the Cornubia Housing Project and the extent of which they exist. The Cornubia project was planned as a tool for social transformation and economic growth as the project aims were to correct previous apartheid spatial patterns which are found in all South African cities. The project needed to accommodate low-cost housing for the poor living within the city, whilst also accommodating commercial and industrial uses to create a growth node, job opportunities and social facilities to serve the residential portion of the site (eThekweni Municipality, 2011). The indicators are used to evaluate whether this project has accomplished its aims to correct previous apartheid spatial patterns by bringing the low income earners closer to places of economic opportunities and social facilities and amenities.

2.2.2 Sustainable Development

The notion of sustainable development was acknowledged in the 1970s with the need to merge national and global environmental issues with development (Esben and Ramboll 2000). This need led to the establishment of the World Commission on Environment and Development, and by 1987 the expression of sustainable development was defined for the first time as meeting the needs and the aspirations of the present without compromising the ability to meet those of the future¹ (WCED, 1987). The definition of sustainable development led to different conceptions in most developing countries. In the South, sustainable development was only understood as sustainable economic growth while in the North the focus was more on ecological issues (Esben and Ramboll 2000). However the definition needed to be elaborated, meeting the needs of the present refers to the development component of sustainable development which includes the economic, cultural and social issues. Sustainable development can be seen as “the integration of social, economic and environmental factors into planning,

implementation and decision-making so as to ensure that development serves the present and future generations (NEMA, 1998)."

For the purpose of the study, it is noted that sustainable housing development is no different to sustainable development and should be looked at from a holistic perspective. In order to achieve sustainable development there needs to be an amalgamation of three components, namely the economy, environment and social and the balance to be achieved between these three features. Therefore, one cannot just focus on the environment (or any other) component of housing and deem a development as sustainable. All three have to work hand in hand in order to be considered a sustainable development. As sustainable development has also got to do with meeting essential needs for jobs, health, food, energy, water and sanitation because all too often poverty manifests itself in such a way that people cannot satisfy their basic needs for survival and well-being. The Cornubia Housing Project, as a greenfield, mixed use development, has created an opportunity to re-evaluate how mixed-use housing projects are undertaken in South Africa.

2.2.3 Sustainable Human Settlements

The Vancouver Declaration on Human Settlements (1976) states that "Human settlements mean the totality of the human community – whether city, town or village – with all the social, economic, environmental, spiritual and cultural elements that sustain it". Du Plessis and Landman (2002), state that sustainable human settlements are those cities, towns, villages and their communities which: enable societies to live in a manner that supports the state of sustainability and the principles of sustainable development and have institutional, social and economic systems that will ensure the continued existence of those. These areas are characterized by social, institutional, environmental and economic systems that guarantee the sustainability and existence of these settlements (Du Plessis and Landman, 2002).

Talukhaba et al. (2005), highlighted the need for a significant shift of focus to the socio-economic issues rather than the environmental concerns in the development of modern projects. Hence, social needs and community perceptions should prevail over the project development decisions. For the purpose of this study, Du Plessis and Landman's definition of Sustainable Human Settlements was used to evaluate the extent to which the Cornubia Housing Project enables its inhabitants to live in a manner that supports sustainability and to evaluate the accomplishment of the creation of a sustainable human settlement as per the projects objectives.

2.2.4 Planning Principles

Planning discourse in South Africa has been heavily influenced by a number of different forces. According to Hochschild (2012), firstly, the challenge of pro-poor development and how to create better living environments to serve the poor. Secondly, dealing with the more unique challenges of rectifying the inequitable and unsustainable apartheid patterns of development; an inheritance from the apartheid government (Hochschild, 2012). These spatial characteristics have been very challenging and the discourses found in South African planning, well into democracy are influenced by the enduring apartheid spatial structure. Planning as a discipline is highly influenced by many different discourses and it is the responsibility of a planner to consolidate these ideas and decide how to create the best development strategies for a specific context.

Planning has since shifted from this master planning focus and become more flexible in response to urban contexts, including approaches to involve residents in public decision making through participative processes (Steenkamp & Winkler, 2014). The transition from the modernist paradigm to the postmodern praxis in planning requires those in the profession to balance the practice of democracy, inclusiveness, cultural diversity, flexibility, participation, identity difference and social justice (Sandercock, 1998). The role of planning is mainly to regulate space, its production and use. Planners regulate the said land uses however, in being a spatial police, they often regulate the bodies or the people using the land: who can do what, be where and during when (Sandercock, 2003).

Sustainable communities rely on defining the planning principles that are needed to promote integration and sustainability and then applying them in planning (Department of Rural Development and Land Reform, 2010). These planning principles are: “poverty alleviation and the satisfaction of basic needs, focus on special needs groups, gender equality and equity, the environment – physical, social and economic, participation and democratic process, local economic development, accessibility – public transport and pedestrian focus, mixed use development, corridor development, safety and security, variation and flexibility, densification and reducing urban sprawl (Nelson Mandela Bay Municipality, 2007 and Department of Rural Development and Land Reform, 2010).”

In the context of this study, the planning principles are used to measure the effectiveness of the Cornubia Housing Project by evaluating how the project responds to the citizens’ needs and goals and how the project affects the livelihood of its beneficiaries. All the above mentioned

planning principles are interrelated and should be applied as a whole in the planning process as to enhance the overall sustainability and integration of developments. These principles already exist and are implemented in international arenas as good practice and are also reflected in the development legislation and policy of South Africa.

2.3 Theoretical Framework

The aim of this section is to provide the theoretical framework underpinning the study. The approaches that will be used in this study are the sustainable livelihoods approach and the right to the city approach. These approaches appear to be best suited in supporting the notion of the creation of socially sustainable and inclusive human settlements.

2.3.1 Sustainable Livelihoods Approach (SLA)

The Sustainable Livelihoods (SL) approach will be the first approach guiding the theoretical framework in the investigation conducted at the Cornubia Housing Project. The SL approach is a bottom-up, open-ended approach that explores how assets and activities are combined so that they can produce a viable livelihood strategy. The Overseas Development Institute (1999), defines a sustainable livelihood as the ability to cope with and recover from stresses and shocks by having access to the assets and capabilities required to live a full life in the present and future.

There are three insights into poverty which underpin this approach (Krantz, 2001). He elaborates and states that the first is the realization that while economic growth may be essential for poverty reduction, there is not an automatic relationship between the two since it all depends on the capabilities of the poor to take advantage of expanding economic opportunities. Secondly, Krantz (2001), stated that there is the realization that poverty, as conceived by the poor themselves, is not just a question of low income, but also includes other dimensions such as bad health, illiteracy, lack of social services, etc., as well as a state of vulnerability and feelings of powerlessness in general. Finally, it is now recognized that the poor themselves often know their situation and needs best and must therefore be involved in the design of policies and project intended to better their lot (Krantz, 2001). The SLA is founded upon the notion that intervention must be based upon an appreciation of what underpins livelihoods.

2.3.1.1 Summary of Origin and Development of the Approach

The notion of sustainable livelihood as we know it today can be said to have arisen out of the 1992 Earth Summit held in Rio and its promotion of Agenda 21 (Perrings 1994). A stated aim

in Agenda 21 is that everyone must have the opportunity to earn a sustainable livelihood. Like many initiatives in intentional development, the SLA grew organically from a number of older trends and ideas; the term sustainable livelihood even predates the 1992 Earth Summit. Although SLA has resonance with older ideas one of its most prominent influences is the rise of what is referred to as human development in the 1980s and promoted especially by the United Nations Development Programme (UNDP). Indeed SLA has been regarded by some as the operational vehicle of human development (Singh and Gilman 1999).

The SLA was devised from what can be called an intentional approach to development. The approach evolved within the context of the intentional development approach by which development practitioners were seeking to maximise the effectiveness of their interventions to help the disadvantaged (Allison and Horemans 2006). It is in effect a diagnostic tool which provides a framework for analysis leading to concrete suggestions for intervention (Tao & Wall, 2009). It was typically applied in poorer countries as part of a planning phase for an intervention via policy, a development project or perhaps as the basis for more in-depth research. In that sense the SLA is an analysis of peoples' current livelihood and what is needed for an enhancement.

2.3.1.2 Assets of the SL approach

According to the International Fund for Agricultural Development (2003), when evaluating the impact of a project on poverty, some of the areas that must be considered are physical assets, financial assets, social assets, human assets and people's empowerment, the environment, and the communal resource base. Similarly, Coupe et al. (2002) state that the SL approach pays special attention to meeting the human needs of the poor, by examining their access to five types of assets, namely, physical, economic/financial, natural, social, and human. This is further supported by Cousins (2007) when he stresses that the poor must have access to productive assets such as infrastructure, financial services and land.

The Sustainable livelihoods approach is reflected in the following statement on housing by Govender et al. (2011), "Housing is meant to provide shelter and security and is considered a fundamental development process, in which the built environment is created, used and maintained for the physical, economic and social well-being and quality of life of individuals and households."

There is no single definition or explanation of livelihood, but there are useful explanations. Chambers & Conway (2000), say that livelihoods refer to the means of gaining a living

including livelihood capabilities, tangible assets and intangible assets. Most livelihoods of the poor are based on multiple activities and sources of food, income and security. Security refers to secure ownership of, or access to resources and income and earning activities (Chambers & Conway, 2000)

The following section briefly considers the five types of assets of the SL approach in relation to housing:

2.3.1.3 Physical Capital

Physical capital comprises the basic infrastructure and producer goods needed to support livelihoods, such as affordable transport, secure shelter and buildings, adequate water supply and sanitation, clean, affordable energy and access to information. Moser (2007), explains that a house for any person can be viewed as a physical asset because of the material of the roof, walls, floor, lighting and toilet type. Moreover, the security of a house provides a foundation to accumulate assets and affords the poor a foundation to incrementally add on to the house (Fitchett 2001 et al). In 2004, the government provided subsidies to assist poor people to acquire their own houses (DoH 2004). Providing the poor with an asset like a house with water, sanitation, roads and secure tenure is likely to alleviate poverty. The priorities of the project plan included providing quality housing to turn homes into assets.

2.3.1.4 Economic/financial Capital

Economic capital includes income-earning opportunities and jobs (Krantz, 2001). Krantz (2001), defines economic/ financial capital as the capital base in the form of cash, credit/debt, savings and other economic assets, including basic infrastructure, production equipment and technologies which are essential for the pursuit of any livelihood strategy. At a macro level, the World Bank promotes the management of housing and urban development as part of the overall economic development strategy of a country (Keivani and Werna 2001). At a micro level this is supported by the Constitution of South Africa of 1996 which declares housing to be a socio-economic right. Rights in property empower and so impact the social and economic standing of citizenship (Lalloo 1999). Furthermore, Narayan *et.al* (2000), describe a house as a financial asset since it can be sold in the case of financial desperation. Thus it is one of the few safety nets that the poor possess.

2.3.1.5 Human capital

Human capital represents the skills, knowledge, ability to labor and good health and physical capabilities that together enable people to perform different livelihood activities and achieve their livelihood objectives (Gibbons *et.al*, 2004). The above is important for the successful pursuit of different livelihood strategies. In essence, good health is not simply a means to earning a livelihood; it is of course an end in itself.

2.3.1.6 Social capital

Social capital includes the social resources upon which people draw in seeking for their livelihood outcomes, such as networks and connectedness, that increase people's trust and ability to cooperate or membership in more formalised groups and their systems of rules, norms and sanctions (Hanifan, 2014). The social resources that people draw on to make a living, such as relationships with either more powerful people which are vertical connections or with others like themselves, named horizontal connections, or membership of groups or organisations (Hanifan, 2014). Generally, relationships of trust, reciprocity and exchange that the poor can draw on in times of need and that lower the costs of working productively together.

The creation of a sense of community is an important aspect of social capital because it helps to build relationships between individuals and households. A sense of community is cultivated by the active involvement of a community in the planning, decision-making and ongoing management of a housing project (Ross *et.al*, 2010). Therefore, community participation at local government level is vital because as it is legislated through the Municipal Systems Act (MSA) of 2000 (RSA, 2000).

2.3.1.7 Natural/environmental capital

Natural capital is the term used for the natural resource stocks from which resource flows and services such as land, water, forests, air quality, erosion protection, biodiversity degree and rate of change, etc., useful for livelihoods are derived (Edwards and Abivardi, 2008). Concern with environmental degradation is one of the natural/environmental aspects the SL approach investigates. According to Johnson *et.al* (1997), environmental degradation is usually a result of poor people meeting their livelihood needs, for example, by cutting trees to use wood for energy for cooking and heating. Therefore, a housing project has to be evaluated to determine whether it adds to the rehabilitation or degradation of the environment as that impact directly on the environmental and health issues of the inhabitants (IFAD 2003). A specific housing

project should be adjusted to the local surroundings so that damages to the environment are minimised. Therefore, sustainable building materials must be used and their sustainability may be determined through life-cycle analysis.

In view of all the above, this dissertation will utilise the sustainable livelihoods approach as a method to evaluate the delivery of integrated human settlements in promoting socially sustainable housing. As the sustainable livelihoods concept offers a more coherent and integrated approach to poverty. In that the concept of Sustainable Livelihood is an attempt to go beyond the conventional definitions and approaches to poverty eradication. These had been found to be too narrow because they focused only on certain aspects or manifestations of poverty, such as low income, and/or did not consider other vital aspects of poverty such as vulnerability and social exclusion (Cooke, 2014). It is now recognized that more attention must be paid to the various factors and processes which either constrain or enhance poor people's ability to make a living in an economically, ecologically and socially sustainable manner.

2.3.2 The Right to the City Approach

The Right to The City Approach is the second approach that will be guiding the study's theoretical framework in the investigation conducted at the Cornubia Housing Project. The Right to the City is defined by Lefebvre (1996), as a right of no exclusion of urban society from qualities and benefits of urban life. He refers to the tragedy of people being forced into residential 'ghettos' far from the city centre. Against this backdrop he demands the Right to the city as a collective reclamation of the urban space by marginalized groups living in the border districts of the city (Lefebvre, 1996).

2.3.2.1 Origin of the Approach

The concept of the right to the city, to begin, derives from the writing of Henri Lefebvre in his 1968 book *Le droit à la ville* (1996 [1968]). Lefebvre's notion of the right to the city exists alongside his long-standing interest in the centrality of space and urban life under capitalism (Lefebvre, 1991). At the heart of Lefebvre's conception of the right to the city is his notion of the city as a work produced through the labor and the daily actions of those who live in the city. The right to the city, for Lefebvre signifies the right to inhabit the city and the right of inhabitants to remain unalienated from urban life (Lebfvre, 1991).

2.3.2.2 Overview

Due to the inequalities produced by the rapid increase of world urban population in most regions of the world, the concept of the right to the city has been recalled on several occasions since the publication of Lefebvre's book as a call to action by social movements and grassroots organizations (Unger, 2009). Here he demands the Right to the city as a collective reclamation of the urban space by marginalized groups living in the border districts of the city. As both as a right of no exclusion of urban society from qualities and benefits of urban life. In their appeal for "their right to the city", local mobilizations around the world usually refer to their struggle for social justice and a dignified access to urban life face to growing urban inequalities especially in large metropolitan concepts (Unger, 2009). The right to the city is viewed as a call to action to reclaim the city as a co-created space, a place for life detached from the growing effects that commodification and capitalism have had over social interaction and the rise of spatial inequalities in worldwide cities throughout the last two centuries (Harvey, 2008).

2.3.2.3 Henri Lefebvre – The Right to the City

Since urban space figures so centrally in the right to the city, it is important to say a word about Lefebvre's notion of space. Lefebvre's idea of space includes what he calls perceived space, conceived space and lived space (Lefebvre, 1991). Perceived space refers to the relatively objective, concrete space people encounter in their daily environment. Conceived space refers to mental constructions of space, creative ideas about and representations of space. Lived space is the complex combination of perceived and conceived space (Lefebvre, 1991). It represents a person's actual experience of space in everyday life.

Lived space is not just a passive stage on which social life unfolds, but represents a constituent element of social life (Soja, 1996). Therefore, social relations and lived space are inescapably hinged together in everyday life. Producing urban space, for Lefebvre, necessarily involves reproducing the social relations that are bound up in it (Ungun, 2009). The production of urban space therefore entails much more than just planning the material space of the city; it involves producing and reproducing all aspects of urban life.

The right to the city revolves around the production of urban space, therefore it is those who live in the city, who contribute to the body of urban lived experience and lived space, who can legitimately claim the right to the city (Soja, 1996). The right to the city is designed to further the interests 'of the whole society and firstly of all those who inhabit it (Lefebvre, 1996). Cities are reorganized as hubs for capital, it is often the most vulnerable populations that suffer. While

social and economic inequality results from a complex set of factors, the Right to the City recalls the need to maximize the participation of city dwellers in local governance to avoid further marginalization (Unger, 2009).

Lefebvre argues that the right to the city:

“Should modify, concretize and make more practical the rights of the citizen as an urban dweller and user of multiple services. It would affirm, on the one hand, the right of users to make known their ideas on the space and time of their activities in the urban area; it would also cover the right to the use of the center, a privileged place, instead of being dispersed and stuck into ghettos (for workers, immigrants, the marginal and even for the privileged) (1991) (Kofman and Lebas, 1996).”

As Smith (2003), notes Lefebvre’s conception of the city marks a departure both from more classic sociological studies of urban life and from more traditionally Marxist approaches. Lefebvre saw the city neither as a reified container of social processes, as it was for many of those associated with the Chicago, nor as inconsequential to theories of capitalist development, as was the case for more orthodox Marxists (Smith, 2003).

2.3.2.4 David Harvey – The Right to the City

David Harvey, is a great proponent of Lefebvre’s idea and has given his own view on what the right to the city means (Leavitt, 2009). Harvey (2008), pointed out that Lefebvre’s concept is “not merely a right to access what already exists in the city, but a right to change it after our heart’s desire.” Harvey (2008), situates the concept of the right to the city within a broader and more sweeping analysis of urbanization. To have a right to the city, for Harvey, is to have some command over both the use and distribution of urban surpluses. The key task for social movements, according to Harvey (2008), must be to democratize this right and adopt the right to the city as both a working slogan and a political ideal.

David Harvey described it as follows:

“The right to the city is far more than the individual liberty to access urban resources: it is a right to change ourselves by changing the city. It is, moreover, a common rather than an individual right since this transformation inevitably depends upon the exercise of a collective power to reshape the processes of urbanization. The freedom to make and remake our cities and ourselves is, I want to argue, one of the most precious yet most neglected of our human rights (Attoh, 2011).”

Harvey (2012), sees the right to the city not as a right that already exists but as a collective struggle by all those that have a part in producing the city and creating the life in it, to claim the right to decide what kind of urbanism they want (Leavitt *et.al*, 2009). Harvey argues that the collective labour that produces the city and its infrastructure, mostly builders and constructors and those that create life in the city, various social and cultural groups whose activities and way of living enriches and produces city-life, are lacking the ‘right to the city’ because of the prevailing of capitalist urbanization (Leavitt *et.al*, 2009).

Harvey (2008), states that the urban restructuring takes place through a process of displacement and dispossession. This means usually that poorer and less powerful populations are losing their place and space in the city. As Lefebvre also paid specific emphasis on the effects that capitalism had over the city, whereby urban life was downgraded into a commodity, social interaction became increasingly uprooted and urban space and governance were turned into exclusive goods (Smith, 2003).

2.3.2.5 Elements of the Right to the City

The concept of the Right to the City originates within the human rights agenda (De Paula, 2016). The Right to the City means the “right of all inhabitants, present and future, permanent and temporary to use, occupy and produce just, inclusive and sustainable cities, defined as a common good essential to a full and decent life.” The World Charter for the Right to the City emphasizes the rights of all people to live with dignity in urban areas. It defines the Right to the City as, “the equitable usufruct of cities within the principles of sustainability, democracy, equity, and social justice. (UN, 1982)”

Drawing from the ideals proposed by Lefebvre, researchers therefore have employed the concept of the Right to the City to describe the social movements manifesting in cities. These movements have been based on specific identities of difference such as: ethnicity, class, sexuality, gender, age, disability, homelessness, among other characteristics and have sought claims to economic, environmental, social and spatial justice (Hay, 1995). For the advocates of the Right to the City, access is crucial, as gentrification, increasing density, economic shifts and the physical restructuring of cities all have the potential to exacerbate inequality, one result being that long-time residents can be forced out of the city core (Massey, 2005).

According to Armin (2002), a city fulfilling its social functions, is: firstly, one that is ensuring equitable access for all to shelter, goods, services and urban opportunities, particularly for women and other marginalized groups; a city that prioritizes the collectively defined public

interest, ensuring a socially just and environmentally balanced use of urban and rural spaces. A city fulfilling its social functions is secondly, one with quality public spaces that enhances social interactions and political participation, promotes socio-cultural expressions, embraces diversity and fosters social cohesion. Thirdly a city where public spaces contribute to building safer cities and to meeting the needs of inhabitants (Armin, 2002).

In essence, the Right to the city is about power for all members of a truly democratic society. A society here all city inhabitants have the power to shape the decisions and the conditions that affect their lives (Perera, 2019). This results in stronger communities and a better state of being for friends, families, and for children's futures in terms of housing, education, transportation, jobs, community safety and security, neighbourhood sustainability, environmental justice, the right to culture, celebration, rest, and public space (Perera, 2019).

2.3.2.6 Relevance of Right to the City

The right to the city approach informs the study as it is a holistic approach to improving the quality of everyday life in cities. The Right to the City is a paradigm of urban inclusion. According to Butler (2012), when talking about a just, sustainable, equitable or inclusive city reference is being made to this approach which is a model of urban development that includes all citizens. As its heart, it is more than just improving people's neighbourhoods and housing, or improving the city and its surroundings. It is about democratic control over the city, with the right to access, occupy and use urban space. Its pillar of 'spatially just resource distribution' entails acceptable quality standards, which include appropriate and dignified housing and settlements, equitable livelihoods, opportunities and decent jobs, education and healthcare (Butler, 2012).

A good proof on how the notion of right to the city has gained international recognition is it being enshrined in the Un-Habitat's New Urban Agenda – the framework adopted in 2016 for managing urbanization across the world – states:

Pillar 11. Human Rights (HR)

"We share a vision of cities for all, referring to the equal use and enjoyment of cities and human settlements, seeking to promote inclusivity and ensure that all inhabitants of present and future generations, without discrimination of any kind, are able to inhabit and produce just, safe, healthy, accessible, affordable, resilient and sustainable cities and human settlements to foster prosperity and quality of life for all. We note the effort of some national and local governments

to enshrine this vision, referred to as ‘right to the city’, in their legislation, political declarations and charters.”

Adopting this approach for the study can assist in showing the importance of socially sustainable settlements as these settlements are meant to ensure equitable access for all to shelter, goods, services and urban opportunities in order to maintain social sustainability of low income housing projects, which this approach of the right to the city advocates for.

2.4 Literature Review

Developing a strategy to enhance sustainability for housing requires the development of both an economic and a social system that facilitates equitable access and opportunities to economically productive dwellings that enable sustainable livelihoods. The aim of this section is to provide the literature underpinning the study. The literature review is based on the subject of housing in both the international and South African context. This review thus provides an understanding of the factors influencing and affecting sustainable housing developments and the long-term economic benefits of socially sustainable construction concepts to enhance sustainability in housing projects.

2.5 Understanding Social Sustainability

The concept of sustainable development is premised on the social, the economic and the environmental dimensions and these are interrelated. Thus, each dimension needs to function properly to ensure the maintenance of the larger system (Dillard and King, 2008). The social dimension has received less appreciation within the context of sustainable development. Therefore, there is an increased realisation of the need to develop new sustainability assessment tools that addresses the social dimension (Edum-Fotwe, 2009). The social sustainability outcomes in development are best achieved by taking into account the satisfaction of the all stakeholders. According to Price (2009), past experience suggests that the degree of satisfying the needs of diverse end user is highly significant in achieving social sustainability performance of projects.

Unlike the other sustainability dimensions, the nature of the social dimension includes greater portion of attributes as it has multi-faceted social values which, in turn are influenced by numerous stakeholders (Almahmoud and Doloi, 2018). Although the aim of sustainable development is to meet the overall satisfaction of human needs, including the environmental, economic and social benefits, the priorities of human needs are hugely different. For instance, in Saudi Arabia, billions of dollars are spent in the housing construction industry;

unfortunately, the money spent does not always guarantee many opportunities for jobs, skills development or improvements in the local economy (Allam, 2011). The end result has been a spread of inequity within the society, a reduction in the national skills base, as well as the collapse of the apprenticeship system.

In the context of developing countries, Talukhaba et al. (2005), highlighted the need for a significant shift of focus to the socio-economic issues rather than the environmental concerns in the development of modern projects. Hence, social needs and community perceptions should prevail over the project development decisions. Almahmoud and Doloi (2018), deduce that the social system in developing countries is evidently being ignored in project development, where issues such as inequity, health problems, poverty and illiteracy are of utmost importance in the value creation process.

According to Littig and Griessler (2005), social issues are created through the relationship between nature and society and are mediated by work, as well as the relationship within the society. Further, according to Edum-Fotwe and Price (2009), the social issues within projects are created by the dynamic interaction of individuals' values within the community. Therefore, it can be stated that housing construction projects create new relationships and interactions within a community, as well as between a community and nature, which has the potential to contribute to meeting the needs and challenges within the society. Hence, the creation process of the social issues, through the housing projects, needs to be carefully mapped to be aligned with the sustainable development objectives.

Previous sustainability assessment researches and their frameworks have been derived, mostly, from EIA or strategic environmental assessment. They were later extended to accommodate both the social and economic dimensions (Pope *et.al*, 2004). However, although the assessments have the tendency to eliminate the negative impacts of a proposal, they fail to address sustainability as a societal goal. Unlike economic and environmental indicators, at the micro level, social indicators are difficult to be identified, selected and measured (Edum-Fotwe and Price, 2009).

2.6 Social Sustainability in Housing Projects

To integrate the concept of social sustainability within housing, the concept needs to be unpacked and defined. Literature shows that the social sustainability dimension is a concept in chaos (Murphy, 2012). As the term social is multi-lateral, the definition of the concept is subject to the context of the definition. In its broadest sense, Harris and Goodwin (2001), state

that: a socially sustainable system must achieve fairness in distribution and opportunity, adequate provision of social services, including health and education, gender equity, and political accountability and participation. Littig and Griessler (2005), characterized social sustainability as being about satisfying an extended set of human needs, preserving nature and fulfilling social justice, as well as human dignity and political participation. Dillard and King (2008), state that social sustainability includes four universal principles: equity, human well-being, democratic government and democratic civil society.

Bramley *et.al* (2009), found that there are two dimensions that underlay the concept, which are social equity and sustainability of communities. Social equity is concerned with accessibility to services, and opportunities, whereas sustainability of communities is concerned with social interaction, social cohesion and social capital (Bramley *et.al*, 2009). Landorf (2011), suggested that the social equity dimension has two different concepts which are equality of access to resources and opportunities and satisfaction of the basic needs. Social sustainability is fundamentally based on the nature of the human needs which are both physical and psychological. According to Vallance *et.al* (2011), the physical needs can be satisfied by providing hard infrastructure such as accessibility, shelter, water, safety and security, education and job opportunity. The psychological needs can be satisfied by providing soft infrastructure such as enabling participation, preserving culture and identity, enabling communications and social interactions and providing comfort (Vallance, 2011).

2.6.1 Social Sustainability Challenges in Housing Projects

There is a rapid increase in housing especially in large cities around the world after industrialisation. This rapid change can be perceived in social life, structures and cities. Today, there are significant problems confronting the building sector, such as globalisation, industrialisation, the imbalance between nature and humanity (Kalfaoglu, 2016). These problems determine the quality of life we will have in the future. Given the scale at which new settlements are being planned and developed globally, there is a need to build both a practical understanding and professional commitment to creating new cities and communities that are socially, as well as economically and environmentally, sustainable (Hanifan, 2014).

When it comes to sustainability, social sustainability is the least defined and least understood of the different ways of approaching sustainability and sustainable development. As a result of economic and environmental crisis there has been dismiss of social needs. The social dimension of sustainability has had considerably less attention in public dialogue than

economic and environmental sustainability. According to Woodcraft *et.al* (2012), social sustainability is largely neglected in mainstream sustainability debates and therefore priority has been given to economic and environmental sustainability in particular in the context of planning, housing and communities. Social sustainability only fairly recently started receiving research attention therefore there is limited literature that focuses on social sustainability (Woodcraft *et.al*, 2012). The focus only on ecological and economical aspects does not bring a real solution; social quality must also be considered in order to have a liveable future.

What is emerging in the literature mainly concerns the environmental sustainability of housing. Not until the other sustainability aspects of housing are adequately researched and integrated, would it be possible to seek a sustainable development path for housing (Sachs, 2015). As the basic function of housing is to provide shelter and it directly affects the quality of life. Housing is more than a place that solves basic human needs such as sleeping, eating etc. It is a place that enhances our lifestyle. Sustainable housing is high-quality housing and seeks to create a better residential environment and enhance people's lives. Brundtland (1987), defines sustainability as designing without negative impact of future generations and supplying daily needs as best as possible.

Past experience shows that the long-term social needs of new communities are often overlooked in the drive to deliver housing on a large scale. In part, this is due to how new communities, where government and public agencies lead on planning, but investment is provided by private-sector developers (Kalfaoglu, 2016). Commonly, private housing is prioritised over local facilities. Often new residents move into a building site with few, if any, jobs, shops, schools, parks, buses or community centres to support local social life (Woodcraft, 2012). Sometimes this persists for several years while the new community grows to a size that can support local infrastructure. This creates high levels of exclusion, inequality and injustice as a result leading to a number of social ills.

2.7 Literature Review in the International Context

Mass housing is one of the primary solutions implemented by the construction industry to meet the current rapidly growing housing demand. Mass housing construction was inspired by the concept of mass production. Corresponding with the recognition of the significance of sustainable development, the construction industry has evolved to incorporate more sustainable methods to reduce the negative impacts of the built environment (Ibem & Amole, 2010). While various studies have investigated the environmental and economic aspects of mass housing,

limited studies have addressed the social impact. According to Ibem & Amole (2010), mass housing production creates time saving and cost effective projects but mass housing construction is seen to have a negative sustainability impact on the surrounding environment.

Parallel to the introduction of mass production in the construction industry, the term sustainable development started to emerge around 1970s. According to the World Commission on Environment and Development (WCED), sustainable development is “a development that meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987).” Sahely *et.al* (2005), believe that sustainable development is a balance between the three pillars of sustainability: environmental, economic, and social. Heijungs *et.al* (2010), defined sustainability pillars as ‘3Ps’ or ‘PPP’, which stands for People, Profit and Planet. Together in that order, they are symbolic of the social, economic and environmental pillars.

While developed countries have made significant progress in incorporating sustainability in construction, developing and underdeveloped countries have not been able to do so. There are various barriers to further improvement of sustainable construction such as insufficient funding to cover initial costs, decelerated construction speed to fulfil the added sustainability requirements, and increased market value of sustainable buildings to cover the extra initial costs (Tafazzoli, 2018). While the WCED emphasized the importance of focusing on all three pillars of sustainability, they are not all currently treated with the same emphasis by the construction industry.

One of the main challenges related to the term social sustainability is the difficulty to define it due to the difficulty in quantitatively measuring social sustainability compared to economic or environmental sustainability (Littig & Griessler, 2005). Although various countries practice sustainable standards based on the three pillars, the social component has not been fully recognized. The practice of social sustainability aims to bring good quality of life to the people, the quality requirements could be dependent on factors such as onsite household sanitation quality, social welfare and social equity and user satisfaction in housing (Kaminsky & Javernick, 2015). Social sustainability can be defined as promoting well-being of a community by understanding and providing their social needs as well as preserving their cultural and spiritual values. It is a set of arrangements and organizations affecting the coordination of diverse groups of people that must achieve distributional equity, adequate provision of social

services including health and education, gender equity, and political accountability and participation (Polèse & Stren, 2000).

While mass production is currently practiced in the construction industry, the literature indicates that it does not effectively incorporate sustainability goals (Wallbaum *et.al* 2012). Social sustainability goals are particularly underfullfiled, if not compromised, in mass housing. According to Power (2012), mass housing has contributed to negative social outcomes such as social inequality and disadvantaged neighborhoods. Mass housing, particularly in developing countries, is a solution to meet the growing demands for housing. However, communities that are developed as a result of mass housing construction need to be carefully evaluated in terms of sustainability. An acceptable sustainably developed community can positively contribute to the life and comfort of occupants and overall society. Therefore, there is a need for closer evaluation of sustainability in mass housing project especially from the social standpoint since it has been neglected the most out of the three pillars of sustainability (Olakitan, 2019).

In the beginning of the 21st century, sustainability's range of influence reached the city planning level with the sustainable use of resources as the main goal (Pedro *et.al* 2018). Cities are the focal point of sustainability actions because of the concentrated populations and the impact that they have on the global environmental footprint (Akande *et.al* 2019). Yi *et.al* (2019), found that high population pressure, resource shortage and serious environmental pollution are the primary reason for the limited sustainably developed cities.

2.7.1 Socially Unsustainable Mass Housing Project - Mehr Housing Project, Iran

In Iran, mass housing construction became an important sector primarily in the last decade. The Iranian government initiated mass housing construction to accommodate the drastic population growth occurring in large cities and urban areas. According to a 2011 National Census, the annual average population growth rate of the nation between the years 2006 and 2011 was 1.29%. (Statistical Center of Iran, 2011). This population growth has created difficult living conditions for the citizens.

In response to the high housing demand, the Iranian government started a mass housing construction plan in 2007. The mass housing construction project, called the 'Mehr Housing Project', was designed to provide roughly 4.4 million housing units. While this project was conducted in both rural and urban areas, most of the projects were set in undeveloped areas to reduce the cost of construction. The setting in an undeveloped area seems reasonable because

of the low-cost land prices however, it can be costly because it requires providing urban services and developing new infrastructures and facilities.

The Mehr Housing project has been conducted in several cities in Iran. Parand is a good example. Parand is a new city located approximately 30km outside of Tehran. Most of its residential buildings were the result of the Mehr Housing project. According to Karji (2019), following a research team conducting an assessment on the social aspect of sustainability in Mehr housing project of Parand, it was revealed that The most important social sustainability indicator of providing basic services and civic facilities, did not get a satisfactory score. The achieved score is indicative of the poor social sustainability condition in the development of Parand (2019), further explained that with regards to other indicators such as: liveability, health, safety & risk, neighbourhood characteristics and transport and mobility the scores were for these were also low and poor.

The assessment conducted on the Mehr Housing Project revealed data showing that the primary reasons for the dissatisfaction of the end users were: development in a less developed location, inadequate measures for crime prevention and insufficient public services such as banks, gas stations, hospitals, parks, reliable telecommunication services, public transportation and limited job opportunities (Karji 2019). In view of the above it can be concluded that the social sustainability condition in the mass housing project in the city of Parand is not acceptable and the dissatisfactory living condition in the city of Parand.

In Iran, according to Tehran (2014), the term sustainability is not well adopted and mostly is used to refer to environmental sustainability. The other two pillars of sustainability are highly advocated at a conceptual level but are neither practiced nor planned to implement. While this type of project can minimize the housing demand to meet the population growth, the provision of the sustainable community was mainly ignored since the government was focused solely on construction (Tehran, 2014). This is partly due to the lack of a system that takes into account sustainability. Therefore, such a large-scale project requires the development of a system to evaluate the sustainability aspect more closely.

In the case of the Mehr Housing project, to address the dissatisfaction, the provision of crime prevention, public services and job opportunities are among the criteria that have the most impact to improve social sustainability condition in the city of Parand. The poor social sustainability condition in Parand shows the need to ensure that future mass housing projects will take measurements to avoid neglecting social sustainability. When developing a new

community or a city based on mass housing construction, sustainable development should be part of the development plan.

2.7.2 Socially Sustainable Mass Housing Project - “*Wohnen mit Uns*” in Vienna

There is a massive construction industry in Turkey, most of which is in the housing sector. These residential areas generally have been built as chaotic mass productions and lack a vision related to social quality. As intensive mass productions of housing have been built without a clear vision and social quality in Turkey (Tekeli, 2010). The project is the product of their long-standing history of experiences, initiatives and policies as well as concept projects such as participatory housing (Kalfaoglu, 2016). Previously Turkey in which the aspect of a more socially orientated housing design was not a real concern in the housing practice especially in comparison to Europe.

The award-winning project in Austria has been chosen as a case study to analyse and perceive social sustainability in residential areas as the literatures successful housing project. The housing project is called ‘*Wohnen mit Uns*’ (Living with us). Vienna has been nominated the most liveable city in the world eight times and has managed to take several important measures in terms of social quality to offer liveable, equal and sustainable spaces politically as well as practically (Tekeli, 2010).

The goals of this project were; participation, self-management and living sustainability and the main concerns of the architects are to promote solidarity and connection to life, to ensure communication through common rooms, liveable spaces and cities. It has been considered a planning process with structural concepts, innovative methods and the ideas of tenants to provide a high level of participation, which was very intensive and deliberate. It is vital to understand the diverse needs of residents, as there are not any standard families and this participation process transforms inhabitants from victims to participants (Bayer, 2015).

Affordability and needs-oriented design are important criteria in the planning phase. Due to the participation of the residents, the housing meets the needs perfectly. A sustainable home with a good neighbourhood and communication in the urban life has been the main challenge of this project. According to Kalfaoglu (2016), to ensure participation, several meetings were organized to inform people and to determine needs related to their dwelling design. As a result, it can be stated that participation, which is an important issue to understand different needs and requirements of the users, has been one of the central concerns in this project. Each dwelling

has a different character due to the orientation of its own user, which is a good example for participation and need oriented design (Kalfaoglu, 2016).

With regards to accessibility and circulation, there is a clear and adequate movement concept in and around the building. The planning considers pedestrians, especially people with impaired mobility, children, and old people as well as cyclists. Bayer (2015), states that the site is appropriate for residential use, as the area around the building site has also been designed through competitions and there was to promote a liveable residential area in the city life with its greenery and public transport possibilities which discourage traffic flow. The design in total has certain challenges and goals, which provides a sustainable, family-orientated neighbourhood in the city (Bayer, 2015). Common rooms have connections to open spaces and outdoor facilities, which provide a link to the nature as well as between themselves. In addition to these aspects, the project offers various dwelling types and flexibility, which respond different requirements of the different types of families, and healthy open spaces and playgrounds, good storage possibilities, convenient building sizes in human scale and efficient layouts (Kalfaoglu, 2016).

In view of this project it can be concluded that the project is a demonstration project in terms of social quality, sustainability and quality of housing. With this better quality of housing projects, which improves social relations of people, a sustainable and more liveable future will be ensured. It is clear that successful housing implementations can be applied in Turkey if the building actors take more responsibility about human-centered planning, liveability and quality of life for all and take into consideration aforementioned guideline about social quality in housing.

2.7.3 Social Sustainability Initiatives

In the United Kingdom (UK) a number of initiatives have been established in the construction industry in response to social sustainability issues, such as the Construction Skills Certification Scheme. Macfarlane (2000), also called for innovative development and fast tracking of training programs to maximize social inclusion of local labourers in the construction industry. These initiatives provide both training and employment opportunities for construction workers. According to Cook (2000), In the UK, the government issued Section 106 planning agreement and the Community Infrastructure Levy to minimize the negative impact of development on local communities and to encourage the delivery of social sustainability objectives, such as job opportunities for locals and infrastructure provision. Macfarlane and Cook (2002), highlighted

the importance of considering community benefit, such as providing job opportunities and training through the regeneration scheme in their local areas hence contractual ways are suggested.

Another social sustainability initiative is the Global Reporting Initiative. According to Pedersen (2015), a number of construction organizations use the Global Reporting Initiative guidelines to enhance their position by being committed to sustainability. Sustainability reporting incorporates the practice of measuring, disclosing and being accountable to both internal and external stakeholders for the organizational performance to reach the sustainable development goal. Pedersen (2015), further states that the reporting practice identifies the social themes reported, including diversity, employment, health, safety, community involvement, education, and training.

In Melbourne Australia, over the past 30 years the Post-Occupancy Evaluation (POE) has been advanced, The POE seeks to evaluate how well the building is satisfying and meeting the occupants' requirements on health, safety, security, functionality and effeminacy, psychological comfort, aesthetic quality and satisfaction (Preiser, 2001). Baird (2010), used the POE method to assess the performance in practice of 30 buildings that were certified as sustainable by the rating tools. However 60 per cent of the respondents' comments were negative on such rating outcomes. Thus, it can be inferred that this sustainability assessment tool lacks consideration of social issues as it was unable to reflect the perception of users across multiple levels (Baird, 2010).

The Riyadh municipality, in the Kingdom of Saudi Arabia also has its own model for social sustainability called the Social Sustainability Health Check (SSHC) Model. According to Timoteo (2014), the SSHC model is a dynamic assessment model which is needed because as a construction project evolves along its lifecycle, the project stakeholders also change. This assessment model uses tools for mapping the stakeholders' communities and for providing a complete picture of the different interactions with project. Therefore, the social issues, created through the interactions with the project and communities, can be addressed according to the network system of the actors. This outcome enables the measurement of the social performance of the project with respect to the stakeholder's position. The social sustainability of a project is the sum satisfactions of the social needs that stakeholders received from the project. Two-mode network consists of the stakeholders' roles as the first set of actors and the social functions of

the project as the second set of actors (Timoteo, 2014). The relation between the two sets of actors is the stakeholders' interests related to the social functions.

In view of the above initiatives, there is a need the adoption of a social assessment performance tool with an appropriate and relevant functionality in order to evaluate the consideration of the social dimension in the pursuit of social sustainability in housing projects. It is evident that housing projects create interactions between stakeholders, which produce social issues that need to be developed under sustainability principles, especially because such projects tend to have a relatively long lifecycle.

2.8 Literature Review in the South African Context

The planning discourse has been at the heart of South Africa's history, with planning ideologies influencing and being influenced by political actions and social debate. Under apartheid spatial planning was used as a tool to implement political ideals and reinforce the ideology of racial separation (Cooke, 2014). In the post-apartheid era planning is still at the forefront of many urban processes. The three main challenges inherited from the apartheid spatial planning discourse are: separation; fragmentation; and sprawl (Cooke, 2014).

Historical spatial development and racial segregation in human settlements, has influenced the present spatial development which is, however, no longer based on race, but on social class and the financial constraints on the part of government (Ruiz, 2017). According to Fieuw (2018), South Africa's post-democracy housing has led to adopting a megaproject approach to address the socio-spatial inequalities of former exclusionary planning. This approach was aimed at addressing the inequalities at a large scale, yet as shown in literature this mass approach continues to deliver fragmented spaces that illustrate that of apartheid (Manomano, 2016).

The various manifestations of the effects of divisive apartheid city planning has resulted in an urgent social question - one such manifestation is the megaproject approach. This approach is seen to be diverse and complex as both a driver of economic growth and of social redistribution that simultaneously addresses and reproduces the unjust socio-spatial geography (Ruiz, 2017). The common debate is that South African cities are characterised by patterns of urban sprawl, which results in excessively costly infrastructure and excessive transportation costs. The compact city approach has been offered as a solution to help curtail the outward expansion which is said to be likely to have a dire economic outcome for low-income people (Cooke, 2017).

The provision of housing for the low income population has been a major challenge for the South African government in the post-apartheid era, especially in urban areas, owing to various factors such as the effects of apartheid housing policies and rapid urbanisation (Napier, 2003). In South Africa, housing provision is still a challenge owing to apartheid policies that promoted residential segregation and inequalities in living conditions to the disadvantage of the majority of people such as blacks, Indians and Coloureds (Goodlad, 1996). This racial segregation resulted in economic and social division in the urban spaces (Gardner, 2003).

Following the democratization of South Africa, a new policy direction was set to redress the imbalances of the past. According to Mzolo (2016), the National Housing Act containing the national housing code was adopted to provide for the facilitation of a sustainable housing development process and to lay down general principles applicable to housing development. The government has attempted to deal with racial housing inequalities, lack of service delivery and urbanisation, through the implementation of housing policies such as the New Housing Vision and 'Breaking New Ground' (BNG) aimed at improving housing provision (Mzolo, 2016).

The Breaking New Ground policy supports an integrated and non-racial society through the creation of quality housing and sustainable human settlement (KZN Industrial & Business News, 2011). Governments and private companies are continuously taking steps to deal with economic and social challenges caused by lack of housing provision especially in developing countries. These steps have come in the form of strategies, legislation, reforms, and policies that have led to a variety of housing programmes (Ibem & Amole, 2010).

Planners and politicians emphasise the physical aspect of housing, but most recently the issue of housing location and other issues have come to the fore, due to principles of sustainable development which seem to permeate all physical developments (Ruiz, 2017). There is general agreement among those involved in housing development to adopt a humane approach to the problem of housing the poor.

South African literatures reveal that local government structures, as the implementing spheres of government, should adopt a more proactive role by acquiring suitably located land for low-income housing (Behrens and Wilkinson: 2003). This should be done in order to avoid the costs associated with public transport and to improve access to commercial and social services or facilities. Although there is an existing policy, plans that have been designed by planners are still not implemented. Manomano (2016), points out that these kinds of co-ordination problems

between line function departments are not new, and are exactly what the integrated development planning process had intended to overcome. However, it seems the integrated development process only exists on paper, and not in the minds of the officials responsible for policy implementation.

The idea of compacting cities and thus curtailing outward expansion, is promoted as a solution to the problem of urban fragmentation and sprawl often perpetuated by the poor location of low-income housing projects (Mzolo, 2016). It has been noted that most new housing projects are located in peripheral areas, where an increased lack of livelihood opportunities are perpetuated. Many scholars have criticised authorities for continuing to provide low-income housing projects on urban peripheries, far from urban economic and social opportunities, thereby allowing quantity-housing targets to be met, at the expense of quality targets in terms of good location (Sokhela, 2006). This is contrary to government policy about compaction or densification, people are being relocated from well-located informal settlements to more peripheral areas, with implications for access to employment and income generation opportunities, facilities, and transport costs.

There are many problems associated with the new low-income housing projects. The Department of Housing, raises serious problems with the urban quality of new housing projects. Many of the new neighbourhoods that are being established remain predominantly mono-use residential areas, similar to the dormitory townships of the past. The peripheral allocation of low-income housing projects seemingly, has a negative impact on the beneficiary households (CSIR, 1999). Smith (2004), points out that the location of low-income housing is a major problem. The cost of transport, in particular to places of work, as well as to schools, becomes a heavy financial burden. What has been noted, is that most new housing projects which are located in peripheral areas result in increased transport costs and lack of livelihood opportunities, which can be a severe burden to poor households. According to Du Plessis (2002), addressing the individual and the community's social needs will be determined by the way they go about everyday living, learning and finding employment opportunities. The way the settlement functions and is managed links to the social array. The way the community members relate to the settlement and the opportunities provided by the settlement should also be taken into account (Du Plessis, 2002).

The concept of human settlements has evolved over the years. According to Nkambule (2012), it has become a strategy for socioeconomic development within the framework of global shelter

strategies. There is consensus that human settlements are not only about spatial issues but are the physical manifestation of economic and social activity (Nkambule, 2012). Byl (2014), states that one must understand the meaning of housing has also evolved over time and what housing can do for people in South Africa. Policy with regards to human settlements has shifted from being concerned with notions of redress and redistribution, to understanding that housing can be seen as a key element with regards to building up assets for the poor (Byl, 2014). Due to the legacy of Apartheid, South Africa has incurred many repercussions, spatial concerns, social fragmentation and challenges of participation and development.

Almost all cities in the developing world face the problem of slums and the authorities have to face the problems associated with them (Huchzermeyer & Karam, 2006). EThekweni Municipality, is no different from these cities. Informal settlements are growing at an alarming rate throughout the world and continue to increase. Urbanisation pressures have given rise to the development of informal settlements in a variety of environments, but the greatest spatial concentrations of the poor are found in urban centres and on the peri-urban fringes of cities (Mncwabe, 2013).

Rapid urbanization results in a challenge to accommodate poor households. There are about 1.2 million poor households and approximately 2700 informal settlements in metropolitan areas. According to eThekweni Municipality (2013), in eThekweni informal settlements comprise of: 262 000 households (h/hs), backyard shacks of 49 000 h/hs, and Traditional dwellings of 97 000 h/hs therefore giving an estimated total of 408 000 h/hs. The total backlog is 1.6 million people which is approximately 42% of total municipal population of 3.8 million (EThekweni Municipality, 2013). Many of these households still do not have access to basic services such as water, sanitation and electricity (Tenza, 2018). An annual increase of household formation contributes further to the housing backlog and poor planning for this backlog has resulted in the proliferation of marginalized and disconnected settlements (Cooke, 2014). Also, urban sprawl and low densities contribute to unproductive and inefficient cities.

EThekweni Municipality is faced with the situation that the current subsidised low-income housing projects are often badly located and reinforce the structure of the apartheid city and negate the compaction or compact city approach which is espoused by most academics and politicians. Aucamp and Moodley (2002), argue that eThekweni Municipality is faced with a situation whereby the current and proposed subsidised low-income housing projects are often

poorly located and reinforce the apartheid land use structure. Even though many of the projects are insitu upgrades, no options are presented to allow people to locate to more accessible areas. Smit (2004), echoes the effects of the peripheral location of low-income projects. He observes that public transport inefficiencies in Durban, for example, include average trip lengths of 20 km, average travel times of 48 minutes for commuters. This is contrary to government policy about compaction or densification, people are being relocated from well-located informal settlements to more peripheral areas, with implications for access to employment and income generation opportunities, facilities, and transport costs.

2.8.1 Socially Unsustainable Housing Project - Welbedacht East, Durban

The Wellbedacht East housing project is within eThekwini Municipality and is located north-east of Umlazi Township and west of Chatsworth and also expands into the eNgonyameni Traditional Authority. Wellbedacht East is about 23 kilometres from Pinetown and 43 kilometres from Durban (Mile, 2012). This project was earmarked to spearhead the very ambitious programme of slums clearance, in order to confront challenges and difficulties posed by informal settlements in the eThekwini municipal area. It was one of the largest slum clearance projects in eThekwini Municipality at that time (Mile, 2012).

When it was declared a Slum Clearance Project, the process was accelerated and developed into the project it became. Welbedacht East was then earmarked to spearhead the very ambitious programme of the then Minister of Housing. R50 million was made available by the Department of Housing, with a further R150 million being released from the Municipal Housing Fund in order to speed up the housing delivery process (Madhoo, 2016). The project has 5000 sites and 3000 beneficiary households were relocated to this project from the inner city areas.

The majority of households in this project are people relocated from various well-located informal settlements. All beneficiaries of this project benefited from the government housing subsidy scheme and are therefore, from the low-income group. The relocation of poor people from well-located informal settlements areas to the peripherally located low-income housing in Wellbedacht East has frustrated livelihoods of the beneficiaries, made access to employment nodes more difficult and has increased travel time and transportation costs (Madhoo, 2016).

The project is firstly considered to be badly located from a transportation point of view. Secondly, the project is also very badly located in terms of job opportunities. There are very few, if any employment opportunities in the area and, in terms of a survey conducted for the

purpose of compiling a Social Compact, only 20% of the community would find informal employment in the area (Social Compact Assessment, 2010). Due to its peripheral location, transport services, and facilities such as schools, a clinic, a police station, churches and shops are either scarce, or non-existent. According to Sokhela (2006), the study area has no primary or secondary schools, no clinic, no police station, no play grounds and shops, yet the township currently consists of 4800 households. This then has a negative impact on these households' livelihoods

According to Sokhela (2006), as a consequence of being poorly located, the project is neither close to, nor has its own facilities such as schools, a clinic, a police station, churches and shops. Transport services are only provided by the unsubsidised taxi industry. Despite the government policies, low-income housing projects are frequently located without provision of adequate facilities needed by the beneficiaries. Kruger (1992), points out that the need to commute long distances to work and to the city centre where most services are located, has had a negative effect on family life and continues to contribute to the increase in violence, low productivity and absenteeism.

The relocation of informal settlements to peripheral sites promotes an urban sprawl and thus deviated from the eThekwini Municipality's goal of promoting development as a compact city (Sokhela, 2006). Sokhela (2006), argues that relocations to peripheral areas can cause significant harm to relocated beneficiary households' livelihood strategies, and secondly, that the municipality's failure to coordinate its relocations plan with other spheres of government involved with social service delivery, especially the departments of health and education, resulted in medium-term deprivation of access to social services.

A survey was conducted on the beneficiaries to understand their level of satisfaction of the project. During the survey all participants were asked about the location of their employment. It was revealed that people were employed in Durban and on the southern urban industrial nodes. Places such as Durban, Clairwood, Moveni and Isipingo were cited by the respondents. According to Sokhela (2006), the sample did not produce respondents that were employed either in Chatsworth or Pinetown, which were the economic nodes that were cited to have the potential to absorb or provide job opportunities for relocated people.

With regard to schools attended by household schooling members, it appeared that the majority use taxis as a means of transport to get to school, as the majority of them are still attending schools located in the informal settlements from which they were relocated (Sokhela, 2006).

This is because there is only one 'local school' in this area, which is across the river, when the river is full, children do not go to school since there is no bridge to be used to cross the river.

In terms of accessing social facilities and services is always a yardstick for assessing the quality of life in a housing area and, therefore, the availability, or unavailability thereof gives an indication of the impact on those relocated. According to Sokhela (2006), for the beneficiary households in Welbedacht East to access facilities and services, they have to travel by taxi and there are no nearby schools, health posts, shopping facilities, etc. which are important for quality of and security in life. The analysis of the insufficiency of social facilities in this case study brings to light other facets of poverty and challenges to livelihoods and survival strategies of the poor.

While a lack of employment or loss of employment cannot be addressed by housing alone, these factors have a severe impact on people relocated to housing developments with no facilities or services (Msimang, 2017). The co-ordinated efforts of various departments and agencies concerned with housing, transport, health, education, safety and security and economic development have to be integrated if the circumstances of the relocated poor people are to be improved.

2.8.2 Socially Sustainable Housing Project - Sakhasonke Village, Port Elizabeth

With regards to the South African context, Sakhasonke Village is a relevant precedent study. The Sakhasonke Village Housing Initiative was a project providing housing for those earning less than R1500 a month under the People's Housing Process (PHP) initiative, the focus on this housing development has been towards medium density housing and urban re-integration (KZN DoH, 2008). This project was based closer to the place of work for most of the inhabitants, right near the centre of town, in the Walmer Caravan Park next to the Walmer Township.

The innovation in this project has to do with higher density housing area and urban reintegration. Most housing developments have been low density and far from employment opportunities, this new development should serve as a better and more efficient model. These semi-detached double storey units were built by emerging local contractors which provide 46 square meters of floor space on a 72m² erf as shown in figure 1 below (KZN DoH, 2008). Figure 1 shows how the Sakhasonke Village in Port Elizabeth looks like. It depicts the structure of the units, its semi-detached nature and its relation to units. According to Government Innovators Network (2019), Sakhasonke has been built in the same square area as previous

housing developments and for the same cost of R10,584,159 and accommodates 337 housing units instead of 126, allowing for as many as 1685 people.



Figure 1: Image of Sakhasonke Village Housing Project in Port Elizabeth
Source: Google (2020)

Its proximity to town centre means proximity of those new residents to their former and potential places of employment. Local workers were used, transferring skills and earning a living and under PHP all new residents have been given full title deed to their new homes (Government Innovators Network, 2019). All residents have free and clear title to their land and as it was completed within the Housing subsidy, there is no money owed. The poverty impacts the project has had is that it is reducing the cost of travel to residents' place of work or school therefore improving the quality of life. A number of services are also being provided by the Urban Services Group to address problems in the community.



Figure 2: Image of the Sakhasonke Village Courtyard Area

Source: Google (2020)

The quality of public areas also sets Sakhasonke Village apart from other housing projects as shown in figure 2 above. Here, the courtyard area of the project is shown and the proximity of this courtyard from the units allowing for convenient use. Brick paved walkways connect clusters of houses which are arranged around public squares. In addition, all communal areas feature outside lighting, public seating and trees to provide shade and the village also boasts a communal vegetable garden which is cultivated by the residents (Government Innovators Network, 2019). Therefore, this project is a continuation of previous efforts to find a model for housing developments in South Africa. Its success should serve as a model for future growth. The idea of urban re-integration has been talked about in the past and Sakhasonke Village should serve as a model of its effectiveness.

2.8.3 Precedent Case Studies

2.8.3.1 Lufhereng, Soweto

This precedent case study seeks to explore the social sustainability outcomes of Gauteng's government housing programme with regards to access to social facilities and amenities and economic opportunities. According to Culwick and Patel (2020), in Gauteng Province, the challenge of meeting the growing need for housing and services is compounded by existing housing backlogs, poor access to basic services including water, sanitation and electricity, high

unemployment and inequality. The Lufhereng settlement was conceived in the 1990s as a natural extension to Soweto and was begun in 2008, well in advance of the 2014-5 megaprojects policy announcements. The Lufhereng project was a greenfield site, designed as part of the national government's Integrated Residential Development Programme. This programme explicitly seeks to build housing developments in well-located areas in a way that provides access to services and economic opportunities (National Housing Code, 2009).

Lufhereng is called the City of Johannesburg's biggest integrated development as it was projected to accommodate between 65,000 and 100,000 residents and at least 22,500 households by 2023. Lufhereng is also known as the largest mixed housing development in Gauteng as the development accommodates a blend of fully subsidised housing, mortgage linked housing, partially subsidised housing, and necessary infrastructure and social facilities in more imaginatively designed buildings and public space than earlier Reconstruction and Development Programme (RDP) settlements (City of Johannesburg, 2010). Since 2015, Lufhereng has been assimilated into broader plans for megaprojects. This assimilation requires managing some contradictions including the fact that the new policy aims to create autonomous urban settlements while Lufhereng was imagined as an extension of existing urban areas. (Charlton, 2017).

Emphasising both mixed income housing and economic activity, the Provincial authority considers Lufhereng a blue-print, showcasing exactly the type of ground-breaking project that Gauteng Province needs to lead sustainable economic growth and ensure future prosperity (Lufhereng Development Company, 2014). Located on the western edge of Soweto the development is argued by provincial planners to be a natural extension of the township originating under segregationist South Africa, yet from a City perspective it has been an outlying locale of low development priority (Culwick and Patel, 2020). The existing housing typologies are a mixture of RDP housing and bond housing.

Lufhereng in Soweto lies in close proximity to the R558 Road which facilitates connection to the inner city which lies approximately 30 minutes away from Lufhereng by car and the Naledi train station facilitates access to the inner city and it lies 3, 78 kilometres from the Lufhereng (Urban Dynamics, nd). Foto's (2017), study on the sustainability of transportation networks in Lufhereng shows that although there are existing taxi routes linking Lufhereng to economic nodes in the city of Johannesburg, taxi commuters are limited to specific routes at certain times which limits their accessibility. Foto (2017), also notes that Rea Vaya buses are not found

within walking distance, thus highlighting the overreliance on taxis and a lack of integration of transport systems in the area.

These factors depict the inefficiency of the existing transport networks in Lufhereng, consequently resulting in a negative impact on the residents of Lufhereng through inefficient transport networks. Findings from the study conducted by Foto (2017), show that 70 percent of the residents perceive Lufhereng as peripheral in terms of access to transport, routes and the time spent travelling to the workplace. Whereas, the Lufhereng Development Company (2014), describes Lufhereng as a well-connected area that serves as a natural extension of Western Soweto.

Another study was conducted on this project by Culwick and Patel (2020). Following this study on the Lufhereng project, respondents lamented that services and opportunities are harder to access than from where they lived before, particularly for those from Protea South, which was close to a train station, retail outlets and work opportunities in Lenasia. In essence, a number of interviewees in Lufhereng lamented that it was harder to find jobs now than where they lived before. Residents flagged that it is hard to find work from Lufhereng because there is no train station close by. Despite the distance, some residents opt to walk 45 minutes to the train station to benefit from the cheaper fare over the taxi fare which costs more. For poor households, the cost of transport and particularly privately run public transport, is prohibitively high (Culwick and Patel, 2020). While it is important to draw a distinction between proximity to work opportunities and securing work, this study confirmed the challenge of finding jobs from government housing developments. This analysis shows that accessibility is higher in informal settlements than in government housing developments and this indicates negative outcomes for both sustainability and equality.

The housing development is being built in phases and the first phase was built long before any of the social or economic services that are planned for the overall settlement. The next phases are currently under construction, and it is likely that it will still be a number of years before the associated services are completed (Foto, 2017). Government housing developments that have poor accessibility place a significant burden on residents. This locational disadvantage is at the centre of many justice and sustainability concerns with government housing developments.

Although this intended sustainable human settlement is thriving in housing delivery (Lufhereng Development Company, 2014), its location remains questionable and hinders prospects of it realising the goals of achieving sustainable economic growth. The location of Lufhereng

signifies a disconnection from key economic nodes and municipal transport plans (Ahmad, 2017). People living on the peripheries are often seen as vulnerable because they often have poor access to transportation which further isolates them from partaking in broader regional economies (Goebel, 2007). Lufhereng is an example of a government housing settlement that was built in an area without existing services or opportunities.

According to a presentation by the City of Johannesburg et al. (2018), the future economic development plans of Lufhereng include: achieving socio economic integration, developing land use integration to ensure that the needs of residents are met and reducing costs of travel to facilities and public services. The project also aims to facilitate the economic self-dependency of Lufhereng and its residents (City of Johannesburg et al., 2018). One gathers that the lived experiences of the residents of Lufhereng differ significantly from the perceived goals of the City. Although City officials perceive this development as a well-connected extension of Soweto, the locational constraints of being located on the periphery may present harsh realities that may have a negative contribution to the livelihood strategies of residents living on the urban periphery, thus increasing their vulnerability to shocks.

For government housing developments to help achieve both justice and sustainability imperatives, it is necessary to consider the broader implications of housing, not merely housing as access to adequate accommodation and basic services, but the associated access to goods, services, work opportunities and income generation options. The importance of affordable public transport and access to amenities, services and economic opportunities has been demonstrated through the use of this case study.

2.8.3.2 Pennyville

This case study focuses on how Pennyville is experienced as a sustainable human settlement by its residents. Pennyville is a state project responding to the need for spatial change of apartheid city and in Johannesburg it has been hailed successful in various ways. The project aims to provide affordable, and sustainable housing and tenure and it is also in line with the Breaking New Ground principles in terms of mixed and integrated development options (City of Johannesburg, 2014). The aim of the Pennyville development was to eradicate the Zamimpilo informal settlement with 1 600 RDP units allocated for people from the settlement (Joshco, 2011). This was a public private partnership project comprised of a partnership between the City of Johannesburg and the Pennyville Zamimpilo Relocation Pty Ltd, a company which is part of Calgro M3 and the ABSA group (CAlgrom3, 2011).

The project is guided by these principles: providing infill development, offering places of opportunity to poorer people, providing well-located settlements, creating self-sustaining settlements through rental integration. Pennyville is one of the few mixed housing developments that were inspired by the release of the BNG in 2004 (CalgroM3, 2014). To date only 26 mixed developments can be identified in Gauteng and these are seen to act as a way forward in addressing challenges of the historically divided society (DLGH, 2012). Pennyville is a 100 hectare (ha) site located south of Roodepoort 7 kilometres south-western of Johannesburg Central Business District (CBD) and lies along New Canada Road just south of the major railway line that connects the Johannesburg CBD with Soweto (CalgroM3, 2014). It also lies on the main BRT route linking the City of Johannesburg with Soweto. Moreover, it is adjacent to the New Canada train station.

Pennyville serves as an example of a mixed development it provides: a mix of tenure types, a mix in income groups and a mix of social groups (Landman, 2012). First are the fully subsidized units; these units are provided at no cost and are funded by the City of Johannesburg (Landman, 2012). The Pennyville project delivered 3 200 housing units, of which 1 600 are RDP houses. These RDP multi-storey units house people with minimal salaries included in the range of R0-R3500 per month and have been mainly allocated for people who were staying at the targeted informal settlements. Secondly, there are the partially subsidized units, named Finance Linked Individual Subsidy Programme (FLISP), Social and the Rental Units and lastly are the fully bonded units (City of Johannesburg, 2014). This illustrates the mix of tenure accommodated in Pennyville, including private ownership for very low income households through subsidized RDP houses, private ownership for low to middle-income households through affordable credit-linked housing and rental social housing units.

As a sustainable human settlement Pennyville comprises of different component that are essential to describe. The project is close to the High-Gate Centre which is a major shopping centre and it is close to industrial areas. On-site facilities and amenities include sports facilities, schools and a crèche (DLGH, 2012). The Crèche was developed in support of the City's Early Child Development Programme. According to City of Johannesburg (2014), the crèche has four classrooms, an office, kitchen, activity room, sick room and two sets of bathrooms for the children. This enhances greater access to a range of socioeconomic opportunities. The City also provided a satellite library service that aims to provide the local community with much-needed books. Pennsville also has of a police station which was upgraded during the development of

the area. Pennyville consists of parks that are situated in close proximity to residents (City of Johannesburg, 2014).

Pennyville is situated centrally in terms of the transport networks, major highway routes are the N1, N17, Main Reef road and Soweto highway hence it has been praised for being a highly accessible location (CalgroM3, 2014). Pennyville has the availability of the taxis, buses and railway station as well as the *Rea Vaya* which runs from Soweto and passes Noordgesig, New Canada, Pennyville, Bosmont, Coronationville, Newclare, Westbury, Westdene, Melville, Auckland Park and Parktown to link up with the Johannesburg CBD (Gibbs, 2013) A study on Pennyville was conducted Baloyi (2014) and in this study, tenants indicated that Pennyville has brought them closer to places of work and the proximity to their place of work meant that they could walk to work.

The idea of mixed income development is a concept that has been embraced by this development. As Pennyville has been designed such that there different typologies offered by the settlement and this enables people to move up tiers by creating additional employment opportunities through the higher income individuals in the area. Baloyi's (2014), study revealed that that the park is an important component of the area as it enables the creation of social capital. Social networks are also created through modes of transport as the development provides a wide variety. The study further revealed that the relocation to Pennyville has increased the resident's availability of part-time jobs and full employment (Baloyi, 2014). In view of this, one can conclude that there is a strong relationship between the different typologies in the area and this relationship has both economic and social beneficial to both typologies. It is clear that residents do not only rely on income as the only means for better livelihood. Baumann (2003), argues that the concept of sustainable livelihood goes beyond income and focuses on the intangible resources and this is evident in Pennyville. This entails focusing on all the sustainable livelihood capitals and not necessarily income. Pennyville provides a good example that people do not rely on more limited range of livelihoods strategies to ensure their well-being for example relying on one household member with full time paid employment. The residents depend on other relevant strategies for their social networks.

The Pennyville development also serves as a relevant precedent case study of how a sustainable human settlement can be developed by a city in partnership with the private sector. Access to social facilities has also been seen as a very important component of sustainable human settlements since the shift to BNG. The provision of different aspects such as social facilities

such as a park, crèche and a police station, a variety of transport modes and different typologies fits the description of a sustainable human settlement. One can assume that this contributes positively on people's daily lives in Pennyville as it is important to understand how these government housing projects relate the idea of sustainable livelihood and how they have contributed to people's daily experiences.

2.9 Legislative Framework

Since 1994 there have been numerous policy and statutory developments relating to housing, which attests to the broad and complex nature of the housing terrain in the country. Therefore, the aim of this section is to provide an overview of the legislative and policy frameworks that govern the delivery of housing in South Africa, with regards to housing and human settlements. Some of the legislation is specific to the housing sector, while other pieces of legislation indirectly affect the housing industry.

2.9.1 The Reconstruction and Development Plan (1994)

The Reconstruction and Development Programme (RDP) was developed by the South African government to address problems to post-apartheid conditions in South Africa (O'Malley, 1994). The RDP seek to mobilise resources toward the eradication of apartheid and the building of democratic, non-racial and non-sexist future. The RDP consisted of six basic principles: to be an integrated and sustainable programme, is a people driven process, creates peace and security, is a nation building process, act as a linkage between reconstruction and development and the strive for democratisation of South Africa. These six principles linked together is the philosophy that underlines the whole RDP (RSA, 1994).

The main ideologies of the RDP were based on meeting basic needs, development of human resources, building the economy and democratising of state and society (O'Malley, 1994). According to Peterson (2009), these principles formed the building blocks of the RDP and contribute to the start of the paradigm shift from a political approach to a people driven approach. The RDP had the right principles in tact to create a housing delivery scheme that would have produced sustainable housing, but unfortunately the execution of the RDP was not up to standard and contributed to issues like fraud and political transformation. Government was forced to develop a new policy regarding housing delivery and the Development Facilitation Act was the answer (SA, 1995).

2.9.2 Development Facilitation Act (DFA) (Act No. 67 of 1995)

The Development Facilitation Act (DFA), although not specifically housing related, is a piece of legislation that directly affects the housing industry. The DFA was implemented by government to facilitate and speed up the shortcomings of the reconstruction and development program, which was to facilitate the formulation and implementation of development objectives with regards to short comings of the reconstruction and development program (RSA, 1995). The Development Facilitation Act was an approach where local governments were forced to develop integrated planning systems; accelerate land development, as well as, improve the coordination within different spheres of government (SA, 1999).

With regards to the study, The DFA was the township establishment route followed by Tongaat Hulett Developments in seeking to acquire development rights for Cornubia. The DFA was developed to address sustainable urban settlements & addresses planning issues by promoting the integration of social, economic, institutional & physical aspects of development and by the promotion of the availability of residential & employment opportunities in close proximity to or integrated with each other (Barbour, 2007). However, Chapter 5 and 6 of this Act were deemed unconstitutional by the Constitutional Court in 2010 as they undermined the roles and functions of the different spheres of government and was thereafter repealed.

2.9.3 Constitution of the Republic of South Africa (Act No. 108 of 1996)

Government is under a duty to take steps and create conditions which will lead to an effective right to housing for all. The Constitution contains justiciable socio-economic rights and enshrines everyone's right to have access to adequate housing. In the Bill of Rights in Chapter 2 of the Constitution, section 26 outlines: *26 (1) everyone has the right to have access to adequate housing (RSA, 1996)*. Access to housing and secure accommodation is integral to the government's commitment to reducing poverty and improving the quality of people's lives. This role included the need to provide democratic and accountable government for local communities; ensuring the provision of services to communities in a sustainable manner; and promoting social and economic development.

In the context of this study, South Africa's own history and the experiences of other countries show that unity and social cohesion are necessary to meet social and economic objectives. The preamble to the Constitution captures this balance best. It recognises the obligation of the state to reverse the effects of apartheid, in a context where all citizens feel part of the country and its programmes (RSA, 1996). The Constitution provides a vision of a united, prosperous, non-

racial and non-sexist society; a country that belongs to all who live in it, united in its diversity. The Constitution also obliges the country to heal the divisions of the past, recognising that South Africa emerged from a system where the majority of its citizens were robbed of opportunity (RSA, 1996).

2.9.4 The Housing Act (Act No. 107 of 1997)

The Housing Act, followed the Housing White Paper as a continuation of guidelines, programmes and provisions stipulated in the White Paper. The Housing Act aims to offer the facilitation of a sustainable housing development process. This is done through “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 health, education and social amenities” (Housing Act, 1997).

In line with the study, the national department is mandated to set up and facilitate a sustainable national housing development process. As the Act identifies the need for: integration, developing housing near employment possibilities, social infrastructure, transport, provision of physical and social infrastructure and to address access to housing by different social groupings. The Housing Act, together with the Constitution, further outlines the role of the national, provincial and local governments in relation to provision of housing (Housing Act, 1997).

2.9.5 Green Paper on Development and Planning (1999)

The Green Paper on Development and Planning was an approach by the South African Government to improve and renew the fragmented planning systems of the RDP. The objective of the Green Paper was to provide a balanced urban and rural spatial system, to improve coordination between national, provincial and local governments (RSA, 1999). The huge demand for housing forced spheres of government to create policies based on the DFA to coordinate and integrate developing processes to enhance capacity and fast track development processes to address the demand set by public. These fast track approaches combined with better management systems formed the basis and starting point of the Green Paper on Development and planning and provided guidelines for the White Paper regarding the land use management processes (SA, 1992).

2.9.6 White Paper on Spatial Planning and Land Use Management (2001)

The White Paper was implemented in 1999 based on the objectives of better management systems set in the Green paper of development and planning of 1999. The White Paper used these objectives and developed norms and principles to improve spatial planning and land use management schemes across the different spheres of government, taking into account both the comments submitted by the Green Paper on different government spheres, as well as, intervening new legislation, most notably the Municipal Systems Act (RSA, 2001).

This new legislation consists of sustainable land development where land is utilised in terms of law, promoting equality by improving community participation regarding land use management, promoting effectively by developing more compact cities and reduce distance between living and working space, promoting integration between all economic sectors and different races and providing good governance systems where all people has the right to information regarding planning and land use management. (RSA, 2001). The White Paper on Spatial Planning and Land Use Management Act of 1999 created the platform for the development of the BNG (Breaking New Ground) policy which was committed to a new vision in housing delivery.

2.9.7 Breaking New Ground Policy (2004)

In response to the demand for housing and the need to move away from just housing provision, the BNG policy was initiated in 2004. The policy framework aims to develop more liveable, equitable and sustainable cities. This is done through several key elements, such as, “pursuing a more compact urban form, facilitating higher densities, mixed land use development, and integrating land use and public transport planning, so as to ensure more diverse and responsive environments whilst reducing travelling distances” (BNG, 2004).

The vision of the BNG was to develop an integrated society contributing to sustainable human settlements and quality housing (RSA, 2004). The BNG was also committed to job creation through the utilisation of housing provisions, improvement of economic opportunities, seeking present and future sustainable human settlements, combat crime, creating wealth, providing medical treatments and creating social cohesion between inhabitants (RSA, 2004). The approaches in which the BNG is able to promote sustainability within the human settlements occurs through its four-pillar programme: addressing environmental challenges; generating economic empowerment; enhancing social capital and building institutional capacity.

In line with the study, the BNG aimed to move away from the quantity over quality mind-set of subsidized housing development and delivery. According to NWPG (2009), one of the basic tenets of the policy is to utilizing housing as an instrument for the development of sustainable human settlements, in support of spatial restructuring. Additionally, the BNG policy recommends a partnership between the state & the private sector in delivering human settlements that link the provision of housing to other economic & social activity. This is relevant as Cornubia is a development comprising of partnership between the government and the private sector.

2.9.8 Spatial Planning and Land Use Management Act (SPLUMA) (No.16 of 2013)

The Spatial Planning and Land Use Management Act, 2013 (SPLUMA) is a framework act for all spatial planning and land use management legislation in South Africa. The act aims to promote uniformity and consistency in planning-related processes and decision making. According to the Department of Rural Development and Land Reform (2015), “other objectives include addressing historical spatial imbalances and the integration of the principles of sustainable development into land use and planning regulatory tools and legislative instruments.”

In the context of this study, SPLUMA is relevant as its principles of spatial justice, spatial sustainability and spatial resilience found in chapter 2 speak to the topic of this study. In SPLUMA chapter 2 section 7 (a) (i), the principle of spatial justice states that spatial planning and land development must address the past spatial and development imbalances and these must be redressed through improved access to and use of land (RSA, 2013). This section relates to the promotion of access to land parcels located near key nodal or corridor areas in terms of municipal plans i.e. SDF. This is aligned with the preamble that states that people in South Africa continue to live & work in places defined & influenced by past spatial planning & land use laws & practices, which were based on racial inequality, segregation & unsustainable settlement patterns.

The principle of spatial sustainability advocates for development plans that are sustainable, & is aligned to *NEMA (No. 107 of 1998)* whereby development must be socially, environmentally & economically sustainable (Van Wyk, 2012). This principle is found in chapter 2 S7 (b) (i) and is aligned with LUMS (Land Use Management Systems), which promotes land development that is within the fiscal, institutional and administrative means of the Republic. This is aligned with the preamble that declares that the State must respect, protect, promote &

fulfil the social, economic & environmental rights of everyone & strive to meet the basic needs of the people, & promotes land development (RSA, 2013). The principle of spatial sustainability additionally instructs spatial planning and land use management systems to result in communities that are viable.

The principle of spatial resilience C2 S7 (d) relates to the ever-changing & dynamic space of urban planning & how planners have to put in place various remedies to ensure the sustainability of spatial planning & land use policies to have a long-term approach or vision. Spatial plans, policies & LUMS are accommodated to ensure sustainable livelihoods in communities most likely to suffer the impacts of economic & environmental shocks. This is aligned to the preamble on the system of spatial planning & land use management & how they promote social & economic inclusion, to a certain extent. The integration or inclusion of people socially & economically creates management prone entity within them in the sense that if capital formation had to decline people could still survive.

2.10 South African Guiding Policies

2.10.1 National Development Plan (2030)

The National Planning Commission of South Africa implemented the National Development Plan in 2011 with different goals to develop the Republic of South Africa vision 2030. The National Development Plan (NDP) refers to national imperative of eliminating poverty and reducing inequality by 2030. The NDP realises that Apartheid planning led to the fragmentation of the urban fabric. Therefore, according to the National Planning Commission (2013), the NDP is regarded as a strategy to address the challenges of the apartheid city and create the conditions for more humane and sustainable living and working environment. Chapter 8 of the NDP speaks to the transformation of human settlements under which the principles for spatial development are proposed. The principles are spatial: justice, sustainability, resilience, quality and efficiency. These principles are to accommodate the social diversity within the built environment.

The NDP sets out a coherent and holistic approach to confronting poverty and inequality. In the context of the study, the NDP states that, “in order to build a socially cohesive society, South Africa needs to reduce poverty and inequality by broadening opportunity and employment through economic inclusion, education and skills, and specific redress measures; promote mutual respect and inclusiveness by acting on the constitutional imperative that South Africa belongs to all who live in it, and that all are equal before the law (National Planning

Commission, 2013).” Despite consistent progress since 1994, South Africa remains a divided society, with race still forming the main divide. Although progress has been made with regards to the country’s broad economic and social trends, it is not sufficient as these trends have only contributed to gradual de-racialisation.

2.10.2 Integrated Development Planning

According to Gueli *et.al* (2007), integrated development planning refers to the process and strategic plan, to redress spatial inequalities and disaggregation which is of the result of the apartheid planning. It aims to redress these diverse inequalities and ineffectiveness caused by the apartheid policies and planning. This strategic plan belongs to planning and development tools designed to align with the Constitution of the Republic of South Africa (No. 108 of 1996), to ensure the development that promotes inclusiveness, public participation, transparency and accountability in local communities.

The Integrated Development Plan (IDP) is a product of integrated development planning process. The Municipal Systems Act of 2000 (Act 32 of 2000), states that all municipalities must undertake an integrated development planning process to produce an IDP. The IDP is a legislative requirement that is a medium-term planning document that addresses a 5-year period. It is reviewed annually as planning is a social project for a city and therefore requires the planning culture to be reviewed and updated.

The eThekuni IDP is divided up into a number of priority areas to make EThekuni, “a safe city, an accessible city, an environmentally sustainable city, a city creating sustainable livelihoods, a socially cohesive city and a financially sustainable city (Cornubia Social Impact Assessment, 2015).” In the IDP, the Municipality has identified a number of strategic capital projects that would have the potential to deliver on the on the strategic objectives of the municipality. These include the Northern Spatial Planning area, within which the study area of Cornubia is located. This project is additionally influenced by National and Provincial priorities.

Harper (1994), sates that integrated development planning involves the integration of social, economic and environmental aspects at the local government to achieve integrated and sustainable development. Additionally, the IDP formulation process acknowledges residents as people who best know what they need. In view of this, integrated development planning informs this study as it aim is to integrate communities through linking poverty-stricken neighbourhoods into the mainstream economy (Allebiosu, 2005). This can only be achieved if

the socio-economic potential of areas and communities are unlocked. This implies a system of social organization that alleviates poverty which is in line integrated development planning.

4.8 Conclusion

The aim of this chapter was to present: the study's conceptual framework; the theoretical framework that informs the study which is the Sustainable Livelihoods Approach and The Right to The City Approach; the legislative and policy frameworks that govern the delivery of housing in South Africa, with regards to housing and human settlements namely the: Reconstruction and Development Plan (1994), Development Facilitation Act (1995), Constitution of the Republic of South Africa (1996), Housing Act (1997), Green Paper on Development and Planning (1999), White Paper on Spatial Planning and Land Use Management (2001), Breaking New Ground Policy (2004), the Spatial Planning and Land Use Management Act (2013), National Development Plan (2030) and Integrated Development Planning.

The chapter indicated that with housing being a basic component of social development, without the right social infrastructure, new communities can quickly spiral into decline. Due to the lack of services, amenities and economic opportunities required by beneficiaries to sustain their lives. In essence, public housing programmes should not only provide a physical structure but provide a structure that will be part of a sustainable environment where communities can be part of social and economic life.

The chapter has also been able to give a review of the literature on the concept social sustainability of housing projects for the poor from both local and international contexts. In addition to this, precedent studies have been used to express the challenges that are faced by beneficiaries in different parts of world of housing projects which were not socially sustainable. Through the case studies it is noted that the development of socially sustainable housing projects is not a problem that affects and faced by South Africa alone, but it is a global challenge. Lessons from communities that have become failures should tell us that understanding the social dimensions of new settlements is crucial for their long-term success and sustainability.

CHAPTER THREE: BACKGROUND INFORMATION OF STUDY AREA

3.1 Introduction

This chapter introduces the study area in terms of its location, historical background and the conditions that characterize it. The chapter also describes the context within which the case study exists and overall background of case study area. This research examines the case study of the Cornubia Housing Project, in the Northern Municipal Planning Region of the eThekwini Municipality.

The case study area will be unpacked by discussing the: justification of case study, geographical location, socio-economic status of Cornubia, land ownership, background of project and to close off, integration in Cornubia.

3.2 Justification of Case Study

The Cornubia project is an interesting case study to research in post-apartheid South Africa as it encompasses the social, economic and environmental forces which influence the planning process. Cornubia was selected as a case study primarily because it illustrates a type of spatial organization that is indicative of a project which was meant to respond to urbanization by altering the housing patterns in the country by integrating communities and placing them closer to areas of/with economic opportunities in eThekwini Municipality.

3.3 Location of study area

Formerly a sugar cane field, Cornubia is located within Kwa-Zulu Natal in Durban's Northern Corridor, within the eThekwini Municipality, approximately 25km from the Durban CBD. Cornubia is bordered by the N2 freeway and M41 arterial as well as the Ohlanga River and sits adjacent to Umhlanga in the east, Mount Edgecombe in the south, Ottawa in the west and Waterloo in the north (*see figure 3 below*). The map in figure 3 firstly: shows the location of the study area within the KwaZulu Natal province; secondly, it shows the study area within eThekwinii Municipality spatial regions; and lastly, it shows the Cornubia Housing Project site boundary. The study area is located 15km south of the King Shaka International Airport and the Dube Trade Port megaproject. The development is situated between historically disadvantaged townships, new post-modern high-income housing estates (Mount Edgecombe Estate), regional shopping centres (Gateway) and the decentralised office parks of the Umhlanga Ridge (Sutherland et.al, 2014).

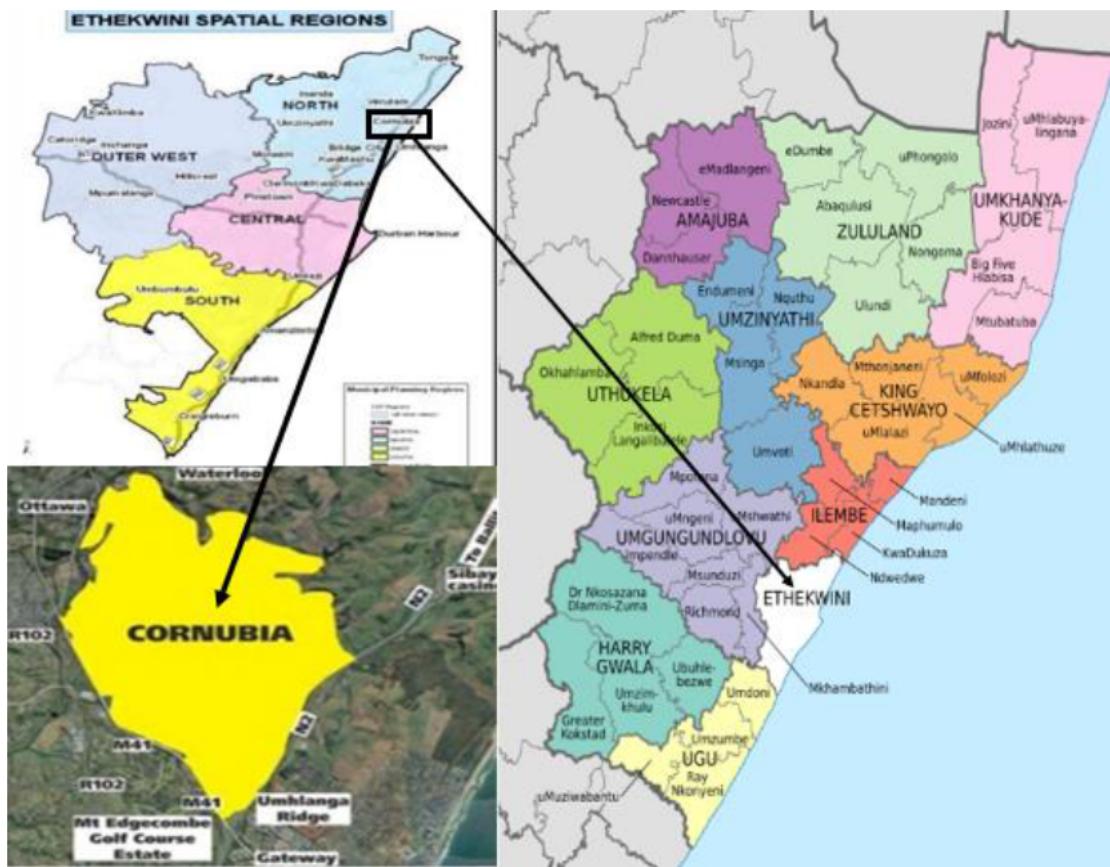


Figure 3: Cornubia Locality Map

Source: eThekini Municipality (2012), KZN Top Business Portfolio (2013), Municipal Demarcation Board (2016), Researcher (2020).

Figure 4 below depicts the various land-uses of the entire Cornubia development. The residential development Phase 1a that is focused upon within the case study, is outlined in red.

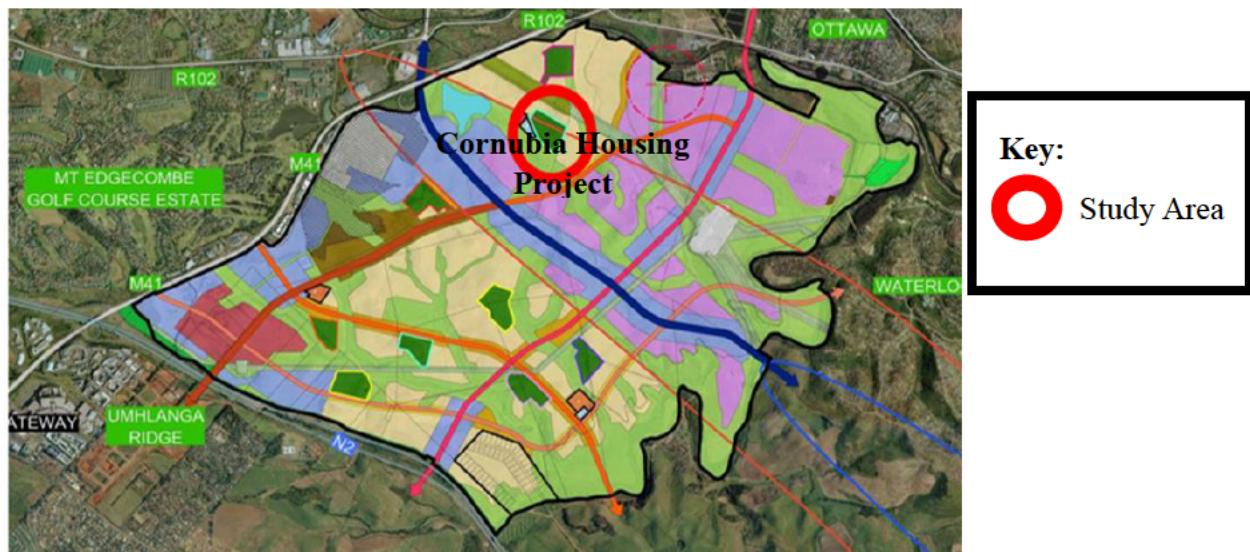


Figure 4: Location of Study Area in Relation to entire Cornubia Development

Source: Cornubia Framework Plan Presentation (2011)

3.4 Socio-economic status of Cornubia and immediate surrounds

The Cornubia site is a greenfield project, where no previous development has taken place. It had been used as land to grow sugar cane. The area was once a ‘buffer strip’ put in place by the apartheid government to separate group areas, in this case the Indian area of Phoenix and the Black areas of Inanda, Ntuzuma, KwaMashu from the White area of Umhlanga (McCarthy, 2010). McCarthy (2010), adds that the site is located in an urban expansion area which is rapidly developing and Cornubia is uniquely situated to absorb high density urban development.

Cornubia is immediately surrounded by nine quite distinct areas, reflecting an extremely diverse range of socio-cultural views and economic baselines (Cornubia Phase 1A Social Survey Summary, 2014). These areas include: Verulam, Phoenix, Waterloo, Ottawa, Park Gate, Blackburn Estate, Blackburn Village, Umhlanga Ridge and Mount Edgecombe. To give an image of the diverse socio-cultural views and economic baselines mentioned above, a comparison between Mount Edgecombe and Ottawa will be made.

Mount Edgecombe lies to the west of the N2, east of Phoenix and directly to the south-east corner of the Cornubia site. The area is largely upmarket and scenic. There are at least two exclusive estates in the area decorated by golf courses and exclusive shopping facilities. Middle class Indian families occupy the more westerly reaches of Mt Edgecombe, while the Estates are lived in by affluent, mainly white families (McCarthy, 2010). The area is well resourced and generally quite affluent. It lies in easy reach of a range of facilities, from commercial and office to recreational. People living in this area are generally well-resourced, educated and live in areas well-serviced by local infrastructure (Cornubia Phase 1A Social Survey Summary, 2014).

On the other hand, Ottawa which lies to the west of Phoenix is much smaller and is generally poorer than its neighbours although it is formal (McCarthy, 2010). People living in Ottawa have access to basic services such as water, electricity, sanitation and refuse collection. Except for spaza shops and a local supermarket, which caters for day-to-day groceries, there are no specific shopping precincts in Ottawa (Cornubia Phase 1A Social Survey Summary, 2014). The Ottawa community normally shop at the Phoenix Plaza, in Verulam and in Mount Edgecombe. Additionally, there are a number of industrial activities in the area. Although there are primary schools there is a shortage of high schools in the area.

3.4.1 Socio Economic Profile of Cornubia

In allocating the units for the Pilot Site, eThekweni Housing followed the following guidelines: priority would be given to the most vulnerable individuals residing in the most unsafe and vulnerable informal settlements and special needs individuals would be prioritised. The residents are all drawn from various informal settlements, with others gaining priority by virtue of specific disadvantage or disability (Social Impact Assessment Cornubia, 2015).

The statistics presented and discussed below have been taken from the Cornubia Phase 1A Social Survey Summary (2014).

3.4.1.1 Age

Table 1: Age composition of homeowners in the Cornubia Phase 1 Project

Age	17-25	26-40	41-60	61-80
Percentage (%)	12	49	31	8

Source: Cornubia Phase 1A Social Survey Summary (2014)

The housing project has a population of which 49% of it are individuals between the ages 26-49 years. This suggests a constantly increasing demand for economic opportunities, employment and services. This age bracket consists of individuals who are meant to be in their prime working lives while 72% percent of the Cornubia population is in fact unemployed as shown in figure 5 below.

3.4.1.2 Employment Status of Cornubia Housing Project Residents

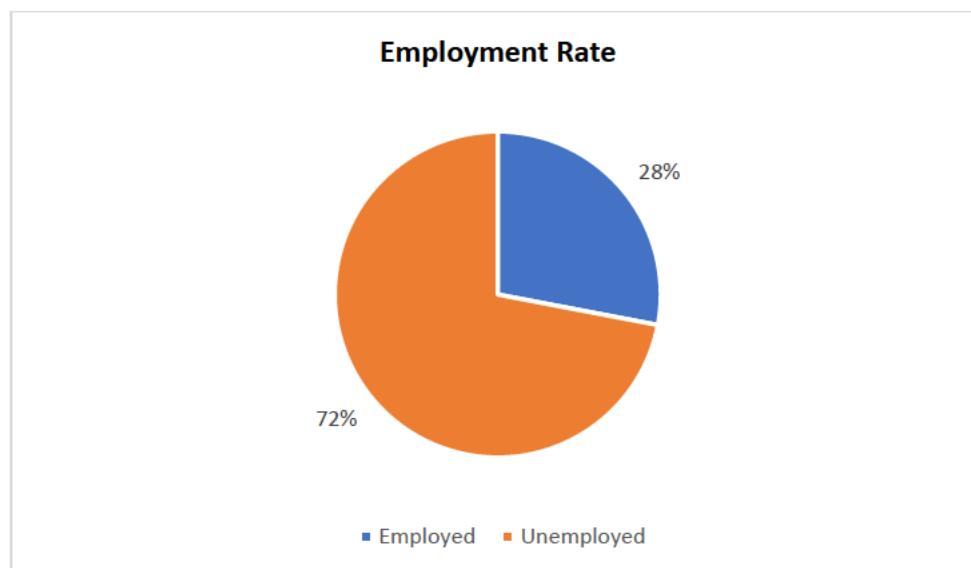


Figure 5: The Employment Rate of Cornubia Housing Project Residents

Source: Cornubia Phase 1A Social Survey Summary (2014)

The justification for this high unemployment rate could be the relocation process from the informal settlements placed them too far from their previous places of work. Another explanation may be the distance from Cornubia to the places of work for instance a resident working in Durban CBD which is approximately 25km away. When the Cornubia Social Survey was conducted in 2014 with the homeowners from the project, they had concerns about employment and concerns about being a distance from amenities and services such as schools, clinics and shops, without access to regular transport options (Cornubia Phase 1A Social Survey Summary, 2014).

3.4.1.3 Gender Distribution of Cornubia Residents

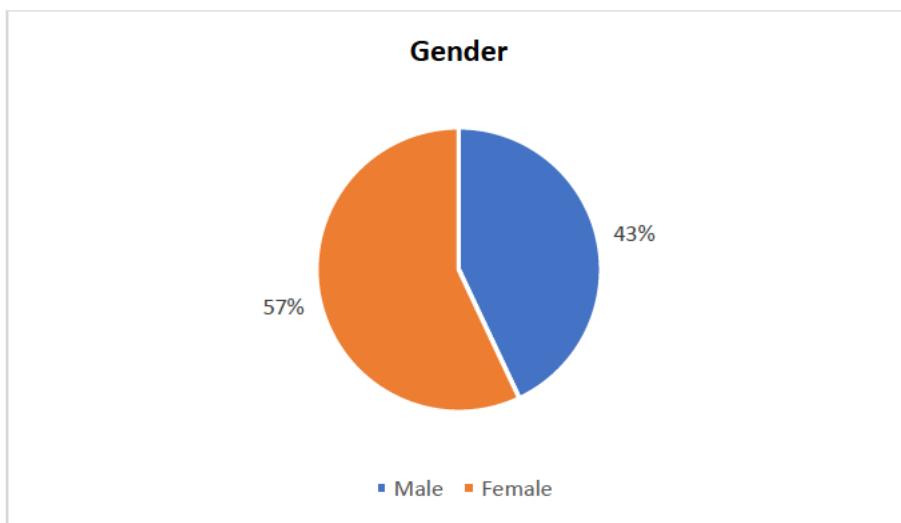


Figure 6: Gender Distribution of Residents

Source: Cornubia Phase 1A Social Survey Summary (2014)

The dominant gender is female sitting at 57% over males which are only 43%. This illustrates that the majority of households are headed by females as opposed to males of which 90% of the households with single house heads as shown in table 2 below. This creates an even bigger economic and social burden on the female earners.

3.4.1.4 Relationship Status

Table 2: Relationship Status of the Cornubia Residents

Relationship Status	Single	Married	Living with a partner	Divorced	Widowed
Percentage (%)	90%	6%	2%	1%	1%

Source: Source: Cornubia Phase 1A Social Survey Summary (2014)

3.4.1.5 Racial Profile of Cornubia Residents

Cornubia is mostly occupied by the African race of 94%, followed by Indians and then the coloured race (*see figure 7 below*). This may be due to the fact that many residents were relocated from informal settlements of which generally comprise a high number of the African population (Madlala and Jonowski, 2004).

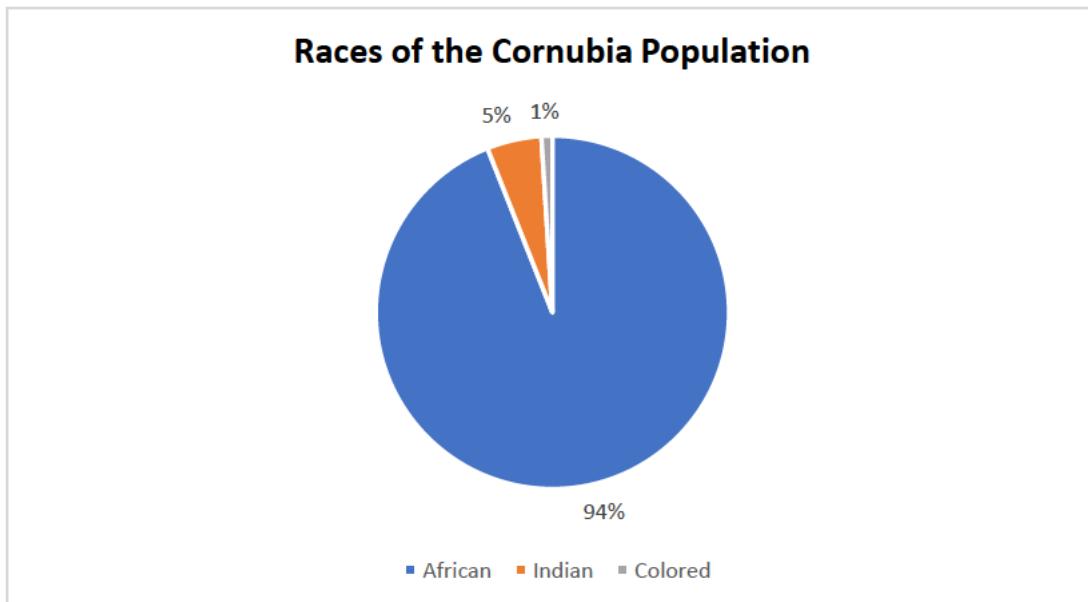


Figure 7: Racial Profile of Cornubia Population

Source: *Cornubia Phase 1A Social Survey Summary (2014)*

3.4.1.6 Education

Table 3: Education Levels of Cornubia Population

Education	No education	Primary	Secondary	Matric	Post Matric
Percentage of Population (%)	7%	20%	50%	6%	17%

Source: *Cornubia Phase 1A Social Survey Summary (2014)*

With regards to education 50% of the population have obtained some secondary schooling. The other half has only achieved less levels of school and only 17% has received post matric education as depicted in table 3. This may be due to the lack of provision of schools for the residents of Cornubia, only one temporary school has been provided as shown in figure 8, as opposed to the two primary schools and the secondary school which were in the plan for housing project. The Solomon Mahlangu Primary School is a prefab style school in nature as

seen in figure 8 and is the school that is currently serving the community and residents of Cornubia.



Figure 8: Temporary School in Cornubia

Source: Google (2019)

The socio-economic dynamics that contribute to the quality of the lives of Cornubia residents include the different population groups, the level of employment, income and education.

3.5 Land Ownership of Cornubia Site

Cornubia is a partnership between Tongaat Hulett Development and the eThekweni Municipality. The area of the development spans 1331 hectares (ha). With regards to ownership, as shown in figure 9, the municipality owns 659ha, which will be used for the provision of subsidised and affordable housing (Tongaat Hulett Development, 2014). Tongaat Hulett Development owns 579ha, which will be mixed use, light industry, general business and medium, density residential development. The South African Sugar Association owns 69ha and the Blackburn Village owns 24ha. Figure 9 also shows the location of the Pilot Phase of the Cornubia project which this study focuses on and shows that the study area is owned by eThekweni Municipality.

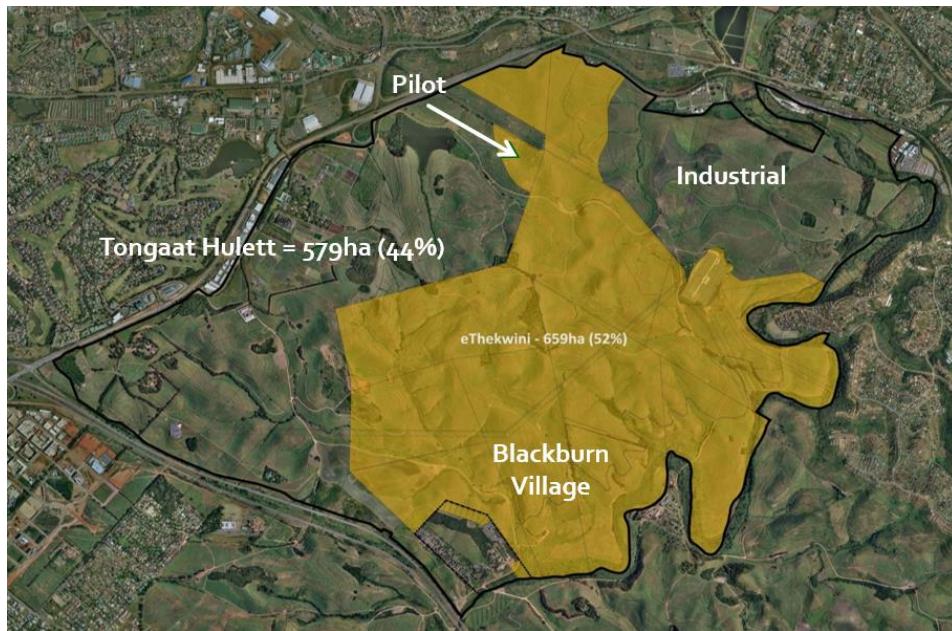


Figure 9: Cornubia Land Ownership
Source: Google (2019)

Tongaat Hulett Development agreed to sell 659 hectares of land to the Municipality for the development of subsidised housing and on the balance of the land, for Tongaat Hulett Development to develop a range of commercial, industrial and market-related residential uses to support and complement the lower-income housing (Tongaat Hulett Development, 2014). Had Tongaat Hulett and the eThekwin Municipality not come to an agreement eThekwin Municipality would have expropriated the whole site for the development of low-cost housing (Savides, 2008).

3.6 Background of the Cornubia Housing Project

The Cornubia Housing Project, as a greenfield, mixed use development, has created an opportunity to re-evaluate how mixed-use housing projects are undertaken in South Africa. According to Iyer (2011), the aim of the project was to correct previous apartheid spatial patterns which are found in all South African cities by altering the housing patterns in the country by integrating communities and placing them closer to areas of/with economic opportunities. The project was envisioned to integrate the older middle to lower income suburbs with the newer high-income development in Umhlanga in the Northern Municipal Planning Region (NMPR) of the eThekwin Municipality (Iyer, 2011). The Cornubia project has also been planned as a tool for social transformation and economic growth. This project needs to accommodate low-cost housing for the poor living within the city, whilst also

accommodating commercial and industrial uses to create a growth node, job opportunities and social facilities to serve the residential portion of the site (eThekwini Municipality, 2011).

3.6.1 Cornubia Housing Project

Cornubia is part of the Durban City restructuring programme, whereby it facilitates the regional integration and development of the Northern Urban Development Corridor (NUDC). In this way, Cornubia aims to provide an opportunity for those from impoverished areas to link with more affluent areas, so as to facilitate in creating a better quality of life for all. The Cornubia project is considered to be important for the growth of the city. According McCarthy (2010), Cornubia is “a great opportunity to undo what characterised the apartheid city.” Moreover, Tongaat Hulett Developments (THD) want to achieve integration by knitting together the fragmented region.

According to the Cornubia website (Cornubia.co.za, 2013), the Cornubia project is the first integrated Human Settlement Development to be developed within the parameters of the national department of Human Settlement’s Breaking New Ground Initiative (BNG) (McCarthy, 2010). The Cornubia site is envisioned as a large-scale housing project with elements to stimulate economic growth for the benefit of the poor.



Figure 10: Cornubia Housing Project
Source: *Cornubia Website (2014)*

3.6.1.1 Economic Development, Social Delivery and Sustainability

With regards to the core objective of the residential development, Cornubia aims to create a liveable environment through the integration of a range of economic and social opportunities.

The reason for this is that the development aims to respond to the legacy of spatial and balances of historical planning (eThekwini Municipality, 2010). Cornubia is considered by eThekwini Municipality as an integrated human settlement because it aims to elevate people from the lower socio-economic levels and job opportunities into the same location. Therefore, the location of the development assists those who have been previously disadvantaged to be closer to job opportunities, social amenities, major services and public transport, thus promoting all aspect of sustainable human settlements. The development also aims to embrace and ensure all aspects natural, social and economic environments (eThekwini Municipality, 2010).

The holistic development of Cornubia includes retail, commercial, bulk industry and residential components. According to THD (2014), the idea behind Cornubia is to enhance regional competitiveness, investment, economic development and social delivery within Durban and Kwa-Zulu-Natal as a whole. The project aims to create a better life for all by engaging with aspects like urban restructuring and renewal, informal settlement eradication, integration, densification, improved settlement design, better quality shelter, poverty eradication, and greater responsiveness to livelihood (THD, 2014).

3.7 Integration in Cornubia

The residents of Cornubia have indicated that they are victims of socio-economic victimisation which is likely to be as a result of marginalisation as well as relocation due to being distanced from the city. This creates a social stigma which is associated with the nature of the settlement which they reside in which for them is far from economic opportunities and social services. Deb (2016), states that integration is a multidimensional process that involves both spatial aspects of infrastructure planning as well as non-spatial aspects such as socio-cultural and socio-economic integration and inclusion.

In the case of Cornubia, it can be said that there is partial integration since not all residents are not located in areas that provide convenient access to affordable transport options and social amenities such as schools and clinics. Due to income disparities amongst the residents of Cornubia, the lowest earning residents struggle the most as compared to others and this creates a sense of inferiority for these residents and prevents the settlement and community from being integrated.

3.8 Conclusion

This chapter presented and described the background of the Cornubia area, the Cornubia Housing Project, its geographical location within EThekwini Municipality and the context

within which the case study exists. The chapter also depicted the socio-economic conditions and social economic profile of the areas. It is noted that almost half of Cornubia's household members fall between the ages of 26 and 40 years which suggests an increase in demand for employment and service as these members are in their prime working years. This demand will continue to increase when the now 17-25-year-olds of Cornubia continue to enter and permeate the working age.

CHAPTER FOUR: RESEARCH METHODOLOGY

4.1 Introduction

This chapter includes the research methodology of the study. In this part, the research approach, the methods of data collection, the selection of the sample, the research process and the data analysis is outlined. The chapter also outlines both sources of data, namely the primary and secondary data sources that were used in the data collection process of the study.

4.2 Research Methodology and Design

The methodological design is the logic through which a researcher addresses the research questions and gains data for the study (Denzin & Lincoln, 2000). Further, MacMillan and Schumacher (2001) define a research design as a plan for selecting subjects, research sites and data collection procedures to answer the research questions. The research methodology herein encompasses the complete research process: the research approaches, procedures and data-collection and sampling methods used in the study. A qualitative inquiry process was adopted and involved the employment of multiple data gathering methods, in the form of participant interviews, observation and literature to understand the phenomenon under investigation.

4.3 Qualitative Research Approach

There are three approaches to research: quantitative, qualitative and the mixed methods approach. This study used the qualitative research method of research to achieve the objectives of the study. Denzin and Lincoln (2000), define qualitative research as a scientific investigation that seeks to answer questions by systematically using a predefined set of procedures to collect evidence and produce findings that were not determined in advance and that are applicable beyond the immediate boundaries of the study.

The advantage this research approach offered for the study was the flexibility it entails that enabled the researcher to engage with participants in their natural settings in order to make sense of and to interpret their understanding of the development and delivery of the Cornubia Housing Project. This is supported by Creswell (2012), who states that qualitative research primarily seeks to interpret the experiences of people and get a better understanding of the phenomena in terms of the meaning people assign to them. The strength of qualitative research with regards to the validity and reliability of the study lay in the ability of qualitative research to uncover people's experiences and the reasons why things are the way they are (Creswell, 2012). The qualitative approach was also good in exploring and understanding the meaning individuals ascribed to the social and human problem at hand by providing the social context

of the action as stated by Sarantakos (2013), in that the data collected revealed all the reasons behind the decisions taken and those not taken with regards to the Cornubia Housing Project. This approach therefore brought the researcher closer to reality and thus yielded the most productive qualitative data.

In view of the above, in order to satisfy the objectives of the dissertation, the qualitative approach was utilised as it was the most suitable approach for this study as the study was not numerical in nature but qualitative due to the study being aimed at finding out from the role players of the Cornubia Housing Project how this project has contributed towards the achievement of sustainability by delivering a socially sustainable settlement. In essence, the approach offered a complete description and analysis of the subject of whether the Cornubia Housing Project is socially sustainable or not, without limiting the scope of the research and the nature of participant's responses (Collis & Hussey, 2003).

4.4 Sampling

A sample is a group of people, objects, or items that are taken from a larger population for measurement. The sample should be representative of the population. Therefore, sampling is the process of selecting units (e.g., people, organizations) from a population of interest so that by studying the sample we may fairly generalize our results back to the population from which they were chosen (Showkat and Parveen, 2017). Sampling methods are normally classified as either probability or non-probability. For the purposes of this study, the sampling method used was non-probability sampling.

4.4.1 Nonprobability Sampling

Non-probability sampling is a sampling technique where the samples are gathered in a process that does not give all the individuals in the population equal chances of being selected (Sharma, 2014). In non-probability sampling, not all members of the population have a chance of participating in the study unlike probability sampling, where each member of the population has a known chance of being selected. Therefore non probability sampling is best suited in forming the sample as it will enable the researcher to select individuals that the study is interested in studying.

4.4.2 Sampling Process

This sampling process for the study involved identifying the relevant individuals who would be knowledgeable about the setting, events and social processes of the Cornubia Housing

Project in order to effectively study so that the researcher can make sense of the findings and then summarise. This is deduced by Trachoma and William (2006), who define non-probability sampling as the process of selecting units from a population of interest so that by studying the sample we may fairly generalize our results back to the population from which they were chosen. In this sampling process, not all the stakeholders of the Cornubia housing project had the chance of participating in the study, only the role players and professional team members who were directly involved were selected. In support of this Sharma (2014), defines the non-probability sampling as samples that are gathered in a process that does not give all the individuals in the population equal chances of being selected.

Non-probability sampling methods include quota sampling, convenience sampling, purposive sampling and snowball sampling. This study adopted snowball sampling where primary data sources nominated another potential primary data source to be used in the research. Snowball sampling enables the participants refer the researcher to others who may be able to potentially contribute or participate in the study (Berg and Lune, 2004). In view of this, the first participant of the study which was the Project Manager from Pangaea Consultants provided referrals in order to recruit samples which would be required by the study and be relevant to it. Each following participant of the study recruited another and or other individuals to be interviewed due to their knowledge about and involvement in the Cornubia Housing Project. This recruitment and referral process made it easier for the researcher to secure appointments with the participants to be interviewed for the study as the referrals came from fellow colleagues.

In view of the above, non-probability sampling was best suited in forming the study's sample as it enabled the researcher to select individuals that the study was interested in studying. As non-probability sampling was used to intentionally select the role players and members of the professional team who were involved in the Cornubia Housing Project. These role players included the project managers, town planners and officials from the eThekwin Municipality, Department of Human Settlements and Tongaat Hulett, to name a few. Their involvement assisted the study by providing the information needed to provide an understanding of the degree in which the Cornubia Housing Project contributes towards the achievement of social sustainability and the challenges that were faced that inhibited and delayed the provision of the necessary social infrastructure. The above mentioned in turn responds to the study's objectives.

4.5 Data Collection Methods

Data collection is a process of collecting information from all the relevant sources to find answers to the research problem, test the hypothesis and evaluate the outcomes (Boyce & Neale, 2006). Data collection methods can be divided into two categories: primary methods of data collection and secondary methods of data collection of which the study adopts both methods.

4.6 Primary Sources of Data

The data collection method chosen for the primary data of this study is interviews. Interviews can be defined as a qualitative research technique which involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, program or situation (Boyce & Neale, 2006). According to Sekaran and Bougie (2010), data collected from primary sources is first-hand information from the respondents. The primary data collection process of this study involved collecting data in line with the study's research problem, objectives and aim; as supported by Hox (2005), who states that primary data is data that is collected for a specific research problem using procedures that best fit the research problem.

There are three main methods used for collecting primary data namely, interviews, observations and questionnaires (Yale, 2008). This study used interviews and observation to collect the primary data. Interviews can be defined as a qualitative research technique which involves conducting intensive individual interviews with a small number of respondents to explore their perspectives on a particular idea, program or situation (Boyce & Neale, 2006). Interviews were identified as a method for collecting the primary data in order to efficiently collect first-hand data for analysis from the professional team members that were involved in the Cornubia Housing Project. Therefore, only individuals who had the required and relevant experience and knowledge of the housing project were documented. On the other hand, the observations assisted in identifying the physical aspects of the study area.

4.6.1 Interview Process

The study employed in-depth interviews with ten participants to gather first-hand information from these respondents regarding the study's case study area of the Cornubia Housing Project. This is supported by Showkat and Parveen (2017), who note that in-depth interviews are conducted with an aim of achieving certain goals or specific facts. A meeting was set at a time and a place suitable for the respondents, of which all was at their varied places of work. This

environment created a comfortable atmosphere for the respondents as they were interviewed in their natural settings. This point is supported by Boyce and Neale (2006), who note that the primary advantage of in-depth interviews is that they provide more detailed information as well as a more relaxed atmosphere in which to collect information since people feel more comfortable having a conversation with the researcher than having to fill out a survey.

For the interviews, the tool used to gather information was an interview schedule. This interview schedule was pre-existing and had been prepared by the researcher prior to the data collection period and it comprised of twenty-four open ended questions which had been grouped into four according to the study's objectives. Denzin and Lincoln (2000), support this by stating that the qualitative approach seeks to answer questions by systematically using a predefined set of procedures to collect evidence. Before each interview began the study's information sheet and informed consent form was taken out and then read out loud for the interviewee, following which they were then signed by both the interviewee and researcher. The information sheet was provided in order for the interviewee to get the background and motivation of the study at hand while the informed consent was provided in order to let the interviewee know that the interview is voluntary, anonymous and that they have a right to withdraw their participation at any given time.

Eight of these interviews were conducted with one respondent at a single time and one of the interviews was done with two respondents at the same time as these professionals believed that one interview would be sufficient as they come from the same organisation and therefore have the same experiences of the case study area. Although the interviews were a time consuming they were successful in assisting the researcher to understand the phenomenon under study and the interviews were also aided in uncovering more detailed information behind the Cornubia Housing Project. In support of this, Silverman (2004), sees an interview as a social encounter where speakers collaborate in producing versions of their past or future actions, experiences, feelings and thoughts on a particular concept or subject.

The use of interviews as a data collection method was beneficial to the study as it firstly allowed the researcher to adjust the questions whenever necessary, clarify doubts while ensuring that the responses are correctly understood by repeating or rearticulating the questions. Bogdan & Knopp (1992), state that interviews make it possible for the interviewer to frame, adjust or add new questions during the interviewing process, depending on the responses of the participants. Secondly, the interviews enabled a way to gain an understanding of the underlying reasons and

motivations for the respondent's views, reasons, attitudes, decisions as well as preferences. Lastly the added advantage this process had was that the dialogue that the interview created enabled the eliciting of information from the subject about how the respondent thinks.

4.6.2 Observation Procedure

The study's primary data was also collected through the conduction of an observation of the case study area. The tool used to make the observations, was an observation checklist (*see appendix 2*). This checklist was prepared with the aim of enabling the researcher to observe the economic opportunities, social facilities and recreational facilities that have been provided in the study area and the condition of this infrastructure. The observations assisted in identifying the physical aspects of the study area and this further aided in making comparisons of the data collected from the interviews with what exists on the ground; as the researcher visited the study area after all the interviews had been conducted.

4.7 Secondary Sources of Data

Secondary data is information that already exists as it has already been researched and analysed by another source (Wood, 1991). This study's secondary data is comprised of secondary sources from books, academic research papers, the internet, journals and international and national literature that relates to the study. Secondary data is found in chapter 3 and 4 of this thesis and makes up the conceptual framework, theoretical framework, legislative framework and the literature, both international and national. The secondary data has also been applied in the case study chapter to inform the study areas socio economic profile. This data has further been applied throughout the entire study where applicable. Compared to primary data, the study's secondary data was readily available and was inexpensive to obtain. May (2001), also states that secondary data is rapidly obtainable and is readily available to the public.

An extensive and relevant literature view formed part of the study's secondary data. It was conducted in an attempt to provide the theoretical foundation for the research project. The literature review provided scientific explanations for the research questions to enable the verification of the research findings. It describes how the proposed research is related to prior research, the existing body of knowledge and illustrates the originality and relevance of the research problem. The literature also shows how the study is linked to existing research, integrating and summarizing what is known in and about the area of research.

In essence, the secondary data was important in uncovering the existing literature on the concept of social sustainability or lack thereof in housing projects which are to benefit the

marginalised which informed the study's': conduction, motivation, purpose, aim, objectives and interview schedule. The application of appropriate secondary data was used in the study to play an important role in terms of increasing the levels of research validity and reliability by providing information from the existing body of knowledge as advocated by Patton (1990). The use of secondary data additionally enabled the gathering of multiple sources of information which were used to produce this comprehensive research report.

4.8 Data Analysis Method

Data analysis in qualitative research is essential in increasing the understanding of the phenomenon at hand. Therefore a data analysis was conducted following the completion of both primary and secondary data collection. The data analysis process involved inspecting, sorting, transforming, and modelling data in order to discover useful information to suggest conclusions. Judd *et.al* (1989), state that data is analysed with the goal of discovering useful information, suggesting conclusions and supporting decision-making. The data analysis was done through the adoption and use of a thematic analysis which speaks to qualitative data as discussed below.

4.8.1 Thematic Analysis

This study analysed the data collected through a thematic analysis which is defined by Clark (2006), as a process that emphasizes identifying, analysing and interpreting patterns of meaning or themes within the data that has been collected. The interview schedule of the study was structured around the study's research objectives and questions. Therefore, the interview questions were clustered into broad categories as per the study's objectives. These categories were: personal profile; indicators of social sustainability; the structure of the Cornubia Housing Project; the social sustainability the Cornubia Housing Project; and challenges with achieving social sustainability.

The first step that was taken in order to analyse the study's data was transcribing the responses received during the interviews. After the transcribing, the task was to sort and rearrange the information collected. According to Creswell (2009), organizing and preparation is the first step towards data analysis. This was done in order to move from the qualitative data that had been collected, into some form of explanation, understanding and interpretation of the professional team members and role player's experiences and the situation of the Cornubia Housing Project being investigated.

The second step of the data analysis involved pinpointing and recording patterns within the data collected. During the interviews there was also a level of analysis as each interview unfolded and the patterns in the responses began to become clear. The next step of analysing the collected data was that once the full data set had been collected and transcribed, the responses were grouped according to the themes that emerged in each of the broad categories informed by the interview questions. This explains why the data has been presented in themes, as the goal of a thematic analysis is to identify themes (Clarke & Braun, 2013). The last step was to present the findings as per the study's objectives in order to satisfy the research objectives and answer the research questions. In doing this, useful information was documented and interpreted in order to come to conclusions about the nature of the Cornubia housing project and its sustainability.

4.9 Conclusion

This chapter focused on the research methods used in this study. It discussed the qualitative research method adopted, the reasons for its adoption, the techniques for data collection were unpacked and the sampling method used to select study participants was provided as well as the data analysis process.

CHAPTER FIVE: RESEARCH FINDINGS, DATA ANALYSIS AND INTERPRETATION

5.1 Introduction

To complete a study, it is necessary to analyse the data collected in order to test the hypothesis and answer the research questions. This chapter comprises the analysis, presentation and interpretation of the findings resulting from this study. As outlined the research methodology chapter, the qualitative research methodology was employed for the purpose of receiving more comprehensive responses. The chapter presents findings from data collected from members of the professional team members who were involved in the formulation, development and construction of the Cornubia Housing Project. These are: Project Managers, Head of Tongaat Hulett Developments, Town Planners, Urban Designer, Project Liaison Officer, Social Facilitator and an official from eThekweni Municipality Human Settlements Unit. The data presented herein was collected through face-to-face interviews and thus a thematic form of data analysis has been used to analyse the data.

The purpose of this analysis is to aid establish the relationship between the provision of social infrastructure in new low income housing projects and the social sustainability of these new settlements. The main of the study was to evaluate the applicability of the mass housing project approach in the eThekweni Municipality context, specifically the Cornubia Housing Project and determine its sustainability and social impact in the context of sustainable development. To close off the chapter, the findings of the study were linked with the theories that underpin the study, the literature review and the hypothesis. This chapter has been discussed as per the study's objectives in order to display the relevance of these objectives.

5.2 The indicators of social sustainability in the Cornubia Housing Project

One way of recognizing social sustainability indicators of the Cornubia Housing Project is to examine its existing indicators. In order to effectively analyze Cornubia's social sustainability as a housing project, it is necessary to identify these social indicators as influenced by the local and international literature. Followed by examining the indicators that exist within the case study area and the level in which they exist: between being available, limited or not available as illustrated in table 4 below.

Table 4: The Indicators of Social Sustainability in the Cornubia Housing Project

	INDICATORS OF SOCIAL SUSTAINABILITY					
Interviewee	Economic opportunities	Social Services	Social Facilities	Recreational Facilities	Transport Options	
1	Available	None	None	Available	Available	
2	Available	Limited	Limited	Available	Limited	
3	None	None	Limited	Limited	None	
4	Limited	None	None	None	Limited	
5	Limited	Limited	Limited	Limited	Limited	
6	Limited	Limited	Limited	Available	Limited	
7	Limited	Limited	Limited	Available	Limited	
8	Limited	Limited	Limited	None	Limited	
9	Limited	Limited	Limited	Limited	Limited	
10	None	Limited	None	Limited	Limited	

Source: Researcher 2020

The identification of indicators in the above table have been used to help evaluate which exist within the Cornubia Housing Project. The indicators are generally pertaining to positive social conditions for example access to facilities and services, social security and inclusion and the rights of vulnerable groups, etc. Table 4 above illustrates that with regards to the indicators of social sustainability very few exist within the Cornubia Housing Project. In view of this, the Cornubia Housing Project has to date delivered housing opportunities with limited access to employment opportunities and limited access to social facilities and amenities as well as recreational facilities. This is in contradiction of the Cornubia Framework Plan (2011), which stipulates that, “a key thrust is ensuring a balanced community with a range of housing types and affordability with access to social facilities, amenities and employment opportunities, all within walking distance.”

Table 4 above also shows that social sustainability has not been ensured in this housing project due to the limited visibility of the social sustainability indicators within the project. There is limited access to employment opportunities in close proximity which is key for building

projects. With regards to enhancing the beneficiaries' quality of life, the delivery of: economic opportunities, social services and amenities, places to shop as well as areas for recreational activities within walking distance should have occurred prior to the beneficiaries relocating to the area.

In essence, development is not about buildings but is about people and socio-economic impact has to be the foundation of one conceives the development. People must be enabled to participate in socioeconomic opportunities as this is what enables the sustainability of a development and household. They ought to be granted the capabilities to participate in the socioeconomic opportunities which are what enables the sustainability of a development and households. The key issue is about continuously upgrading people skills that are specific to economic opportunities therefore ensuring that people can sustain themselves and continue to participate meaningfully in the economy particularly in the areas where they live and where they afford basic amenities necessary to improve the quality of their lives.

The starting point for ensuring social sustainability in building projects is the development of communities in which people can live, work and also play. In support of this Holmes (2006), states that social sustainability combines design of the physical realm with design of the social world, infrastructure to support social and cultural life, social amenities, systems for citizen engagement and space for people and places to evolve. The only way beneficiaries can sustain their living is if they are in a development that enables them to live, work and play as stated as Cornubia's motto, therefore they need to be situated in areas with job opportunities. The aim should be shifted from providing as many housing opportunities to providing housing that is accompanied by the assets required for one to sustain their living in order to life a quality life.

5.3 The nature, extent and effect of the Cornubia Housing Project

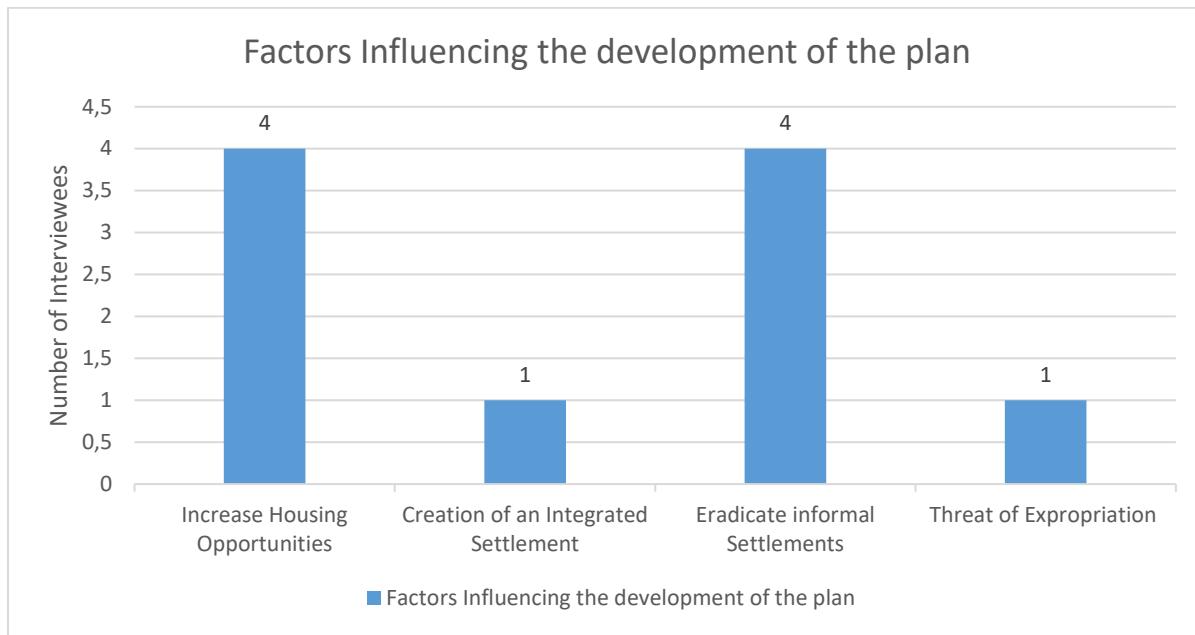


Figure 11: Factors that Influenced the Development of the Cornubia Housing Project Plan
Source: Researcher 2020

The graph in figure 11 above illustrates that four interviewees stated that the need to increase housing opportunities was the factor that influenced the development of the plan. Another four interviewees stated the factor that influenced the development of the plan was the need to eradicate the informal settlements that exist in eThekweni. One stated that the plan was influenced by the need to create an integrated settlement with mixed-use areas and the last interviewee mentioned the threat of expropriation that Tongaat Hulett was facing.

Figure 11 above suggests that the development of the plan for the Cornubia Housing Project was influenced by the need to improve access to housing as the right to housing is stipulated in the constitution. There was pressure to deliver housing at a high scale in the province of KwaZulu-Natal as there is a high demand for housing. The plan was also influenced by need to eradicate informal settlements within eThekweni Municipality which are a result of rapid urbanization to the metropolitan. As the municipality is faced with the challenge of informal settlements being scattered around eThekweni Municipality. There was a need to redress the imbalances of the past, to eradicate informal settlements and decrease eThekweni's housing backlog. This was to be done to provide a fully integrated housing development where people, in terms of Cornubia's motto live, work and play all in a single area. It is also noted that the key starting point of the plan was the threat of the expropriation of Tongaat Hulett's land. Therefore a decision was made decision to incorporate the government and eThekweni to come

up with an area with a vision of a mixed use, mixed income megaproject in order to prevent the expropriation through a public private partnership.

The overall objective of the project was to ensure that the Cornubia's vision of a fully integrated settlement is achieved. Where people, in terms of Cornubia's motto which is 'live, work and play' all in a single area within 500 meters. The objective included finding land that can accommodate a housing project of this nature that will enable residents to have: their need for housing satisfied, sustainable access to economic opportunities and be provided with recreational areas and facilities needed for improved quality of life.

In the designing of the plan, professionals and specialists in the fields from environment, socioeconomic impact, planning and infrastructure development were involved. These included: town planners, project managers, civil, geotechnical and structural engineers, land surveyors, conveyancers, architects and urban designers. The plan design process involved professionals coming up their own plan for development in the area. A development plan for Cornubia was created and then presented to the surrounding community of that time including Mount Edgecombe, Umhlanga, Blackburn, Phoenix, Ottawa, Waterloo and Verulam.

This was a top down approach as the professionals planned, formulated and implemented the development plan. Kaiser (2012), states that if development is to lead to poverty reduction then the poor are supposed to the central concern. By being involved in the development process that affects their lives as the end-user. For effective community development that housing projects are supposed to bring, their participation is important. The participation was conducted due to the KwaZulu-Natal Planning and Development Act (PDA) and the EIA process which required its occurrence. This participation process was in the form of informing residents of the surrounding areas of the plans for the site.

5.4 The characteristics of the Cornubia Housing Project and how they contribute towards the achievement of social sustainability.

In this section the characteristics of the Cornubia Housing Project have been identified and discussed. The characteristics identified are ones that are related to the concept of the social pillar of sustainability. This has been done in order to evaluate how the identified characteristics contribute towards the achievement of social sustainability of the housing project. These characteristics are: integration, specific economic opportunities, facilities for the creation of

social capital and social inclusion, health care and transport options have been identified and discussed.

5.4.1 Integration in Cornubia

Below table 5 aims to illustrate how integration has been created in the Cornubia Housing Project as the project was developed for the sole purpose of being an integrated settlement in nature.

Table 5: Levels of Integration in the Cornubia Housing Project

Interviewee	Integration
1	Integration of all income brackets
2	Integration of all income brackets
3	-Integration of all income brackets -Road Network
4	- Integration of all income brackets - Project Location
5	Mixed-Use Development Project
6	-Integration of all income brackets -Project Location
7	- Integration of all income brackets - Project Location
8	Integration of all income brackets
9	Mixed-Use Development Project
10	Integration of all income brackets

Source: Researcher 2020

The aim of the project was to integrate communities and locating them in an area closer to places of economic opportunities with access to social facilities and amenities but Table 5 above indicates that integration in the Cornubia Housing Project has been mainly ensured through the integration people from all income brackets. On the ground residents who reside in the area are those who are the beneficiaries of BNG programme consisting of those within the R0 to R3500 income bracket only which indicates that this notion of integration within the different economic groups has not occurred.

Integration is a very broad term comprising of many elements and therefore cannot be represented only through the form of integration of various economic brackets. As integration is the process of addressing social disparities and the exclusion of people who are denied equal access to necessary social services, benefits and rights enjoyed by others in society (Correll & Chai, 2009). These rights include access to education, healthcare, job opportunities and participation in economic and social life.

Integration is also important the creation of a sense of community as the project brings individuals from slums and informal settlements from all over the city to stay in one area as strangers. There needs to be a deliberate intention to ensure integration given that the area was previously used as a buffer pre-1994 during apartheid. In essence, the focus of integration needs to be on environment, economic and social pillar as an ecosystem because people use spaces to live and they need those spaces to be functional to the way they live. This is the ecosystem that has to thrive and co-exist.

5.4.2 Specific Economic Opportunities

Table 6: The Economic Opportunities Available to Cornubia Residents

Interviewee	Specific Economic Opportunities
1	Limited Economic Opportunities
2	Neighborhood Center
3	Limited Economic Opportunities
4	Construction of other phases of Cornubia (bricklaying, carpentry and plumbing)
5	Cornubia Mall
6	Limited Economic Opportunities
7	Limited Economic Opportunities
8	Construction of other phases of Cornubia (brick laying)
9	Cornubia Mall
10	Limited Economic Opportunities

Source: Researcher 2020

Table 6 above illustrates that there are limited economic opportunities for the Cornubia residents. The economic opportunities that do exist and have been noted in the table are

unsustainable as when the construction phase of brick laying, plumbing and carpentry comes to an end, the workers will be without employed right after. The information in the table allows one to conclude that there are no specific economic opportunities that have been created and ensured for the residents to partake in.

The commercial and retail centers that were expected to give residents economic opportunities have not yet been constructed. This has left the residents at a great disadvantage because they now remain unemployed or have to seek employment far from where they reside in order to make a living and provide for their families. This then puts further strain on the household breadwinner due to having to spend more money for transport to get to their places of work therefore creating an even bigger economic and social burden.

The immediate surrounding area of Cornubia consists of many industries and business parks. These industries have not been able to absorb the residents as they are industries requiring specialized skills which the residents do not possess due to having an informal settlements background. Also many of these industries relocated to the Cornubia area with their pre-existing employees and were therefore not looking to recruit any new employees. The interviews also revealed that although Cornubia Mall also exists within close proximity, the shops within are also looking for certain skills and have not being willing to provide skills training, that is why the number of people that have been absorbed by the mall remains unknown. This explains why residents in the area have created opportunities for themselves by extending their home in order to open a tuck shop as shown in figure 12 below. In figure 12 it seen that a resident has extended their home and built a structure for use a tuck shop. Additionally, Figure 13 below shows another way a resident has made an economic opportunity for themselves by constructing a tent every morning in which to sell fruit and vegetables from.



Figure 12: A Home Extended for the Purpose of Building a Tuck Shop
Source: Researcher 2020



Figure 13: Tent-Style Vegetable Shop
Source: Researcher 2020

In view of all of the above, it can be concluded that the delivery of housing opportunities was prioritized which explains the limited: economic opportunities, transport options, social facilities and amenities. The proposed social and economic clusters will come in only after the beneficiaries have settled and this left them at a disadvantage. Cornubia's population is made up of individuals who earn between R0 to R3500 who were relocated from informal settlement all over eThekweni Municipality and brought to an area for a housing option best suited to their affordability or lack thereof. This means the people who have been moved there were of the poorest of the poor therefore they must be granted the opportunity to meaningfully participate in the local economy.

It is important to note that an integrated human settlement is meant to address the availability of education, health, safety and transportation networks with the ultimate goal of providing livable and viable human settlements (Monto *et al*, 2005). This ensures the delivery of better living standards, equity, poverty alleviation and the continued existence of these new settlements. Implementing a fully integrated settlement will ensure that residents do not leave their homes, as it came to the researcher attention that residents rent out or sell their houses and return to the informal settlements due to being located too far from economic opportunities. Misselhorn (2006), supports this by stating that there are specific reasons for the location of informal settlements in particular areas and some of these include access to services, employment opportunities and or the area's proximity to family and other social networks.

5.4.3 Facilities for Social Capital and Inclusion

Table 7: The Facilities for Social Capital and Inclusion That Have Been Constructed

Interviewee	Facility for Social Capital and Inclusion
1	Retail Facilities
2	Recreational Facilities
3	None
4	Recreational Facilities
5	Recreational Facilities
6	Retail Facilities
7	Retail Facilities
8	Recreational Facilities
9	Recreational Facilities
10	Recreational Facilities

Source: Researcher 2020

Table 7 above shows that the recreational facilities form the most part of the facilities that have been constructed to create social inclusion and social capital apart from the retail facilities. The table also indicates that social inclusion only occurs post residents coming into the settlements through the recreational facilities and local retail facilities.

The recreational facilities in the local area which the interviewees stated were for the purpose of the creation of social inclusion and social capital are made up of small parks with children's playground with swings, slides and the likes. During the site visit, it was observed that the children's playground equipment was damaged to an extent where it can no longer serve its purpose. Figure 17 below shows that the only the steps of children's slide exists and there are no swings on the swing structure anymore. This means that inclusion and the creation of social capital is limited as the structures responsible for this are damaged.



Figure 14: Children's Playground Equipment

Source: Researcher (2020)

Figure 14 above show the playground infrastructure for the children in Cornubia. The condition of this infrastructure depicts that there is a challenge in the creation of facilities for social inclusion and social capital as the equipment that has been put in place to create it are damaged and are not in a state to be used for its intended purpose.

5.4.4 Health Care

Table 8: The Health Care Options Available in the Cornubia Housing Project

Interviewee	HEALTH CARE OPTIONS			
	Hospital	Doctor	Clinic	Mobile Clinic
1	Not Available	Not Available	Not Available	Available
2	Not Available	Not Available	Not Available	Available
3	Not Available	Not Available	Not Available	Available
4	Not Available	Not Available	Not Available	Available
5	Not Available	Not Available	Not Available	Available
6	Not Available	Not Available	Not Available	Available
7	Not Available	Not Available	Not Available	Available
8	Not Available	Not Available	Not Available	Available
9	Not Available	Not Available	Not Available	Available
10	Not Available	Not Available	Not Available	Available

Source: Researcher 2020

Table 8 above illustrates that with regards to health care options that are available to the residents there is only a mobile clinic. The interviewees stated that the clinic is still yet to be built together with the rest of the social clusters that were proposed. Therefore a weekly mobile clinic has been provided in the interim. This shows that there is only one health care option available to the residents and this option is only available for them to use once a week indicating that there is inadequate health care provision in this site. This results in residents having to leave the settlement and travel out in search of required medical care.

A site visit was conducted upon which it was found that the mobile clinic sometimes only comes once every two weeks. This information was gathered from the residents. It was also noted that apart from the mobile clinic, there is a private medical centre named Value Health Cornubia. With the residents having been relocated from informal settlements, they cannot afford private health care due to being beneficiaries of the BNG programme which entails individuals earning between R0 to R3500.

5.4.5 Transport Options

Table 9: The Transport Options Available in the Cornubia Housing Project

TRANSPORT OPTIONS

Interviewee	Vehicle	Bus	Taxi	Train	Walking
1	Not Available	Not Available	Available	Not Available	Not Available
2	Available	Not Available	Available	Not Available	Available
3	Not Available	Not Available	Available	Not Available	Not Available
4	Not Available	Not Available	Available	Not Available	Not Available
5	Not Available	Not Available	Available	Not Available	Available
6	Not Available	Not Available	Available	Not Available	Not Available
7	Not Available	Not Available	Available	Not Available	Not Available
8	Not Available	Not Available	Available	Not Available	Available
9	Not Available	Not Available	Available	Not Available	Available
10	Available	Not Available	Available	Not Available	Available

Source: Researcher 2020

Table 9 above indicates that the main transport option available to the residents of Cornubia are taxis. In view of this, it can be concluded that the settlement lacks a variety of transport

options for its residents as well as those wanting to travel to the settlement. Initially Cornubia was not designed to allow public transport to move in as the plan discouraged taxis due to the intention which was to link Cornubia to the Go-Durban; unfortunately this has not yet been done yet. This is why a taxi rank has not been demarcated in the plan site so residents and taxis have created their own makeshift taxi rank and taxi stops.

Table 9 indicates that in reality in the settlement, taxis form part the dominant transport option available other than walking and the use of private vehicles for those who have. This shows that mobility in the settlement remains a challenge. This challenge will remain to exist within Cornubia until the Bus Rapid Transport (BRT) Go-Durban system is implemented and constructed as well as the bicycle lanes.

5.5 The challenges that inhibit the achievement of social sustainability

The interviews conducted revealed that the contextual issues that influenced the plan for Cornubia were firstly, geological in nature. The aim was to build a high number of houses in the most cost-effective way on a difficult terrain as a development plan is always influenced by the topography and wetlands. Secondly, the housing backlog dictated the need to densify for Cornubia. The densification was a strategy to ensure that there is maximization of the developable areas in provision of the house. The densification approach was adopted to in order to move away from the traditional RDP approach of constructing one house on a single stand towards a more sustainable model of compacting development. In essence this approach had a sole aim to densify. Lastly, the need for the eradication of informal settlements in eThekweni Municipality as the challenge of informal settlements has been a part of the South African urban context for the longest time, as far back as the colonial period (Marutlulle, 2017).

With regards to the provision of social infrastructure, it was revealed that there are many departments responsible for its provision. These include: all spheres of government. EThekweni Parks Department, eThekweni Transport Authority, Department of Health, Department of Education and the Infrastructure Business Support for providing retail infrastructure. In essence, the public sector is responsible for the provision of all the social infrastructure through its various departments such as health and education. EThekweni Municipality is responsible for the provision of social facilities and amenities like pools, libraries and police stations. There is a need for the alignment of plans for Cornubia as there is a visible lack of alignment of all the above mentioned line departments in the delay in service delivery and the provision of proposed economic nodes and proposed social clusters. The lack of alignments produces

clashes and imbalances and an unsustainable settlements. Cornubia is a big project therefore of the numerous line departments involved, each department must play their part.

The data revealed that this infrastructure is mainly provided by the public sector as part of its public development while the private sector plays mainly plays a role in the designing and in the improvement of the social infrastructure. The data illustrated that the noticeable delays in the provision of the proposed social infrastructure are purely around finance and the institutional arrangements which include numerous policies, systems and processes for developments.

To overcome challenges in implementing socially sustainable mass housing projects, the data firstly revealed the need for: the identification of beneficiary needs, social issues and challenges. Secondly, the need for managing the demand curve for housing as a full package with services that accompany it, the need for housing to be integrated and aligned to sustainability and the need to learn from other housing projects from different cities and adopt successful ones in projects moving forward. The above illustrates the need for a higher level of communication, participation and consultation from all stakeholders.

The data also revealed that the professionals including the project managers, town planners and urban designers have formulated a document for lessons learnt on the Cornubia Housing Project which is to a model which entails the challenges that faced in implementing this housing project and also entailing useful information that will ensure that the same mistakes are not performed in future projects like these and to be a model for other municipality's and cities to learn from. This illustrates that the professionals do acknowledge that there are faults within in the project that are to not be repeated elsewhere.

According to Ballard and Rubin (2018), the factors that prevent successful megaproject development can be mitigated if the roles and responsibilities of the state and private sector are re-examined so as to ensure that the government plays an active role in engaging with relevant stakeholders in the planning and implementation process of megaproject development. This change in mind-set will ensure that the final product delivered meets the needs of the community as the end user.

In terms of social conversations, alliance and partnership building between residents and officials, the data illustrates that these exist. There is a process of dialoging between government officials, councilors, community, business and all parties that makes up the community of Cornubia. In terms of partnership building between residents and officials there

are consumer education workshops that have been put in place to ensure skills upliftment and education which in turn offers employment for the residents. In terms of continuous social conversations, the SSIP is in place to enable partnership building between the residents and officials which was initiated to address unemployment as a priority as the programme facilitates the creation of economic participation opportunities as a cure for the limited economic opportunities available to the residents of the area. The data shows that once the project was completed it was the role of departments such as education, health, social services and business support step in and interact with community and provide the infrastructure they require.

5.6 Analysis of Theoretical Framework and the Findings of the Study

The Sustainable Livelihoods Approach and The Right to The City Approach were identified as the theories that inform this study as discussed in chapter two within the theoretical framework. The Sustainable Livelihoods Approach is a method of understanding and changing the lives of people experiencing poverty and disadvantage. It founded upon a participatory approach based on the recognition that all people have abilities and assets that can be developed to help them improve their lives (Ashley and Carney, 1999). The approach is influenced by integrated development, basic needs, participation and sustainable development.

The study established that due to lack of social infrastructure and amenities like clinics, schools, recreational facilities as well as economic opportunities, the Cornubia the community is exposed to spatial inequality and economic exclusion. This is due to the inability to access and to have control over the physical, economic, human, and social assets that are meant to improve their lives. This is as a result of as the project not being developed through a bottom-up approach where the needs of the end-user would have been clearly identified in the project inception phase by the end user. It can then be concluded by acknowledging that without the provision of the social infrastructure to the residents of the Cornubia Housing Project, the settlement cannot be socially sustainable.

The Right to The City Approach is the second approach which underpins the study. The Right to the City is guided by the notion that as a right, no one must be excluded from qualities and benefits of urban life by being located in areas far from the city centre (Lefebvre, 1996). The Right to the City is a paradigm of urban inclusion as it is a holistic approach to improving the quality of everyday life in cities. Amongst the people who have been relocated to the Cornubia housing project were of the poorest of the poor and they ought to be granted the opportunity to meaningfully participate in the local economy post relocation.

The study revealed that the inhabitants of the Cornubia Housing Project have been relocated from informal settlements in areas as far as Umlazi, Isipingo and Hammarsdale, Mpumalanga. This shows that these residents remain alienated from urban life as they have been moved to an area with limited: transport options, social services, social facilities, and recreational facilities and to an area with limited economic opportunities far from their previous locations where an economic opportunity was available. This results in them selling their houses and moving back to informal settlements and then losing the ability to benefit from a housing project of this nature.

5.7 Linking the Literature Review with the Findings of the Study

The findings of the study reflect housing projects for the poor are faced with the challenge of delivering settlements that at an early stage, have access to employment opportunities, local services like schools, clinics, shops and public transport, as the social needs of new communities are often overlooked in the drive to deliver housing on a large scale. The findings of the study are in line with this literature as it was revealed that the same challenges exist in the context of the Cornubia Housing Project. Through the findings this study produced, it was established that typically this scenario is faced within other developing countries internationally also.

5.8 Linking the Hypothesis with the Findings of the Study

The study found no support for the hypothesis of the study. The hypothesis was: the consideration of social sustainability in the development of housing projects can positively result in the creation of viable, integrated and sustainable human settlements. The findings of the study indicate that due to limited consideration of social sustainability seen in the lack of social infrastructure provision and economic opportunities in the Cornubia Housing Project, the project to date has been unsuccessful in delivering a sustainable human settlement.

5.9 Conclusion

This chapter has presented the findings of the study, analysed and interpreted the data collected from the interviews with the professional team members of the case study area of the Cornubia Housing Project which were the Project Managers, Head of Tongaat Hulett Developments, Town Planners, Urban Designer, Project Liaison Officer, Social Facilitator and an official from eThekweni Municipality Human Settlements Unit.

The study adopted the use of interviews and observation as the tools to collect data. This was beneficial for the researcher as this enabled the collection of factual information that responds to questions of this study. Observations during a site visit were also conducted in order to validate and compare the information received from the interviews and the physical state of the case study area. The findings of the study revealed that in as much as temporary social services and amenities have been provided in the interim, a lot still is required to be done in order to fully satisfy the social needs of the residents of Cornubia Housing Project.

It was revealed that the housing project is still in need of schools, clinics, recreational facilities, reliable transport and most importantly places that offer sustainable economic opportunities as this is the only way that this development will still be relevant in the future. As sustainability is not only about meeting the needs of today's generation but it is also about meeting the needs of future generations without those needs being compromised by the actions of the present. The researcher argues that developing a strategy to enhance sustainability for housing requires the development of both an economic and a social system that facilitates equitable access and opportunities to economically productive dwellings that enable sustainable livelihoods. As evidence shows that communities without adequate local facilities, services and community support suffer from a wide range of social problems.

CHAPTER SIX: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

The aim of this chapter is to firstly, provide the limitations of the study, followed by an overall summary of the findings of this study. This summary of key findings was necessary in analyzing the accomplishment of social sustainability as a planning principle with the purpose of creating an integrated human settlement in the Cornubia Housing Project. Thirdly, the chapter provides a conclusion based on the entire study and lastly, provides a set of recommendations of the study.

6.2 Limitations of the Study

The most significant limitation of this research study was time. The challenges that came about were in relation to gathering information in the field through the use of interviews as the main data collection method. The leading challenge was the non-availability of some of the respondents, understandably so as all respondents were professionals and most of which held high positions in their places of work. This therefore made them impossible to meet and in turn many appointments were postponed and pushed to further dates. The above explains why the data collection process took four months, starting from November 2019 and ending in March 2020. Nonetheless, the researcher in the end was successful in making these appointments and interviewing the necessary individuals that the success of the study required.

6.3 Summary of Key Findings

The Cornubia Housing Project presents a housing opportunity that is located on the periphery of the city with a lack of amenities and services that would allow people to develop and grow. According to Department of Human Settlements, Water and Sanitation (2019), sustainable human settlements are defined by access to adequate accommodation that is suitable, relevant, appropriately located, affordable and fiscally sustainable. Meaning which they have to be located within an area with economic opportunities and social infrastructure to ensure sustainability of the project as a whole for the improved standard of living and quality of life.

The Cornubia Housing Project has delivered a human settlement with limited and no access to social facilities and amenities and economic opportunities hence residents seek their own ways to make a living from their home as shown in the previous chapter. Additionally, the area lacks: a proper school, a physical clinic, public transport options and routes and also adequate recreational facilities which are necessary for the creation of social cohesion and social capital.

The school provided is a temporary primary school, the clinic is a mobile clinic that visits once every one or two weeks and the recreational facilities are not in a position to be utilised as they are badly damaged and have not been maintained.

Given the track record of South African housing policy, it can be discerned that the government has failed to address the problems caused by the apartheid era. These problems refer to housing, societal and overall integration within the city among people and spaces. Also, due to the complexities around finances and environmental problems, the delivery of sustainable human settlements has seemingly become an issue that the state does not have the capacity to deal with currently.

Based on the findings of the study, it can be concluded that the lack of economic activity and the delayed social infrastructure provision is what is hindering this housing project in accomplishing social sustainability. Therefore, making the settlement unsustainable to its end users as it does not satisfy their needs in terms of the physical, economic, human and social assets required for efficient human habitation and a sustainable livelihood.

6.4 Conclusion

In 1994, South Africa's housing sector was experiencing challenges due to severe housing backlogs caused by the increase of informal settlements, a result of apartheid policies which had created social and economic divisions (Gardner, 2003). The South African democratic government has adopted various housing policies since 1994, including the Breaking New Ground policy.

As part of the Breaking New Ground policy, the KwaZulu-Natal provincial government was entrusted to implement the Cornubia Housing Project in eThekweni Municipality. The Cornubia Housing Project was aimed at integrating the provision of housing, land use, transportation and bulk municipal infrastructure investment planning in order to achieve spatial, social and economic inclusion for poor people.

This study raised the question whether the Cornubia Housing Project is an integrated human settlement and mainly if it is socially sustainable. This is an important question given that social sustainability is a planning principle however this settlement has remained socially unsustainable despite several years of integrated planning and the inclusion of spatial integration measures in post-apartheid urban spatial policy. The study has also revealed that

there is a need for further empirical research about social responses to spatial integration in the South African context.

Objective one of the study was to identify the indicators of social sustainability in a housing project. These indicators include access to: economic opportunities, social services, social facilities, recreational facilities and transport options. The mentioned indicators were adopted from existing literature on the indicators of social sustainability. Of these indicators, the Cornubia Housing Project enables limited access to each indicator, as shown and revealed by the findings of the study. From this, it can be concluded that the Cornubia Housing Project lacks the necessary economic opportunities, social infrastructure, amenities and services required to create and ensure social sustainability.

The second objective of the study was to determine the nature, extent and effect of the Cornubia Housing Project. This objective was aimed at investigating all factors that came into play when the plan for Cornubia was developed and to find out what influenced that development of the Cornubia Housing project. The findings of the study illustrated that the project was mainly influenced by the need to increase housing opportunities. In view of this, the focus of housing projects must be shifted away from just merely delivering as many housing opportunities as possible in a single plot of land to the creation of integrated sustainable human settlements.

The third objective of this study was to determine the characteristics of the Cornubia Housing Project and how they contribute towards the achievement of social sustainability. This included identifying: specific economic opportunities, facilities for social inclusion and social capital, health care facilities and transport options that serve the Cornubia community. The findings indicate that integration in the Cornubia Housing Project has been mainly ensured through the integration people from all income brackets. This is inefficient as integration is responsible for the process of addressing social disparities and the exclusion of people who are denied equal access to necessary social services and benefits. With regards to economic opportunities, the centers that were expected to give residents economic opportunities have not yet been constructed and this leaves the residents unemployed and without a potential opportunity either.

Another important part of social sustainability is social inclusion, which in Cornubia only occurs post residents coming into the settlement through the recreational facilities and local retail facilities. This shows that the residents remain excluded in terms of participation. The findings also revealed that there is only a mobile clinic servicing the Cornubia community, this

indicates that there is inadequate health care provision in this site and a clinic should be accessed within a walking distance as per the plan for the project and as per the Guidelines for Human Settlement Planning and Design (Red Book). The settlement also lacks a variety of transport options for its residents as well as those wanting to travel to the settlement. This shows that mobility in the settlement will remain a challenge for as long as the link of the Go-Durban to Cornubia has been built.

The last objective of the study was to identify the challenges that inhibit the achievement of social sustainability. To overcome challenges in implementing socially sustainable housing projects, the findings revealed the need for the identification of beneficiary needs, social issues and challenges. As well as the need for housing to be integrated and aligned to sustainability. For sustainable development to occur all dimensions of development should concur with each. Not until all sustainability aspects of housing are adequately researched and integrated, would it be possible to seek a sustainable development path for housing. Given the scale at which new settlements are being planned and developed globally, there is a need to build both a practical understanding and professional commitment to creating new cities and communities that are economically, environmentally and socially sustainable.

To date, the Cornubia Housing Project as per the data collected, does not sufficiently enable present social development and general human well-being therefore making the project socially unsustainable due to the lack of the necessary economic and social infrastructure for improved quality of life. In view of this, the Cornubia housing project has been unsuccessful in accomplishing social sustainability. It is concluded that research should be done to improve planners' understanding of the social pillar of sustainability to better inform integrated planning.

Literature on integrated planning and the evolving spatial form of urban settlements in post-apartheid South Africa actually refers to increasing spatial fragmentation and social discord (Murray, 2004). This is unfortunate as South Africa already suffers from urban poverty and socio-economic divides. The Cornubia housing project is titled as an integrated human settlement development yet on the ground this notion of integration has not yet been achieved although its beneficiaries have been residing there for six years now. Integration is one of the main objectives of post-apartheid planning but has not had the desired results.

In view of all the above, upon analysing the topic of socially sustainable housing, one can learn that housing is more than just shelter and the type of subsidies operating in the housing

situation. As housing refers to more than the tangible house structure and includes the infrastructure and services that supply the house. How the end user relates to the house is dependent upon the availability and accessibility of facilities and amenities such as schools, clinics, police stations, sporting facilities and the likes in a settlement. It is also mainly dependant on the access to sustainable economic opportunities as the connection between housing and income generation is crucial. The location in relation to economic activity, services and facilities is very important in the development of sustainable human settlements and sustainable development.

6.5 Recommendations

The housing challenge as a whole needs greater government intervention and implementation due to housing projects being saddled with the same problem of being located in areas far from economic opportunities and the lack of efficient community facilities. There is a need to link housing to economic development, income generation and survival strategies of end-users to enable the creation of sustainable settlements.

The findings of this study that has been conducted can serve as a basis for the improvement of the Cornubia Housing Project as well as other housing projects that are to provide housing opportunities to the poor that face the same or similar challenges. While not exhaustive, the following recommendations represent a holistic, integrated and innovative approach to the delivery of sustainable human settlements.

The Breaking New Ground Housing Policy does in principle support sustainable human settlements and sustainable development. But there is a gap between the envisioned outcome of the policy and what actually happens to the ground as revealed in the data. At this point there needs to be a Human Settlements Policy that is integrated at both local and national levels with coordination between all the sectors of housing, transport, public works, energy, education, health, environment and safety and security. This will ensure the alignment of all these sectors involved so that each role, responsibility and activity is executed timeously. As the findings of the study revealed a lack of alignments between the various departments responsible for the execution of the Cornubia Projects in its totality. Additionally there is a need to ensure the provision of social infrastructure, services and amenities simultaneously as the houses. This infrastructure must be well maintained on a continuous basis through government interventions as the recreational facilities at the settlement are damaged and this shows the lack of maintenance of them. There also needs to be funding mechanisms that allow settlements to be

developed holistically as the findings of the study revealed that finance has been the factor influencing the delay in the delivery of social infrastructure.

Concerning improved quality of life, the creation of integrated developments are the way forward to urban and community sustainability. Therefore, there is a need to provide integrated settlements in well located areas with easy access to green space with recreational facilities, job accessibility, public transport use, a walkable area, healthcare and social facilities. The findings of the study have revealed that there is a gap with regards to the access of the above mentioned within Cornubia. The lack of access creates unnecessary long distances between places of living and working. This continues to have a severely negative impact on social life in the form of poor sense of place and community, unequal access to economic and social opportunities, loss of valuable time and money on travelling.

There needs to be an urgent realisation that low income settlements are still continuously being built in the urban periphery with no provision of social and economic amenities. Therefore, there is a need to relook the delivery of these kind of housing projects as projects are resembling those of the apartheid city. The focus of housing projects must be shifted away from just merely delivering as many housing opportunities as possible in a single plot of land to the creation of a vibrant integrated human settlement.

Additionally it is recommended that at national and provincial level, roles and responsibilities need to be as clear as possible, information needs to be widely available to people. Decision-makers and communities should be given the tools to understand the requirements of sustainable development and to use these as the main guidelines for planning and implementation. These intervention must be aimed at the creation of a more connect and participatory approach. The interventions have to be strategic in a way that enables the focus to be on the priority needs of the community i.e. the beneficiaries and be granted the opportunity to define these needs by themselves. Following which being address with the governments resources.

Lastly, there is a need to understand that social sustainability concerns the interaction between space and the South African society. Soja (2001), coined the above to refer to the notion that urban space is socially produced. Williams et al. (1996), describe social spatiality in relation to spatial integration and social sustainability as follows:

“Much of how urban residents perceive their neighbourhood is based on their understanding of the processes which shape it. If the processes are seen as unjust then

it is likely that they will remain unacceptable ... without an understanding of the aims of intensification [spatial integration], it is unlikely that urban dwellers will accept the compromises they are sometimes asked to make, and will not relate the local effects with the strategic aims of sustainable development.”

With regards to planning and community cohesion, growing cities, particularly those presenting faster growth, are the ones attracting new residents much like Durban, where new residents include populations from all areas. For EThekewini to achieve real growth there is a need for the provision of sustainable living environment for its residents. There must be focus on the structure and delivery of basic services which must accompany housing, such as health care, schools, public education, safety, transportation and infrastructure among others and these must be beneficial to residents and households. As a social project, planning is concerned with assisting people and has the ultimate goal of improving the general welfare of a city’s occupants therefore social sustainability is a planning goal.

Therefore, if planners are to better understand social responses to social sustainability in the South African context, it is important to be able to interpret people’s understanding of and the meaning they attach to social sustainability, as well as processes and conditions associated with it. Particular meaning is what will cause people to either respond positively or negatively to a housing project in terms of perceptions and behaviour. The reality is that beneficiaries of low income housing projects either abandon, rent out their house or sell it and then return to informal settlements due to a lack of satisfaction. This dissatisfaction is as a result of the lack of: job accessibility, social and community services and facilities such as schools and clinics as well as transport. The measure of urban planning’s effectiveness depends upon how it responds to citizens’ needs and goals. Responsiveness depends on its ability to accommodate citizens’ varied social and cultural needs and on how individuals and groups are treated.

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APPENDIXES

Appendix 1: Interview Schedule



Title:

Evaluating the Accomplishment of Social Sustainability as a Planning Principle: The Case of Cornubia Housing Project

Section A: Personal Profile

1. Organisation (Public/Private)
2. What position do you hold?
3. What is your specific responsibility?
4. What involvement did you have with Cornubia?
5. How long have you been working in the Development field?

Section B: Indicators of social sustainability (objective 1)

6. How could social sustainability be ensured in building projects, as it influences;
 - Viable households and communities,
 - places where people want to live and work, now and in the future,
 - the way people sustain their living, and
 - the quality of life.

"A key thrust is ensuring a balanced community with a range of housing types and affordability with access to social facilities, amenities and employment opportunities, all within walking distance (Cornubia Framework Plan (2011)."

7. What steps have been taken to create this identity of integration?
8. Is it only integration of various economic brackets?

Section C: The structure of the Cornubia Housing Project (objective 2)

9. What influenced the development of the plan?

10. What were the objectives of the Project?
 11. What were the processes followed in creating the plan?
 12. Within the plan design was there a participation process?
 13. Were other professional consultants involved in the design process?
- Section D: The social sustainability the Cornubia Housing Project (objective 3)**
14. What social facilities and amenities have been provided within the project?
 - 14.1 What healthcare options are available to residents both within the development?
 - 14.2 What transport option are available to residents and those wanting to travel to the settlement?
 - 14.3 How are facilities and services accessed and in what distance? (m/ km/ minutes)
 15. What measures have been put in place to enable social inclusion of its beneficiaries?
 16. What kind of facilities have been constructed to create social capital?
 17. What influenced the housing typology?
 18. How have the units been designed such that they are family units?
 19. What specific economic opportunities does the development provide for?
 - 19.1 What economic opportunities exist within reasonable distance?
- Section E: Challenges with achieving social sustainability (objective 4)**
20. What local contextual issues influenced the plan design?
 21. Who was/ is responsible for providing social infrastructure?
 22. What has caused the delay in the provision of the proposed social amenities?
 23. Are there any continuous social conversations, alliance and partnership building between residents and officials?
 24. How could the challenges in implementing socially sustainable settlements in mass housing projects be surmounted?

Appendix 2: Observation Checklist

Checklist for Field Observations: Cornubia Housing Project

OBSERVATION	NOTES
Social Facilities In The Area	
Social Amenities In The Area	
Economic Opportunities In The Area	
Areas for Social Capital and Social Cohesion	
Recreational Facilities In The Area	
Level of Maintenance of Existing Infrastructure	

Appendix 3: Information Sheet

Information Sheet and Consent to Participate in Research

Date: _____

Dear: Prospective Participant

My name is Miss Mahlangabeza Jordan, a Master in Town and Regional Planning candidate at the School of Built Environment and Development Studies from the University of KwaZulu-Natal, Howard College Campus. My contact details are as follows: cell phone number is 0817902822 and email address is hlengsjordanm@gmail.com.

You are being invited to consider participating in a study that involves evaluating the extent to which the Cornubia Housing Project has accomplished 'social sustainability' as it is a town planning principle. The aim and purpose of the research is to determine the influence of the Cornubia Housing Project in the pursuit of social sustainability as social sustainability consciousness is important to enhance sustainability of affordable housing for the low income population. The study is expected to enrol the project manager/s from eThekweni Municipality, other municipal officials and members of the professional team which were involved in the Cornubia Housing Project. This study has adopted the snowball sampling method. This sampling method involves the prospective participant nominating other potential respondents to contribute to the research. Therefore, the participants will/may refer the researcher to others who may be able to potentially contribute or participate in the study. The duration of your participation if you choose to enrol and remain in the study is expected to be one day for an estimated time of one hour, in the form of a short interview inclusive of a total of twenty-four (24) interview questions.

The study does not have risks as anonymity and confidentiality be protected by not mentioning the name of the prospective participant in order to protect identity. The study will not provide any direct benefits to the participant as a result of your participation in the research. Literature has revealed that in terms of sustainability, priority has been given to economic and environmental sustainability in the context of planning, housing and communities. In view of this, the study aims to provide social sustainability consciousness by bringing to light social sustainability.

This study has been ethically reviewed and approved by the UKZN Humanities and Social Sciences Research Ethics Committee (approval number HSSREC/00000783/2019).

In the event of any problems or concerns/questions you may contact the researcher at (provide contact details) or the UKZN Humanities & Social Sciences Research Ethics Committee, contact details as follows:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus

Govan Mbeki Building

Private Bag X 54001

Durban

4000

KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 2604557- Fax: 27 31 2604609

Email: HSSREC@ukzn.ac.za

Participation in this research is voluntary and that the participant may withdraw participation at any point. The participant does not have to answer any questions that makes him/her feel uncomfortable and may stop the interview at any time. The participant may withdraw or refuse participation at any time and that no penalties will incur. The researcher may terminate the participant from the study if participant is deemed irrelevant to the study.

The participants will not incur any costs as a result of participation in the study as the researcher will use own resources for the research. The study offers no: benefits, incentives, monetary payments, or any other treatments as a result of participation in the research.

To protect the confidentiality of the study participants' personal and clinical information, the participants of the study will not be mentioned by name. The participants will be referred to as 'interviewee' or 'respondent' in order to protect the participant's identity. Feedback will be given to the eThekweni Municipality and the dissertation will be made available online and at the University library. The research data will be kept for a period of at least five years in a secure location in the school, by arrangement with the researcher's supervisor. Thereafter the information will be destroyed through shredding as well as getting rid of all digitally stored material.

CONSENT FORM

I, (Full Name and Surname)
have been informed about the study entitled "Evaluating the Accomplishment of Social Sustainability as a Planning Principle: The Case of Cornubia Housing Project" conducted by Miss Mahlangabeza Jordan from the University of Kwa-Zulu Natal.

I understand the purpose and procedures of the study.

I have been given an opportunity to answer questions about the study and have had answers to my satisfaction.

I declare that my participation in this study is entirely voluntary and that I may withdraw at any time.

I have been informed that there is no available compensation or medical treatment if injury occurs to me as a result of study-related procedures.

I have been informed that there are no benefits that I will receive as a result of my participation in the research.

I agree that information provided during the interview may be used by the researcher in the research report to be compiled.

I am aware that the interview will be kept strictly confidential and will be available only to members of the research team (researcher, supervisor and examiner/s).

If I have any further questions/concerns or queries related to the study I understand that I may contact the researcher at 0817902822 or by email to hlengsjordanm@gmail.com.

If I have any questions or concerns about my rights as a study participant, or if I am concerned about an aspect of the study or the researchers then I may contact:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus
Govan Mbeki Building
Private Bag X 54001
Durban
4000
KwaZulu-Natal, SOUTH AFRICA
Tel: 27 31 2604557 - Fax: 27 31 2604609
Email: HSSREC@ukzn.ac.za

Additional consent, where applicable

I hereby provide consent to:

Audio-record my interview / focus group discussion	YES / NO
Video-record my interview / focus group discussion	YES / NO
Use of my photographs for research purposes	YES / NO

Signature of Participant

Date

**Signature of Witness
(Where applicable)**

Date

**Signature of Translator
(Where applicable)**

Date

Appendix 4: Informed Consent Form



UNIVERSITY OF TM
KWAZULU-NATAL
INYUVESI
YAKWAZULU-NATALI

Informed Consent Form

(To be read out by researcher before the beginning of the interview. One copy of the form to be left with the respondent; one copy to be signed by the respondent and kept by the researcher.)

Title of the research project:

Evaluating the Accomplishment of Social Sustainability as a Planning Principle: The Case of Cornubia Housing Project

Name and position of the researcher:

Miss Mahlangabeza Jordan, Masters in Town and Regional Planning candidate, School of Built Environment and Development Studies, University of KwaZulu-Natal, Howard College Campus.

Consent

I, (full name and surname) _____ :

- Acknowledge that I will participate in an interview between myself Mahlangabeza Jordan at a time, date and location decided between us.
- Understood that my participation in this research is voluntary and I do not have to answer any questions that make me feel uncomfortable and I may stop the interview at any time.
- Am aware that I may withdraw or refuse participation at any time and that no penalties or loss of benefits will occur if I choose to do so.
- Will not receive any monetary payment or other treatments in return for my participation in this research.
- Agree that Mahlangabeza may use information provided during the interview in the research report.
- Am aware that the interview will be kept strictly confidential and will be available only to members of the research team.

I agree for my responses to be audio-taped during the interview (please tick):

YES

NO

By signing this form, I agree to the above statements.

Participant Signature

Date

Researcher Signature

Mahlangabeza Jordan