

**Impact of Planning and Building Regulations on Affordable Housing  
Development by the Private Sector in South Africa**



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## **Dedication**

I dedicate this work firstly to God almighty that made it possible. I could only achieve this because of Him.

I also dedicate this work to the memory of my Mother, Late Mrs Eugenia Egede Usang who is my inspiration and my angel in heaven. I know she is happy with my academic progress.

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## Abstract

This study emerged from existing literary evidence that planning and building regulations affect the supply of housing and research in this area usually takes a very descriptive route that lacks an explicit theoretical framework that can guide stakeholders for better research outcomes. The rationale is based on the context that despite the many initiatives introduced by successive post-apartheid governments to improve the housing situation in South Africa, not much has been achieved to improve the enormous housing backlogs. Affordable housing, being one of the strategic mechanisms used by the government for housing delivery is laden with problems. Many factors have been attributed to the challenges among which are land use policies and building regulations, administrative bottlenecks, budgetary constraints, and so on. To effectively manage these challenges, a more proactive private sector participation has been advocated. However, this requires that proper regulatory frameworks are put in place to ensure that developers deliver housing that meets necessary safety and quality standards and still have some return on investment. Unfortunately, legislative structures which should ideally be supportive, instead, hinder development and create barriers for private developers

The study thus investigates three related questions. Firstly, what are the main planning and building regulations that impact on affordable housing by the private sector? Secondly, how do the planning and building regulations affect the total cost of affordable housing development by the private sector? Thirdly, what scope exists for the change and would, relaxing these regulations, enhance the supply of affordable housing developments by the private sector in South Africa? Corresponding to these questions is the first hypothesis which states that planning and building regulations impose a significant cost on the developers and thus deter the supply by the private sector. And secondly, relaxing some of the planning and building regulations could improve affordable housing development by the private sector. The study employed a qualitative approach to gather empirical data using household surveys and semi-structured interviews from developers and consultants on five case studies together with key informants' interviews from government officials. With the main theoretical tools of Institution Analysis and Development, this study developed a conceptual framework that determines the main planning and building regulations that impact on affordable housing supply by the private sector. And by employing insights from New Institutional Economics tools, these regulations are treated as institutions through which development rights are obtained.

The study reveals; that even though planning and building regulations are affiliated with better quality housing products, they significantly affect cost, affordability and location outcomes. That no national policy tool exists to guide affordable housing implementation processes; the current city's policy instruments are contradictory to the propagated concepts meant to enhance housing supply. The study discovers that the government has huge land parcels for different intentions, but makes it available only to a developer whose objectives align with theirs and developers lack adequate funding and incentives to motivate them. Finally, the study reveals that even when case studies are located outside the urban core of Cape Town, dwellers are happy and satisfied with the location and careless about the system's inefficiencies and there is no direct relation between planning and building regulations and location other than the fact that regulations contribute to the bad location of developments.

**Keywords:** Planning and Building Regulations, Developers, Housing, Affordability, Cost, Location.

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## LIST OF ACRONYMS

ASALA	Agricultural, Sub-divisional Agricultural Land Act 70 of '70.
BNG	Breaking New Ground
CBD	Central Business District
CPMA	Consumer Protection Management Act 1995 and 1998.

CPA	Civil Planning Act of 1991.
CPMA	Consumer Protection Management Act 1995 and 1998
DAMS	Development Application Management System
DEAD	Department of Environmental Affairs and Development
DoH	Department of Housing
DoHS	Department of Human Settlements
ECA	Environment Compliance Act of 1989.
EIA	Environmental Impact Assessment
FLISP	Finance Linked Individual Subsidy Program
FFC	Financial and Fiscal Commission
FAR	Floor Area Regulations
HCPMA	Housing Consumer Protection Measures Act No. 95 of 1998,
HAD	Housing Development Agency
HRA	Housing Regulatory Authority
IAD	Institution Analysis and Development
IBT	Innovative Building Technology
MGI	McKinsey Global Institute
MFMA	Municipal Finance Management Act No. 56 of 2003
NBR	National Building Regulations
NBRBS	National Building Regulations and Building Standard Act
NEMA	National Environmental Management Act 107, 1998
NHBRC	National Home Builders Registration Council
NHFC	National Housing Finance Corporation
NURA	National Urban and Reconstruction Agency
OHS	Occupational Health and Safety Act No. 85 of 1993

NRCS	Regulator for Compulsory Specifications Act, 5 of 2008
RoD	Register of Deeds
RDP	Reconstruction and Development Programme
NHLF	Rural Housing Loan Fund
PFMA	Public Finance Management Act No. 1 of 1999
SABS	South African Bureau of Standards
SDP	Site Development Plan
SHFS	Social Housing Foundation and Social
SANS	South African National Standard
SPLUMA	Spatial Planning Land Use and Management Act 16 of 2013
UGB	Urban Growth Boundaries

# CHAPTER ONE

## INTRODUCTION

### 1.1. Introduction

Contemporary states are confronted with regulatory challenges when governing and promoting the welfare of citizens in complex, open and diverse societies and economies, therefore necessary paradigmatic reforms regarding regulations have been advocated (Berg, 2015; Johnson 2016). Berg (2015) agreed that, regulations have replaced direct government possession as a main tool that it uses to impose control on activities (housing) and Fesselmeyer et.al. (2017) opined that governments exert a major influence on social relations through an unquantifiable but pervasive set of prohibitions and requirements in the form of regulations. These regulations exist in various sectors of the society to guide peoples' conduct and behaviour in their respective services to the organisation and the society they belong.

Regulation mean different things to different people. For instance; Berg (2008) defined regulation as a primary method through which the state relates to individuals and communities and as a practice in which governments seek to control the activities of businesses, organisations and individuals in their control. Regulation is opined by Yee et.al. (2014) to be a legal means of specifying actions that are required to protect public welfare and Weaver (2009) agreed that regulation provides the instruments with which standards are maintained. So the built industry is one which Turner et. al., (2013) described as a deeply regulated industry in which developers are subject to regulatory requirements, established by law.

In the built industry, the regulations are made of planning and building regulatory policies, procedures and other details that guide planning and building development. The planning and building regulations in this study are regarded as institutions through which planning and building developments are done. Unfortunately, much study of regulation pays insufficient attention to these *institutions* that pursue regulatory goals (Berg, 2008). According to South African Bureau of Standards (SABS, 1990), in 1987 SABS published planning and building as part of the original Code of Practice for the application of the National Building Regulations (NBR), South Africa Bureau of Standards (SABS) 0400-1987. The aim was to promote uniformity in construction law in the areas of jurisdiction of local authorities; through building standards specifications, which is also applied to other related matters.

Though many use planning and building regulations terms interchangeably, but they are different and mean different things. Planning regulations are concerned with the correct use of land, the appearance and scale of the proposed building and the impact that the development will have on the general environment and neighbouring properties (Turok, 2014). Planning interventions in the built industry sets conditions, limitations and incentives to shape development in order to achieve a better living environment (South African Cities Network, 2015; McGarry, 2018). Planning is in place to help guide the way towns and cities are developing. This includes road networks, highways access, and landscaping etcetera. Planning permission controls the way towns, cities and countryside develop (Planning portal, no date). Planning permission covers the principles of development which assess whether the development corresponds with local and national policies and prevents unacceptable harm, to neighbours' amenities (Bahar, 2016).

Building codes/building regulations on the other hand are regulations with stated purpose of assuring safety and sanitation of homes and limiting negative externalities associated with low-quality construction (Gyourko and Molloy, 2014). Davies and Jokiniemi, (2008), defined building regulation as a statutory code which regulates the construction, alteration, maintenance, repair and demolition of building structures. Tricker and Algar, (2006) opined that it is a statutory tool which states the minimum requirements and performance standards for the design and construction of buildings. Many authors opined that building regulations are regulations guiding the design construction and extensions of the buildings. Watermeyer (2007), agreed that they are a legal document from the national government body that guides and controls building practice through a given set of statements of acceptable minimum requirement and Laubscher, (2011) also defined building regulations as a regulating instrument which describes minimum standards that should be implemented during a building process to protect public health and safety throughout the different phases of a building.

Both types of regulations are in place to protect public's safety and the overall quality and value of the society. Planning applications and building development applications are considered under different laws; so knowing the difference between them is necessary (Bahar, 2016). As a developer, compliance with these regulation is necessary and important to become familiar with the terms and what each requires and covers. Building and Planning Control inspectors offer two distinct types of service which can affect the construction and appearance of buildings. While Building Control provide inspections that check and ensure buildings meet

the minimum standards and new building work is carried out in accordance with the building regulation's specifications, set out in the regulations (Planning portal, no date). Planning inspectors on the other hand ensure that the land use management processes of land acquisition such as Environmental Impact Assessment-EIA (public participation, objections, and appeal situation etcetera) are met. They inspect building heights and appearances among others in a neighbourhood. The both inspectors regulate development proposals within a framework of legislation approved by parliament. A land proposed for industrial development cannot for instance be used for residential development. For most building work, two separate applications are necessary in order to obtain both Building Regulation's and Planning Application's consent. The legislation for both is very important in building development but basically different.

Many authors therefore regard the built environment as a potential outcome of interactions among many different actors who are influenced by these regulations, all with varying interests and priorities, acting across a myriad of timeframes and scales (Guy and Henneberry 2002; Adams and Tiesdell, 2010 in Hogarth, 2015) which can affect outcomes either negatively or positively. One of such outcomes is that planning and building regulations can have a significant overall costs impact on building construction, and thus affect the financial viability of a building (Massyn et al 2015) and restrict formal supply (Malpezzi and Mayo, 1997), affordability as well as the location of affordable housing (Hogarth, 2015; Johnson, 2016).

The institutional provisions in policy and legislation which are meant to improve housing market outcomes; whether directed at affordable housing or other issues, often create additional cost implications and other barriers to the developer who is at the supply side and the end user who is at the demand side, in the delivery and acquisition of affordable housing (Hogarth, 2015; Massyn et al 2015; Johnson, 2016; Fesselmeyera et.al. (2017). According to these authors when excessive standards are imposed in affordable housing, that increases the financial burden for both the developer who usually bear the brunt of compliance costs through cost overruns that creates higher construction cost and reduces construction and supply on the supply side, and affects the demand in terms of affordability- higher rents and house prices for low-income households; as well as the well affect the location of affordable housing. This study would mostly focus on the supply side to determine the planning and building regulations that impact the most on affordable housing development that he/she deals with.

Various reforms have attempted to foster a deeper understanding of the nature of regulation and deregulation and had informed varying regulatory policy tools application to improve outcomes in many countries including South African, but the extent to which the planning and building regulations are reviewed to influence better housing (especially affordable housing) outcomes is less researched and that is what this study intends to explore.

## **1.2. Research Background and Rational**

Adequate housing is recognised globally as a basic human right (Le Roux, 2011). The Universal Declaration of Human Rights states in Article 17 that “everyone has the right to own property alone as well as in association with others” (United Nations, 1948). The drive towards homeownership has thus become a common practice in many parts of the world (McGee, 2012). Unfortunately, housing affordability is a major challenge facing many countries in the world. It is more noticeable in developing countries and poses a major socio-economic and financial threat to them (Akintola et al., 2013) and that it is assuming to be a perpetual problem in some of these countries (Abdullahi and Aziz, 2017). This problem led 131 Nations, to endorse 64 recommendations of the ‘National Action Plan’ at the United Nations conference on Human settlement, on the 11th of June 1976 in Vancouver Canada and housing the poor was one of the concerns to be addressed.

Consequently, in 1996, the government of South African enshrined in its Constitution Act 108 section 26 (1) that everyone has the right to have access to adequate housing and affordable housing provision became a major focus of government in post-apartheid urban South Africa (Allison, 2007). The Department of Human Settlement, (2009) reported that the 1996 Constitution, incorporated the right of everyone to have access to adequate housing, and the State is decreed to take reasonable legislative measures within its reach to achieve these rights. The constitution gives municipal administrators the rights to ensure order, equity, and conditions for this productive endeavour, and that duties should be discharged with coherence over who does what and where (Zack and Silverman 2007; South African Cities Network, 2015). Allison, (2007) agreed that South Africa’s government has a constitutional obligation to provide adequate housing to its citizens, yet it continues to experience housing crisis. The 1997 Housing Act No 107 also introduced varying programmes to provide poor households access to housing opportunities. The National Housing Code 2009 sets the main policy principles, guidelines, norms and standards applicable to all Government’s various housing

assistance programmes introduced in 1994 and updated (Department of Human Settlement, 2009).

The government responded to this housing demand with such large-scale housing initiatives, like Breaking New Ground initiative which is an improved version of the, previously Reconstruction and Development Programme (RDP) of 1994, the Breaking New Ground (BNG) initiative started in 2003, and also initiated some financial institutions like National Housing Finance Corporation (NHFC), National Urban and Reconstruction Agency (NURA), Rural Housing Loan Fund (RHLCF), Housing Development Agency (HDAF), National Home Builders Registration Council (NHBRC), Social Housing Foundation (SHF) and Social Housing Regulatory Authority (SHRA), among others to assist. Tissington, (2011) agreed that since 1994, the government has intervened in housing markets and have implemented housing subsidies which address the right to adequate housing. The state enters into the housing subsidies processes in diverse ways, through sectoral policies, as a development intermediary itself, in order to safeguard particular interests and values (Healey and Barrett, 1990). The Housing Market is divided into Mortgaged (Bank financed) and Cash-Build Houses; Social (Affordable) Houses; and Low-income Houses.

In 1997 the National Housing Department estimated that the number of families without adequate housing was 2.2 million. Many authors in agreement opined that there is a severe housing shortage in South Africa (Le-Roux, 2011; McGee, 2012; Refileo, 2014; Fuller Housing Centre Report, 2014). Earlier in 1993, an estimated 300 informal settlements were located across the country, but this number had risen to some 2,700 informal settlements by the end of 2009/10 financial year (Odendaal, 2012; Tomlinson and Jeffrey, 2015; Johnson, 2016). The Fuller Centre for Housing (2014) report corroborated that, about 2, 1-million housing units are still to be built and that this figure increased by about 204 000 every year. Backlog in South African Housing rhetoric, refers to the persistent shortfall in housing delivery, which seems to continue despite various government interventions to deal with it.

Many authors noted that what has contributed to these backlogs among other things include fragmented housing policy, huge fiscal constraints and unsustainable budgets, rapid population growth caused by urbanization, administrative systems, limited technical resources (Khan & Thurman, 2001; Loxley, 2013; Johnson 2016) inappropriate standards, inadequate land and land use restrictions. The DoHS-Department of Human Settlements Committee, (2015) also agreed that there is a growing crisis in the provision of affordable housing: outputs are

declining, costs are rising, procurement processes are bogged down, assembling land is slow, and external conflict is growing manifested in public insecurity and frustration in both the social and political arenas demonstrated in the extreme levels of crime and volatility rife in many communities in South Africa. So there is increased pressure on the government to address the housing issue which government is not addressing with the speed required due to its scale (Financial and Fiscal Commission, 2013; Hoek-Smit, 2016; DoH, 1994), so the private sector involvement is thus solicited.

### **1.3. Problem Statement**

Government's attempts to provide adequate affordable housing still remain a daunting task, thus private sector involvement has been highly encouraged. Apart from land and funding availability challenges that confront developers, planning and building regulations present a significant cost challenge to them from land acquisition to actual construction phase. These consequently produce undesirable outcomes that affect affordable housing supply; construction cost increases, housing price increases, reduces supply and affordability and also affect location. These could make housing investment unprofitable and unattractive to the private developer (Godwin et.al. 2016; Boeteng et. al.; 2016 Mazibuko, 2016). Contemporary studies in South Africa has been predominantly on regulatory noncompliance and their associated adverse effects on buildings and stakeholders, (Phago 2010; Le Roux, 2011; McGee, 2012; Refileo 2014; Fuller Housing Centre Report, 2014; Twum-Darko, and Mazibuko, 2015; Mazibuko 2016). The studies on the effects of planning and building regulations on affordable housing by the private sector in South Africa is however not well researched following the available literature. The extent to which these variables affect affordable housing development by private investor is not yet well studied and not well known. This study thus seeks to systematically and comprehensively establish:

### **1.4. Main Research Questions:**

What is the impact of planning and building regulations on affordable housing development by the private sector in South Africa?

#### **1.4.1. Sub Research Question**

1. How do planning and building regulations affect the total cost (production and transaction) of affordable housing development by the private developer in South Africa?

2. What scope exists for change of planning and building regulations in order to improve affordable housing development by the private sector in South Africa?
3. Would relaxing these regulations improve the supply of affordable housing developments by the private sector in South Africa?

### **1.5. Hypothesis**

**Hypothesis 1.** Planning and building regulations impose a significant cost on the developers and therefore deter supply of affordable housing development by the private sector in South Africa.

**Hypothesis 2.** Relaxing planning and building regulations could improve affordable housing development by the private investor.

### **1.6. Research Aims and Objectives**

The aim of this study is to investigate the impact of planning and building regulations on affordable housing development supply by the private sector in South Africa.

**The research objectives are:**

1. To establish the main types of planning and building regulations that affect the supply of affordable housing by the private sector in South Africa.
2. To determine the main effects of planning and building regulations on the total cost (Production and Transaction) of affordable housing developments by private developer in South Africa.
3. To determine the scope revision for revision and nature of revision of building and planning regulations and what should the changes be to improve affordable housing supply by the private sector in South Africa.
4. To make recommendations based on how planning and building may be reformed based on the outcome of this research on what the effects of affordable housing development

are that can encourage the private sector in affordable housing development in South Africa.

### **1.7. Research Method**

The study principally involves a combination of two methods; five case studies and key informant interviews. Each case study in the five case involves qualitative interviews conducted with the developers and consultants as well as a survey of their respective beneficiaries. A follow up interviews with developers and consultants was conducted at a later stage. The five cases of affordable housing were purposively selected as well as their both developers and consultants but their beneficiaries were randomly selected. The second part involves interviews of key informant group consisting of the City of Cape Town, the Provincial Department and the National Home Builders Registration Council. They were all purposively selected.

### **1.8. Conceptual Framework**

Numerous empirical regulatory studies have been done on regulatory policies and housing, but the challenge of not having an explicit theoretical frameworks to guide researchers, has impeded research outcomes degree as acknowledged even amongst property development researchers (Drane, 2013; Turanvaga and Mooya, 2016). Many other authors have affirmed that research in this areas have taken a descriptive nature, with limited theoretical applicability to unite all the empirical evidence that may be gathered (Carmen, et al, 2001; and Atkinson, 2008; Mbiba and Huchzermeyer, 2002). Arlani, and Rakhra, (1988) agreed that even though many studies have been undertaken to deal with either regulatory impacts and burdens, none of these studies, however, are genuinely comprehensive nor designed for the analysis of existing regulatory requirements.

The authors regard most studies to be too descriptive and analytical whose conclusions are based on impressions, opinions or perceptions of participants. They opined that even when some provide analytical tools, they fail to provide the rationale for building codes; therefore, the analytical methodology becomes incomplete and incomprehensive. The risk analysis role is usually not thoroughly explored, and certain analyses advocated by these studies require the use of data and techniques which in some case are non-existent. The hierarchy of regulatory goals and objectives against which all proposals must be measured is rarely always established and also fail to provide the framework for determining the problems of existing regulations.

Even when some address the rational but they fail to provide a specific framework for their assessment. Arlani, and Rakhra, (1988) thus conclude that existing frameworks and models display a variety of defects and shortcomings which preclude their straightforward adaptation for the critical and comprehensive review of regulations. The purpose of this study seeks to systematically and comprehensively analyse and establish the impacts of planning and building regulations on affordable housing development by the private through the development of a conceptual framework. This will be achieved by reviewing the theoretical tools of New Institutional Economics (NIE) and Institution Analysis and Development (IAD) Frameworks to gain insight into their concepts that present planning and building regulations as institutions that can affect the supply of affordable housing by the private in the different processes involved that affect stakeholders and outcomes such as cost, affordability, and location that need interventions. The proposed framework will thus be designed to provide a practical, comprehensive decision-making tool that is capable of evaluating firstly, the main planning and building regulatory requirements that affect a developer and secondly, other variables that impact negatively on the supply of affordable will be evaluated. The ultimate success of the proposed framework will depend on the availability of empirical data from respondents.

### **1.9. Contribution to Knowledge**

The results from the study should aim to therefore make a theoretical contribution; an empirical contribution as well as a policy contribution to knowledge through data surveys. The application of NIE and IAD in planning and building regulatory studies is not yet well researched in regulatory and housing studies. They have been well applied in other fields, particularly in areas concerning “common pool resources” and public administration for instance, but have not been matched in the space of planning and building regulations yet. So it aims to contribute to this gap by applying these theories in the built industry which have not yet been well explored with these theories.

The study aims to contribute to empirical knowledge, filling a gap in the industry who’s literally evidence is dominated by regulatory noncompliance studies and less attention paid to the regulatory institutions whose compliance is mandatory and seem to be imposed and have impacted on the delivery and outcomes of housing in the built industry. The existing regulatory studies is mostly related to other fields like the health, aviation, transport industries and so this study therefore adds knowledge to Housing and regulatory literature which have been widely studied with different theories, models and frameworks except these theories. This study will

make a policy contribution to knowledge too because the conceptual tool of IAD will help policy makers to identify the main planning and building regulations that require policy interventions that affect affordable housing development by the private. In South Africa for instance, related policy studies have been approached with different theories, model and concepts but the application of these for a more proactive policy informed decision making is less researched.

### **1.10. Significance of the study**

There is a housing problem and regulations contribute to the impediments of supply of affordable housing developments. This research is not an effort to refute the important role of regulation but rather aims to examine some of the potential, unintentional impacts that planning and building regulations may have on affordable housing development by the private sector. Although few recommendations have emerged from the housing literature on reducing regulatory effects, the relevance of this study is in developing a conceptual framework whose application will be useful to improve affordable housing outputs in terms of cost, affordability, and location; that can help to alleviate the affordable housing challenges in South Africa. The institutional regulatory challenges and their impact on affordable housing will be critically examined.

Of importance again is that the study will suggest relevant standards based on the survey outcome that enables efficient planning/designing and construction of affordable buildings by policy makers and built professionals alike. It will make planning and building of affordable housing to be properly guided by the concepts embedded in the framework. The main rules that affect housing by private sector for this income class will be spotlighted and act as a lead to what is required aside the regulations, in terms of the resources and qualities and characteristics of a typical developer. Through this the developer will know beforehand what the planning and building regulations that are not cost effective and add unnecessarily to building cost and the cost saving ones while embarking on affordable housing developments. It will help the developer understand the regulations that have the most impact on affordability, housing prices and location to guide their decision making while embarking of any affordable housing project. This study will also guide policy makers in their policy decision making processes that can help them implement the relevant interventions for a better improved affordable housing provision by the private sector.

### 1.11 Definition of Terms

To avoid uncertainty and ambiguity in the interpretation of concepts, terms utilised throughout the study are concisely defined below. The use of 's' (based on UK spelling) instead of 'z' (US spelling) is consistently applied throughout the study in words such as 'organisation'.

**Affordable housing** is housing meant to address the housing needs of the lower income households. This means that housing development (or conversion of existing stock) is undertaken specifically for individuals with income levels that range from below middle to very low and even no-income households.

**Planning Regulations** refer to policies guiding the use of land & buildings, the appearance of buildings, access to roads and the impact that the development will have on the general neighbourhood of the proposed building.

**Building Codes/Regulations** set standards for the design and construction of buildings to ensure the safety of people and environmental well-being. **Codes** regulate the design and construction of buildings and described as a set of rules that specify the standards for building construction to ensure its safety and the environment

**Developers** are the key organisers, coordinator and catalyst for development. Business dictionary.com defines a developer, is a person or firm who improves land with labour and capital and supplies utilities and essential services to be able to subdivide parcels of the land or build structures for rent or sale.

**Cost:** Any input towards obtaining land, approvals and other services that include affordable housing transaction and production cost.

**Location** refers to the position of the various cases.

### 1.12. Chapters Layout

**Chapter Two** Deals with a comprehensive literature review of related literature.

**Chapter Three** will discuss the methodology for this study.

**Chapter Four** discusses the findings of the study.

**Chapter Five** discusses the recommendation and conclusion.

## CHAPTER TWO

### THEORETHICAL AND CONCEPTUAL FRAMEWORK

#### 2.1. Introduction

This chapter is structured to review the general literature on economic theories of regulation with planning and building regulations in mind. Section two reviews the different frameworks applied in regulatory theories as well as a general review of regulatory housing literature. Section three highlights what the basic concepts of New Institutional economics (NIE) are all about and regulations are treated as an institution in this context. Section four presents a critical review of the Institution Analysis and Development (IAD) framework for a better understanding of its application, adopted in section five where a conceptual framework was developed and conclusion subsequently made in this section.

#### 2.2. Economics Theories of Regulation

Economic theories of regulation are broadly divided into two conventional views; the **Public Interest and Private Interest theories**. Both schools of thought have their advantages (as well as disadvantages) in considering the appropriate balance of intervention in a regulatory economy, and insights of varying value in different contexts are considered (Davies & Ward 2008). This is relevant due to the fact that regulation presents both positive and negative outcomes in housing. Both theories influence and affect outcomes either positively or negatively. This research apparently intends to holistically look at both these pros and cons of regulation to get to a fair conclusion. According to (Hertog, 2010), the economic literature provides the contrast between positive and normative economic theories of regulation. The positive variant aims to provide economic explanations of regulation and to provide an effect-analysis of regulation. The normative variant investigates which type of regulation is the most efficient or optimal. They both have normative arguments, so in considering the pros and cons of these regulatory theories the researcher has to consider them individually.

##### 2.2.1. Public Interest theory

The Public interest theory supports regulations and the theorist are of the opinion that regulations lead to high or good quality output. In this view, greater regulation would generally be expected to lead to higher quality goods, reduced market failures, and increased competition.

This can be seen in buildings constructed with strict compliance to building code regulations, the advantage of this is that the quality of such building will generally be better and safer than the one whose regulatory compliance is neglected. However the disadvantage of this is that regulatory compliance is not cost free, it is said to be very expensive and their processes marred with accompanying delays that cause cost overruns. The public interest theories thus emanated from the presumptions that regulators are benign and have sufficient information and enforcement powers that aim to promote the interest of the public effectively (Hertog, 2010).

The advantage of this view as seen from some regulatory authors is that regulations (planning and building) have broad information meant to provide safety and public welfare (Gyourko & Molley, 2014; Lee, 2014) but the friendliness here is yet to be proven as many authors have argued that the information is too bulky and technocrat and its interpretation is sometimes misconstrued (Godwin et.al, 2016) and the regulatory provisions of safety in the information has resulting cost implications that affect the private developer unfortunately which can negatively impact affordable housing outcomes. The proponents of this theory have again opined that regulation can help to correct market failures and improve social efficiency (Davies & Ward, 2008). Shleifer, (2005) for instance, agreed that benevolent governments can play a positive role in correcting market failures through regulation. The economic institutions that help in the regulation of affordable housing markets can thus help in efficient functioning of affordable housing market by correcting its failures. Necessary interventions to improve affordable housing outputs are possible if planning and building regulatory failures/challenges are addressed to make it profitable and attractive to developers and affordable to end users.

The pro of regulations is that they ensure building safety and environmental wellbeing that can help to avert poor planning as well as low quality/substandard housing construction. The resulting adverse consequences of noncompliance such as building collapse, loss of investment, or even death caused by regulatory noncompliance could impact affordable housing market viability negatively and can be averted through necessary regulatory policy interventions that properly incentivises and motivates the developer to reduce cost impacts (Hogarth, 2015). Regulations should therefore be made to address affordable housing market failures that lead to negative outcomes instead of becoming barriers that hinder them that Weaver, (2009) greed, developers regard regulation as burdens. So prevention of undesirable housing outcomes is possible with good policy decisions. However, this conventional view of Public Interest had been criticised and through empirical and theoretical research critic by

political scientists, the Private interest theory was developed (Posner 1974). Private interest theory often explains how policies/ decision-making results in outcomes that conflict with the preferences of the general public.

### **2.2.2. The Private interest**

Private interest theory according to Göran & Hägg (1997), was originally conceived by theorist Gordon Tullock in the 1960s. Tullock based this theory on the fact that government intervention and regulation are usually unkind, unfriendly and have harmful effects (Davis and Ward, 2008). This can be seen in the planning regulatory requirement for bulk services provision for instance where a developer is expected to provide services such as road, water, electricity, school and so on which should ideally should be provided by the government and is then shifted to the developer as a burden to bear. In this conventional view, regulation interferes with the efficient operation of affordable housing market forces and that according to Davies & Ward, (2008) often lead to ‘regulatory failure’ even worse than ‘market failure’. The private interest theorists also conceive regulations to lead to reduced competition and higher corruption (Göran & Hägg 1997). In this context the big players in the affordable housing market may hijack the market for selfish and greedy reasons and prevent entry and viability of smaller firms. The regulations that control professional registration of architects or a planners in their respective professional bodies for instance, help in determining and controlling who qualifies and operates in the built industry in terms of designing of buildings and planning the environment to ensure safety and public welfare. As far as this is an advantage in terms of safety of the building quality, the public and the environment as well as the protection of the building investor interest, but conversely, the regulations may also be hijacked by the people with vested interest to control/limit entry in order to reduce competition and benefit just a few (Posner, 1974 Gorann & Hagg, 1997; Dave & Ward, 2008), this may not be common in many developed and emerging economies but is common in developing countries due to corruption.

Hertog (2010) agreed that the private interest theories were mainly developed to explain the findings of ineffectiveness and inefficiencies of regulatory practices. Regulators in this view do not have sufficient information relating to cost, prices, demand, supply, quality and other variable that affect a developer in affordable housing production and regulatory information, monitoring and enforcement has resulting cost implications. This can affect both economic agents, such as regulators or regulated and Hertog claimed that all economic agents pursue

their own interest, which may or may not include elements of the public interest and so in the private interest view, regulation will not promote the public interest. Thus, the objectives of economic agents and the interaction cost between them may effectively make it possible for some of the agents to pursue their personal interests, at the cost of the public interest (Hertog, 2010).

George Stigler (1971) agreed that regulatory capture is possible and so regulations could be designed and captured by a particular industry for their benefit. Other regulatory scholars also argued that regulation may be pursued for the benefit of politicians and bureaucrats, who use regulation to create rents for their own benefit (Göran & Hägg 1997; Davis and Ward, 2008). According to the research done by Djankov et al. (2002) over a cross-section of 85 countries and data on the regulation of firm market entry, found that stricter regulation was not associated with higher quality products, or increased competition, but rather caused higher levels of corruption and a greater sized unofficial economy. The result was in favour of private interest explanations of regulation as opposed to the public interest explanation. In general, private interest theory sees regulation as a malignant influence on the efficient activities of businesses and market forces and more realistic (Davies and Ward, 2008). The theorists thus posit that regulation are made to serve the interests of the industry involved and not the public. This is in line with the neo-Marxist theory of housing which conceptualizes developers and landlords as the exploitative capitalist class, whose interests is at variance with the end users of affordable housing (Taruvunga and Mooya, 2016).

However, this does not suggest total de-regulation or complete refutation of the public interest approach, which sees public regulation as a corrective interference when the market left alone fails. What it however strongly suggests is that there is likely to be a trade-off between using regulation to promote the public interest and economic efficiency of regulations and housing. Understanding the nature of this trade-off and the potentially detrimental impact of regulation to housing outcomes is necessary to identifying in which contexts it may be appropriate to remove regulation and how better to design regulation in those contexts where regulation is considered to retain a role in promoting the public interest (Davis and Ward, 2008). The literally evidence that exist in this view can be seen in Henderson, (2007) study which shows that, there was rejuvenation in the economics literature on the costs of land use regulations from the works done by some researchers in US regulatory housing economic studies. In line with the private interest theorist the various studies have agreed that regulations impose cost,

viewed as a disadvantage. Glaeser, Gyourko, and Saks (2005) explored regulatory aspects that defined critical issues, and found that regulations played an increasing role in housing markets in the USA. It showed a situation where real construction costs over a 30 year period was stable, while housing prices kept rising, suggesting that regulation is driving up the cost of acquiring land along with acquiring permits to build on it, although this rise was irregular across cities. The study reported that until 1970, housing price increases tended to reflect construction cost increases but without real construction costs increase from 1970, which actually declined overall in the 30 years by about 3%, contrastingly, whereas housing prices have risen substantially in each decade, with a cumulative rise of 72% over the 30 years.

In considering the Interest group of private interest further; this views assert that regulation is a product of competing interests seeking to rationally forward their self-interest, and this competition plays out through the institutional process (Hertog cited Posner 1974; Stigler 1971). From different empirical literature review on the work done by (Babcock 1966; Stigler 1971; Molotch 1976; Logan and Molotch 1987; Warner and Molotch, 2000 in Hertog, 2010); it is revealed that; different conflicting interest groups arise and the most influential in proposing and influencing regulations on land use decisions, with regards to building development are the minor powerful interests. In this regards, the planning and building policy makers may not understand the challenges a developer faces with regards to the cost effects of regulation on the developer because they are not directly involved with the practical mechanisms for building development. Other authors regard the stakeholders as most influential (Heberlig, Leland, and Read 2014). While some opined neighbourhood organizations as most influential (Babcock 1966; Fischel 2005). This can be seen in 'public participation' and 'objection' processes of planning regulatory engagements where the neighbours are free to object any kind of development they are not happy about coming to their neighbourhood. Therefore, owners of developed land, homeowners, environmental groups, are according to Hertog, (2010) seen as opposing growth while developers, and vacant land owners are regarded as pro-growth (Hertog, 2010) because the want to supply housing but are limited by the oppositions and negative reactions from neighbours.

The competition between interest groups over land use and development have been researched in different ways. For instance Hilber and Robert-Nicoud (2013) study on vacant landowners versus neighbouring owners of developed land. Been, Madar and McDonnell (2014) work examined homeowners versus developers and Hawkins (2014) examined homeowners and

environmental groups versus developers. And in all these studies Hertog, (2010) opined that besides Been, Madar, and McDonnell (2014), all the other works reviewed had a cross-sectional view of zoning and development and showed that homeowners and neighbourhood associations are more powerful interests in most cities and can apparently oppose any up-zoning. As this can negatively impact on the home's value that can be reduced by a change in nearby land use. Thus, the tendency for homeowners to become involved in local land use issues.

### **2.3. Review of empirical approaches to improve regulatory effects on housing supply**

Many authors have employed different empirical approaches to improve regulatory effects on housing provision. Henderson, (2007) asserts that empirical studies have played an important role in attempting to consider which approach to regulation matches up to real world findings most closely. So many authors in this multifaceted housing studies have engaged and applied different theories, frameworks and models. Common of such models was the hedonic regression model. Hedonic regressions were widely used in most housing market studies (Sirmans *et al.*, 2005) using Hedonic Regression models. As examples;

In Modelling Planning Processing Time, Ball, (2011) used the Hedonic regression model technique to measure the causes of planning delays in the UK. This technic enabled the researcher to identify and quantify specific characteristics that influence the amount of time required to evaluate a development project and award planning permission. The result in this study showed that, just as it is in most parts of the world, planning delay is a major issue in the UK with respect to the regulatory barriers that exist in the provision of extra housing. The results confirmed most researchers' opinion that development control is a lengthy process with a considerable degree of variability and uncertainty over time. The hedonic analysis highlighted in the research is that only a small number of variables seemed to affect the time taken for development control evaluation. The results thus suggested that, planning delays play an important role in generating poor housing supply responsiveness, because it takes a long and uncertain time to gain approval for building, even when projects conform to planning guidelines (Ball 2011). Though this may vary according to projects, many authors have agreed that such delays increase cost which consequently impacts on housing supply and affordability and reduce profitability for the developer (Gyourko & Molley, 2014; Godwin *et. al.* 2016) and this appears to be a common phenomenon in both developed and developing the world.

Again using a hedonic regression to find the relationship between price per square foot and project density; Larkin, (2017) measured the causal effect of much localized density on welfare. The result showed that a 10% increase in density decreases price per square foot by between 1.3% and 2%. And so considering land use restrictions such as anti-sprawl/urban fringe measures as example, the regulation is ordinarily meant to minimize urban expansion but instead there was ripple effect on density increase. Their findings suggest that any positive effects of such policy measures are at least partially offset by the negative effects of increased localized density on utility. A similar study, done by World Bank (2005), built on Bertaud & Brueckner (2003) examined the effect of building height restrictions in Mumbai. It was found that a uniform height restriction in a metropolitan area appears to lower heights at the city centre where land use would usually be most intense and increased city edge. The report stated that Mumbai's edge increased further by 17 kms than would be the case without a uniform height restriction (Henderson, 2007). It was opined that while a height restriction can be externality based, it should be tailored towards neighbourhood's needs and market circumstances. Again, the World Bank housing researchers such as Bruckner (2007) have also modelled government interventions effects such as urban growth boundaries, FAR restrictions, cost increasing regulations, bureaucratic control of development decisions and radically based land use interventions and observed an increase in prices and densities. These studies are particularly useful in the densification agenda that is driven by the city, but the attendant cost effects to the developer should not be ignored.

Glaeser and Gyourko (2003) also used city by city hedonic regression equations to estimate the shadow value of additional land to residential consumer at the intensive margin of increasing lot size. They found that if land is effectively divisible given new housing formation and urban redevelopment, then the hedonic price should reflect the market value of land. They calculated the cost of regulation to be the difference between reported house value and the sum of construction costs as well as the shadow valuation of land which varied across cities. So extensive literature on hedonic house price indexes prove various heterogeneous features that can affect a perceived house quality in terms of the, age and location (Goodman & Thibodeau, 1995, 1998; Mills and Simenauer 1996; Stevenson 2004). Other authors on regression analysis use step-wise linear regression models for office buildings cost in Hong Kong and linear regression models to predict the construction cost of buildings. Cost prediction modelling analysing tools were employed by researchers for construction cost prediction and the Poisson

and negative binomial regression models were mostly commonly used to count data (Hilbe 2014).

Some more authors who applied theories with positivist approach yielded quantitative results with empirical evidence that housing supply is more inelastic in areas where greater geographic and regulatory constraints also exist (Mayer and Somerville, 2000; Green et al., 2005; Saiz, 2010; Ihlanfeldt and Mayock, 2014). Jackson, (2016) agreed that both regulatory and geographic constraints affects the elasticity of housing supply and each has similar effects on house-price volatility: a model was developed in his study to test for the elasticity effect of land use regulation and other supply constraints. Jackson suggested that using neoclassical economic theory that suggests that, all else equal, if regulatory and geographic constraints hampers the ability of home builders to respond to demand shifts, price rise and fall more hastily for a given demand shock than if such constraints were absent. This happens when supply constraints limit the developers' ability to constantly adjust housing production to maximize profits or minimize losses, thereby redressing the effect of the demand shock on prices (Jackson, 2016).

Many other authors such as Cheshire and Sheppard (1989), Bramley (1993) and Bramley and Watkins (1996) applied different models to establish the relationship between regulatory planning and the housing market and resulted on the impact of planning on the housing market. For example, using a time series economic model Bramley (1993) examined the effects of planning controls over a period of time and finally used the model to simulate the effects of the land use changes over time. The results showed the outcomes in the housing market when planning controls are relaxed. Again, in modelling the effect of regulations on prices and supply Glaeser, Gyourko, and Saks, (2006) agreed regulation acts is to alter the price elasticity of supply of housing. That regulations affect the elasticity of supply where they shift the supply curve and agreed that more regulated communities should have lower elasticities, or lower responses of supply to price increases. Quigley and Raphael (2005) also examined the effect of price changes on the number of building permits issued. They concluded that a price supply elasticity of relative change in building permits for a relative change in the price index in relatively "unregulated" cities in California, versus a point estimate of a price elasticity in more regulated cities exist and so regulated cities have lower supply price elasticity.

Most of these research works are done in the western world and (Ahmed et al. 2017) observed that there is very little or no application of planning and building regulations in informal sector

construction of most developing countries. Even in the very small proportion of formal sector housing, their adherence are generally lacking or limited compared to their developed countries counterparts. Planning and building regulations are not well-integrated into design and construction in most developing countries in Africa, India and Asia especially (Kathmandu, 2005; Dhaka, 2015; Ahmed et al. 2017), so their enforcement and compliance face significant challenges; unlike the developed countries where compliance to regulation is compulsory and the regulations serve mainly as good practice guidelines.

Regulation in relation to developed countries, and some emerging countries are integrated into the legislative environment whereby enforcement provisions mandate compliance (Johnson 2011 in Ahmed et. al, (2011). Compliance is not only about development and enforcement of regulations, but a social transformation where organisations and communities appreciate the benefits of safe building and planning and adhere to them willingly (Elffers et.al. 2006; Johnson, 2011) as a “compliance culture”. In Africa some of these building codes and planning regulations were inherited from western colonization not minding the disparity in geographical location and prevailing weather, climate and political conditions. They are rooted in colonial legislations that are “foreign”, and ill-suited to socio cultural realities of the African society (Godwin et.al. 2016). So compliance becomes a problem to them in most case. According to Kironde (1992) their exogenous laws/rules contradict local conditions and induce non-compliance because they are unsuitable to local conditions, rigid and not adaptable to change.

The appropriateness of the existing building codes and planning regulations in sub-Saharan Africa and some developing world is being questioned (Kironde, 1992; Godwin, et.al. 2016; Boateng, et.al. 2016; Yee, et al 2014). The suitability of the entrenched “imported” building codes and planning regulations in the context of modern African cities, therefore calls for concern as regulations are satisfactory only when they consistently align with the aspirations and practices of the target population (Godwin et.al. 2016). Various researchers have thus posit that regulations have so many socio economic consequences on the stakeholders (May 2004; Schill, 2005; Le Roux, 2011; McGee 2012; Gyourko & Molloy, 2014; Yee et al 2014; Hogarth, 2015). These regulatory constraints could therefore deter a developer from being actively involved in affordable housing provision.

Land use management and development processes from inception (land acquisition) to actual housing development are said to be very cumbersome and beclouded with problems and could be frustrating to a private developer, who wants some return on investment. They can become

barriers under certain circumstances (Downs, 1991) and additional burden and constraints to a developer who has to adhere to them (Gann, et al. 2010) in housing developments. Planning and regulatory policies impose huge transaction and production costs (UN-Habitat, 2010). In the processes of acquiring regulatory rights for building construction. Projects become susceptible to risks and uncertainties especially during the early process approval stages when there is limited available information available to the developer (Oztas and Okmen, 2010). Godwin et. al. (2016) opined that the complicated nature of codes with planning and building permit processes, the lengthy approval processes, and the series of administrative hurdles in the processes affect costs altogether.

They agreed that administrative bureaucracy, poor management, and inefficiency are major regulatory concerns as delays in permitting processes affect actual project's cost, time and budget (Winter and May 2001; Schill, 2005; Gyourk and Molloy, 2014; Adewole, 2014) of affordable housing. Every developer is interested in spending less to maximise profit and get some return on investment (Weaver, 2003; Schills, 2005; Gyourko and Molloy, 2014). These consequences are a major concern to developers, because the basic standard for determining the success of every building project are subject to project delivery within time, budgeted cost, quality and influenced by projects planning and processes effectiveness (Alan et al., 2008; Adewale 2014). Somerville (1999) argues that higher construction (and design) costs impact negatively on housing and reduce residential construction and this argument is upheld by Goodman and Thibodeau (2008). These challenges as confirmed by many other authors apparently affect the success of affordable housing projects and impact negatively on its productivity; raising construction cost and housing price, and reducing supply and affordability and affecting location of construction (building) projects in the built industry (Sveikauskas et. al, 2016; Barbosa et. al, 2017).

Compliance to regulation is mandatory and so the research discourse in developed countries have gone beyond questioning regulatory design and context which their underdeveloped counterparts query, to why individuals and firms comply with regulations in the first place and how that affect housing supply and affordability (May 2004; Weaver, 2009; Gyourko and Molloy, 2014). Their studies suggests that individuals and firms in developed countries comply with regulations either because they fear detection of violations and subsequent punishment, feel a duty to comply, or feel social pressure to comply. This is unlike their developing country counterparts whose research interest is mostly on regulatory inappropriateness, noncompliance

and their adverse effect and not so much on examining the institutions concerned with regulations for necessary interventions (Phago 2010; McGee, 2012; Refileo 2014; Yee et al 2014; Twum-Darko and Mazibuko, 2015; Godwin et.al. 2016; Boateng, et.al. 2016). Unfortunately, published literature on these themes is limited.

Again, what could be frustrating to a developer especially those in the developing country is the absence to basic infrastructure of electricity, good road networks and water (sewage) unlike their advanced counterparts with adequate infrastructural facilities already available in them that reduce cost for developers. This makes one of the planning regulatory requirement of bulk services provision required by a lot less economically impactful compared to their developing counterparts. This could be a limiting factor to a developers especially in emerging economies like South Africa which has strong institutions but not so much infrastructure and could be major cost contributing factor which is worse in other developing countries with higher informal sector (Phago, 2010). These challenges restrict construction and supply.

The supply constraints of affordable housing may thus be natural or human-made (Saiz 2010). Many studies have confirmed that the limited supply response is primarily a consequence of an increasingly restrictive regulatory environment (Jackson, 2014; Larkin, 2017). Taking energy requirement, parking, densities, and floor area and plot ratio restrictive regulatory policies for example, Plot ratio allowance is clearly correlated with project density as a greater plot ratio allowance allows developers to build more apartments (Fesselmeyera et.al. 2017). A restrictive plot ratio allowance as found in many countries means that a developer never reaches the optimal density and is constrained at only the allowed density such that adding apartments is seen as profit-increasing. Variation in plot ratio allowances thus results in variation in density (DiPasquale and Wheaton, 1996). Residential developments are usually subject to a maximum density, which is defined as the number of residents per hectare of land (Fesselmeyera et.al. 2017). The energy requirements are supposed to be cost and environmental saving devices but they impose significant initial construction cost to the developer too.

However Vaughan and Tuner, (2013) argued that building regulations can address cost efficiency and investment value and can establish a building's quality, safety and energy performance for many years, because initial design and construction decisions determine the viability and maintenance costs throughout the building's lifetime. The immediate construction cost may be high but the long term cost of building operation and maintenance could be reduced if codes are applied appropriately. Building codes and design and construction decisions affect

people's lives daily, so the requirements in terms of energy, fire safety codes and structural and seismic standards can affect people in obvious ways, they added. Thinking holistically about how codes and standards can be used save cost; codes are expected to have improvements that could save energy, carbon emission-related problems and resource efficiency in building construction in a long term (Vaughan and Tuner, 2013).

Be that as it may, the fact that variety of these regulations potentially impinges on different facets of housing cost, availability and affordability (Schill, 2005) and location too exist. The restrictions are said to be unprofitable to the investor, as various studies have confirmed; they attract extra costs to a construction project, creates a wedge between the house sales price and the cost of purchasing the land and building on it too (Schills, 2005; McGee, 2012; Gyourko and Molloy, 2014; Boateng et.al., 2016). So relevant interventions are necessary to relax some of these restrictions especially for affordability of the class of people that this type of housing is meant for. The challenge is to therefore distinguish between unnecessary regulations that should be removed and necessary or useful ones that should be preserved which is an extraordinarily difficult task (Schill, 2005). Surprisingly little theoretical attention, has however been devoted to these (Weaver, 2009) especially in South Africa and that is what informed this study. Most researchers have agreed that despite the rapidly growing body of regulatory research on housing, much is still unknown about its causes and effects (Winter & May 2001; May 2004; Gyourko and Molloy, 2014). Unfortunately, the overall study on how planning and building regulations impact on affordable housing development by the private sector is less studied especially in South Africa and is what this study is about.

### **2.3.1 Policy Review for Housing Affordability**

Governments' attempts in most countries to meet the housing needs her citizenry do not often yield satisfactory outcomes that can eliminate housing backlogs. Affordable housing thus still remains a huge problem as long as housing backlogs exists in countries like South Africa (Le Roux, 2011; McGee, 2012; Refileo 2014; Twum-Darko and Mazibuko, 2015; Mazibuko, 2016). The private sector involvement has been highly advocated in many instances since it has improved skill-set in housing projects successful delivery with a strong determination in resolving challenges, diverse work values and advanced project risk management structures (Loxley, 2013; Taruvinga and Mooya, 2016). Private sector participation should therefore be encouraged through a conscious policy and processes review that can encourage a more proactive housing delivery engagement, which according to the South Africa's department of

Human settlement-DoHS (2015), should be done with active speed and aggressive interventions. The advocacy for private sector involvement is encouraged yet its involvement in the affordable housing market has been limited due to all the myriad of seemingly strict regulatory challenges and a succession of unintended consequences enumerated earlier and also limited by negative perceptions of affordable homes not providing feasible value to cover development cost (Jimoh, 2012). The relationship between value and cost is vital in understanding developer decisions when embarking in a development project (Johnson, 2016). Therefore, the financial and economic interest of the private sector need to be harmonized with the political and social needs of the government and that can only happen through policy review and intervention.

One way to provide the necessary policy intervention is to look at what other countries have done differently. For instance, a Malaysian study done by Abdullahi, and Aziz, (2017) revealed that to enhance private sector developers' performance in Malaysia, the Malaysian government introduced a number of incentives and regulatory policies to fasten development approvals, relax planning and infrastructure standards and licensing procedures to encourage developers. Their research showed that the regulations that the developers were expected to comply with had mixed development which include 30% low-cost component, minimum design standards and capping the price of low cost houses and the positive outcome of this development encouraged a strong partnership between the Malaysia government and the private sector developers in affordable housing delivery after four decades. The private sector has thus attained dominance over the state as the major producers with a corresponding decreasing state roles in affordable housing supply (Hamzah, 2002; Abdullahi, and Aziz, 2017) as power decentralised to municipalities in Malaysia. Phago, (2010) study showed that power is decentralised even in South Africa but even though regulatory power is given to the municipalities, how the private sector is incentivised in the regulatory processes to improve housing outcomes matter a lot. Decentralization success as a reform measure depends on the careful design of institutional arrangements to encourage good regulatory outcomes (Bahl, 1999).

In South Africa, the nationalist government in the apartheid era used a regulatory master plan that differentiated land use base on racial lines (Todes, et al., 2010 in McGarry, 2018). According to the South African Cities Network, (2015). Through the introduction of Spatial Land Use Management Act (SPLUMA) a more clear insight into all three spheres of

government in terms of their roles and responsibility towards spatial planning was presented (McGarry, 2018). The province has thus been given the authority to make policy, McGarry, (2018) agreed that the Municipality has a Constitutional mandate to plan within its boundaries, through drafting of Integrated Developments Plans (IDP) and Spatial Development Frameworks (SDF) mechanisms. However, several authors such as (Roux, 2005), and (Greyling, 2015) have noted, the capacity within local government to execute its mandate is often lacking (McGarry, 2018) and that is where the problem lies. Policies made by municipalities should be such that address the inefficiencies of planning and building regulatory policies and should be buttressed by national policies for efficient affordable housing delivery by the private.

Policy review and intervention strategy involves a need to identify the major cost triggering component in affordable housing development and determine the sources of these cost drivers embedded especially in planning and building regulatory institutions that affect affordable housing supply by the private. The UN-Habitat reiterates the need to focus on the factors that drive cost which affect the supply of affordable housing. Both substantive and technical regulatory impediments should be considered in line with Zille *et al.* (2008) argument that restrictive institutional regulations regarding land use restrictions; density, parking floor/ plot area, ratio and inflexible and bureaucratically institutional environment limit land supply, increases development risk, raises the price of land and affect development activity. They further argued that planning regulations alter land prices, where for instance, a decision by government authorities to bring public land to the market may alter land availability and price of land. So as supply increases, the price of land will drop. Again, parking requirements for are very generic with no consideration to the class of people meant to inhabit this housing.

Many authors have also argued that even though the densification for affordability are encouraged in urban smart growth policies of mixed-use, higher-density, compactness, and walkability where transit-oriented development (TOD) and urban infill are advanced with good intentions; the planning regulatory policies can pose significant housing affordability challenges that can reduce the supply of developable land and increase property values (Addison et al 2013; Van den Nouwelant et al 2015; Hogarth, 2015). But then, densification and variety in housing can consistently promote affordability (Addison et al 2013), so smart growth and urban regeneration policies should be designed in a way that supports affordable

housing by mobilising land for development and encouraging higher-density, more diverse and inclusive housing forms (Van den Nouwelant et al 2015; Hogarth, 2015).

Again, given the high costs associated with purchasing housing, most buyers rely on a loan to help finance the purchase, usually for a significant proportion of the price. However, there is extremely limited supply of end-user finance in the affordable segment of the market (especially for the large proportion of informally employed), particularly from formal financial institutions (Agarwal et al 2013 and Hogarth, 2015). A more proactive strategy to attract financial institutions to get involved in financing affordable projects should be undertaken and debt counselling and management workshops to educate end users too. Financial institutions should play a crucial role ameliorating the high cost of development process of housing, as every development is fundamentally shaped by the sources of capital available (CAHF 2014; ULI 2014 in Hogarth, 2015). Senkova and Witver (2011) agreed that government can subsidise affordable housing supply by giving, much discounted prices on sales, land leases or deferred payments on land and even land donations, as seen in Johannesburg, and the developer is only expected to pay for the land after the units are sold (MGI, 2014). They also could institute “first-look” programs to give affordable housing developers right of first refusal for local public land (ULI 2014; Hagorth, 2015).

In order to understanding affordability in any housing market as McGaffin (2014) and Johnson, (2016) suggest that both the supply and demand components should be considered. The housing prices; the cost and availability of credit; consumer and investor preferences and expectations; and the price of substitutes and complements are all other factors to consider (UN Habitat 2010; McGaffin 2014). Therefore, Hill (2009) in Johnson, 2016 defined the demand side affordability to include purchase, repayment and income affordability by end users. And the supply side has to do with the developers who faces most of the regulatory impediments enumerated earlier. Studies have shown that there is a gap in the gap market. Johnson (2016) and CAHF (2015) perceive that housing developments for this class (entry class-R3, 500-R15, 00) are stagnant and redundant and investors experience losses and get no return for their investment. Johnson, (2016) argues that the gap in the gap market is the reason why home ownership is becoming increasingly less affordable for those at the lower gap end (R3, 500 upwards) because supply is limited to them due to affordability challenges, sales seem to be rising but only on the higher end of income levels (R15, 000 upwards) leaving the majority of the entry level income earners out of home ownership opportunities.

Glaeser, Gyourko, and Saks, (2006) attribute the imbalance to market supply and growth, with house prices at the upper end of the market having higher demand and affordability prospects because a typical profit driven developer would only respond more rapidly to increases in demand, whereas lower income earners will not benefit from similar growth (Napier *et al.* 2007) due to financial constraint and will experience limited supply. McDonald and McMillen, (2011) agreed that suppliers are more inclined to respond to higher household market demand, provided that it is profitable and is developed to its highest and best use.

In South Africa, the general definition for the affordable housing market is commonly defined as households earning less than approximately R15, 000 per month and houses with a value of less than R500, 000 (ALHDC 2010), These authors agree that how affordable housing becomes affordable to an end user depends on other household expenses and the cost of production for the developer. The study done by Hammit et al., (1997) investigated the regulatory cost-benefit and found that building codes that increase housing costs have income implications on households that purchase a new home called stock effect and they might not be able to meet other needs at that time and also restrict, cost-saving -materials and technologies for the developer too (Hogarth, 2015). Therefore, building standards that require a minimum size or level of design quality can make low-income households worse off, if they are forced to spend more on housing than they would choose without the regulations (Malpezzi and Mayo, 1997; McDonald and McMillen, 2011), or are forced into poor quality informal housing due to affordability barriers or lack of supply (MGI, 2014). Cost saving code alternatives materials include wood/plastic composite exterior trim/moulding, fiber cement exterior trim materials, and laminate flooring (Koebel et al., 2003; Listokin and Hattis, 2005).

Many scholars have also suggested that affordable housing has the propensity to be located far away from economic opportunities, social facilities and public transport infrastructure, which reinforces inequality and inhibits efficient functioning of the city especially in Cape Town, South Africa. This is due to regulatory impact on location of affordable housing developments as developments are forced to take place on cheaper, poorly located land, close to urban edge or outside of it. Bertaud (2009), cited in Massyn et al 2015) and Urban Land Mark (2011b) explanation that the important role of the City in providing well-located affordable housing should be directly from own investments and indirectly through regulations, subsidies and incentives. Good location of affordable housing should trigger social and economic inclusion by improving access to urban opportunities for lower-income households, and it reduces the

costs of transport and infrastructure provision, thereby boosting the city's productivity and creating a more financially, environmentally and socially sustainable city (Turok 2009; Harrison and Todes 2014; MGI 2014; Hogarth, 2016). So one of the aims of this study is to contribute to policy understanding by developing a conceptual framework from the insights of NIE and mainly using the IAD theoretical concepts as seen below.

#### **2.4. Theoretical Concepts of the New Institution Economics**

In this section, the three core concepts of New Institutional Economics (NIE) are reviewed for a better understanding; institution (planning and building regulations), property rights (development rights) and transaction cost. The (NIE) has two propositions. Firstly, "institutions do matter"; and secondly, "the determinants of institutions are susceptible to analysis by the tools of economic theory" (Coase, 1960; North, 1990; Matthews 1986; Williamson, 1984). The second proposition is what distinguishes the NIE uniquely in that institutional economists of all kinds whether old or new, are unanimous in the view that institutions matter. So planning and building regulations matter a lot as they determine outputs of affordable housing.

North (1990) asserted that institutions are generally defined as "rules of the game". As rules institutions provide structure that coordinate, guide, enable and constrain human actions. Rudd (2002) in agreement opined that institution refer to rules-in-use that influence actor incentives and behaviour and include both social norms and formal rules. How a developer is incentivised regulations-wise will determine how motivated he or she becomes in the supply of affordable housing. Swallow and Bromley (1992) further define them as "standards" in that they outline "actions that agents are expected to perform, (or refrain from performing) under appropriate circumstances".

North, (1993) agreed institutions are the humanly devised constraints that structure human interaction and are made up of both formal and informal constraints. Regulations, rules, laws, constitutions (regarding planning and building of affordable housing) are formal constraints confronting affordable housing supply by the private developer and the informal constraints include the norms of behaviour, self-imposed codes and conduct, and their enforcement characteristics (North, 1993). Formal rules specify actions or outcomes that are permitted, prohibited or required, and prescribe formal sanctions for rule violation (Crawford and Ostrom, 1995). Thus from an institutional perspective, institutions can be formal and/or informal. Formal institutions include laws, rules and regulations as found in constitutions, legislation and

other government policy documents while informal institutions include beliefs, traditions, norms of actions, conventions, routines, etc. (Pejovich, 1999). World Bank, (2010) also asserted that institutions include social norms of behaviour, habits, routines, values and aspirations, as well as laws and regulations that are rooted in a given society's history and culture. Accordingly, planning and building regulations have long been accepted as norm/routine, by laws in the built industry that are intuitional mechanisms that can influence outcomes of affordable developments. For instance, it has been norm, rule or practice for one to seek land use and land development right before commencing on the actual building construction.

Institutions therefore shape the incentives of economic agents, and influence economic outcomes in various contexts (Ostrom et al. 1994). Planning and building regulations in a given built system can shape and determine whether the planning, processing, building and management mechanisms regarding affordable housing will produce successful outcomes or not. Institutional interactions with the role players and other components of resources in the building innovation processes are central key to sustainable housing development. Their different patterns of interactions with stakeholders and other variables can affect affordable housing outcomes which can increase housing construction cost that can further affect other variables of housing price, supply, affordability and location. This is quite relevant when one considers promoting affordable housing development and requires cooperation of both state and private sector that is rooted in a regulatory institutions that builds trust (World Bank, 2010).

Regulatory institutions play a key role in affordable housing innovative processes by the private; they determine the extent to which the private can participate in affordable housing market and gain maximally. A major implication of this is that strategies to foster improved planning and building regulatory policies on affordable housing to fit the particular housing type for people of low income classes is necessary (World Bank, 2010), and the institutional framework may require changes in order for this to happen. For example, planning and building codes governing development rights acquisition may have unintended anti- investment bias which could be improved with good policy decisions for a better supply of affordable housing by the private developer. Further, it may be difficult to secure affordable housing for the income class if regulation increase production cost and makes the affordable housing product unaffordable for the end use.

Ostrom, (2010) expatiated that by rules, institutions imply apportioned instructions that are mutually understood and predictably enforced in particular situations by agents responsible for monitoring conduct and for imposing sanctions. By norms, institution imply shared instructions that are enforced by the participants themselves through internally and externally imposed costs and inducements. The regulatory institutions of land use planning and land development impose significant cost on the developer as well as processes cost of development rights acquisition.

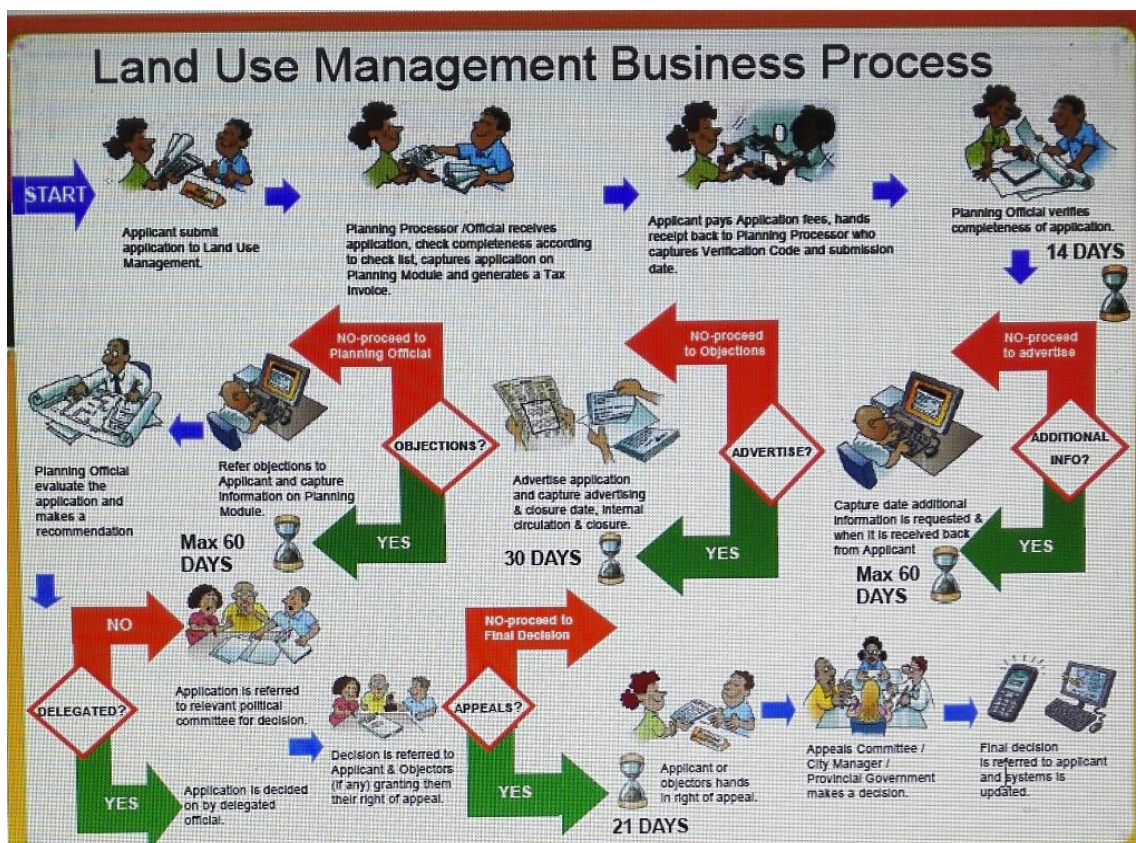
#### **2.4.1. Planning and Building Regulatory Institution**

Regulatory institutions vary according to different countries. In South Africa, the built industry is regulated by different bodies such as the National Building Regulations and Building Standards (NBRBS) Act, 103 of 1977 which forms the basis of which buildings are designed and constructed to suit human habitation. The Housing Consumer Protection Measures Act of 1998 (Act No. 95 of 1998), which is implemented by the National Home Builders Registration Council (NHBRC) and the Occupational Health and Safety (OHS) Act of 1993 (Act No. 85 of 1993) which takes care of safety and wellbeing of a building are both meant to protect the end user or the consumer. So, the NBRBS Act set minimum building standards for performance of all buildings in terms of safety, health and structural stability of buildings (Mahachi, 2014) and agreed that the NBR is the Building Code of South Africa and therefore sets the minimum performance criteria for all buildings and the municipalities are obliged by the responsibility to ensure that buildings are constructed or altered only when their drawings conform to these regulations.

The Housing Consumers Protection Measures Act (Act 95 of 1998) makes provision for the regulation and protection of housing consumers through the establishment of the NHBRC and a warranty scheme. Unless a person is a registered home builder; the Act prohibits any person from carrying any home builder business, or receiving any consideration in terms of an agreement with a housing consumer in respect of a sale or construction of a home (NHBRC document). The National Regulator for Compulsory Specifications (NRCS) Act, 5 of 2008 is also involved in technical regulations of various industries (the built-industry inclusive) and administers technical regulations in the interests of public safety and health or and for environmental protection (Mazibuko & Twam, 2015). South African developers are therefore subjects to these regulatory requirements.

**Land use planning:** Planning regulations as regulatory institution gives guidelines on land zoning and prevents inappropriate and unapproved land developments. For instance, they prohibits one from developing residential building in an industrial land in order to protect residents from noise and pollution (Henderson, 2007). Henderson opined that such planning can be made flexible through a transparent well processed variance granted by zoning boards where for instance an agrarian land can be converted to business or residential development land or a petrol station built in residential neighbourhood through proper negotiations/incentives with people living in the neighbourhood. Density regulations and open space regulations that have to do with minimum lot size, set-back and building line standards, height restrictions, are all designed to deal with neighbourhood crowding, which are meant to ensure sufficient open space and regulate buildings from impeding each other's view (Henderson, 2007). Many authors have thus argued that planning approval and their attendant processes increase uncertainty (risk) for the developer and extend the project time frames that subsequently increase costs and reduce project viability (Tsenkova and Witver 2011; Financial and Fiscal Commission-FFC, 2012; Abdulahim and Aziz, 2017; Hogarth; 2015). The Land use management business process from application to approval in the figure below indicates ideal time frames, but unfortunately these time frames are not strictly followed

**Fig. 2.1. Land use management business process adapted from CTMS**



Delays in these processes could get up to two to eight years which could potentially cause price increases over time mainly due to increases in the material costs and labour. The bureaucratic processes and red tapes are mostly the causes of these delays. Unfortunately, the stipulated time frames set for public hearings, objections and other concerns, as well as finalization of required approval documentations are usually unrealistic and not adhered to. A South African study showed that the township application process for affordable housing developments can stretch to 157 months, and that a 24-month delay increased development costs by 175%, translating into an increase of 124% on the selling price of the units and a 70% decline in the internal rate of return for the development thus undermining both delivery and affordability (CAHF 2015 in Hogarth, 2015).

Cost increases from regulatory processes mostly impact the transaction and construction phases that raise the prices of the housing units and affordability (Agarwal et al, 2013). Unfortunately, affordable housing business model does not allow price increases to compensate for delays as opposed to market developments in which developers depend on quick execution of projects (Hogarth, 2016). Many studies have also reported that some zoning regulations for new affordable housing developments could also be challenged by other factors especially in situations where land owners or landlords are protective of their investment with the fear that affordable housing development in their vicinity that could devalue their properties. Most objections to affordable housing development are not usually serious concerns but the reasons for objections in this study are mostly due to parking, sighting property devaluation problems.

Building regulations on other hand are regulations that address the technical requirements associated with the construction process including the way in which the building is constructed, the structural stability, means of escape and fire precautions, weather resistance, energy conservation, sound insulation, access and facilities for all users in a building. So Building energy, fire and water requirements, building lines, setbacks, orientation, density and parking requirements are also some of the examples of building regulations. Both planning and building regulations set minimum standards for quality construction with a regime of inspections (Henderson, 2007). These policies are good for the safety and protection of surrounding neighbourhood, but where land availability is a problem, the scope of policies can adversely affect a private developer who would ordinarily would have built more densely on an allocated plot of land and increase the profitability of affordable housing development. Gyourko and Molley, (2014) agreed that theoretically, the availability of buildable land might not constrain

the supply of housing units if housing could be constructed as densely as necessary to meet demand, but this is hindered by all these restrictions. Parking restrictions are said to be too generic and in considering the class of people in the affordable housing category, too much parking space may not be relevant. A developer is also required to provide bulk services and pay development levy per unit cost and then still pay for all consultants aside the cost of land. In investigating the relationship between land use regulation and residential construction, Mayer and Sommerville (2000) had characterised regulations as either adding explicit cost, uncertainty or delays to the development process. All these make the cost of affordable building development too expensive for affordability.

**Infrastructure:** Developers' require basic infrastructures such as good roads network, sewage disposal, electricity, water, schools, and hospitals when providing affordable housing and it is governments' responsibility to provide most of these. If land is not well located where the infrastructures are available, the developer is expected to provide them as bulk services. Which adds very significantly to the total cost of development. The lack of this and the location proximity to access these facilities in most instances make affordable housing provision by the private very challenging (Henderson, 2007; Phago, 2010; Johnson, 2016).

#### **2.4.2. Development Rights**

The second factor to consider under NIE is property right and in this context the researcher looks at it from both the land use management (planning) and land development (building) rights perspective. Both planning and building permission (rights) are required for affordable housing development by the private sector. These rights are granted when a developer rightly observes and meets up the relevant minimum regulatory requirements for affordable housing. When one makes a land use and building development approval application one is seeking to have the details of proposed development checked and approved and therefore, developer's satisfaction on the processes of this important institutional provision is likely to influence their incentive to expand their affordable housing development efforts. Unfortunately the red tape and bureaucratic processes characterise these processes, which can be frustrating to a developer. An effective service delivery of both land use planning and building development rights application approval processes requires effective communication through an integrated information sharing among the various departments in an institutional arrangement (Carr, and Henry 1995; Gunasekaran and Kobu, 2002; Dave 2017). Without an integrated information system, these processes in communications and services are slow and costly (Gunasekaran and

Kobu, 2002). Great objective achievements will be made if all participants understand how development processes function, who the other team players are, and how their objectives are interwoven (Miles et al 2000).

### **2.4.3. Transaction costs**

Transaction cost are said to be the cost of exercising the rights to give orders within an institution. It is the cost of defining and measuring resources or claims as well as utilising and enforcing the specified rights. It includes the cost of information, negotiation and enforcement. They consist of fixed transaction cost which has to do with institutional arrangement set up and variable transaction cost which depends on a number of volume of transaction (Furubotn and Richerer 1998). Dollery, (2001) opined that there is no consensus among new institutional economists regarding the definition of transaction costs. However, transaction costs are often defined as costs involved in transactions, other than the sale price. In other words, all the costs that are not directly related to the production of a product (Webster and Lai, 2003; Shahab,et al, 2017). Marshall (2013) regard transaction costs are the costs of the resources used to: define, establish, maintain, use and change institutions and organisations; and define the problems that these institutions and organisations intend to solve.

Any involvement in planning and building permission transactions create transaction costs. Planning and building development systems are extremely complex and laden with transaction cost and where there is such regulatory compliance, there is transaction cost to pay (Phago, 2010; Marshall, 2013; Garrick et al., 2013). This is because policies are being observed in most of the main sectors of housing provision and control whose processes impose huge transaction costs (UN-Habitat, 2011). Projects become susceptible to risks and uncertainties especially during the early stages where there is limited available information available to the developer (Oztas and Okmen, 2010) and processes especially involved in zoning, land process approvals. In agreement Flyyberg, (2007) posits that projects are usually plagued by cost overruns, delays and poor quality due to poor planning and inappropriate regulations among other things. Yee and Li (2018) opined that the lower the cost, the more sustainable affordable housing development by the private sector becomes (Yee and Li, 2018).

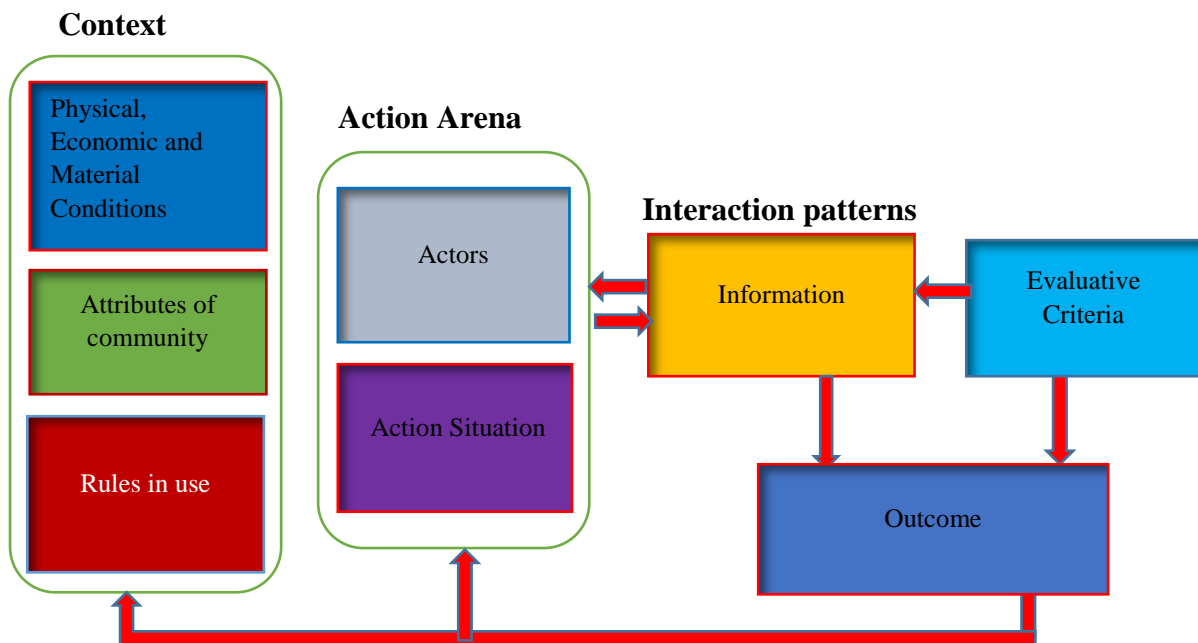
Transaction costs are expected to vary according to their institutional design and arrangements (McCann, 2013; Hagemann et al., 2015; Shahab,et al 2017). Shahab,et al (2017) noted that there has been no systematic research dealing with how planners should treat transaction costs, and other institutional aspects. Therefore, applying proper criteria, a building and planning

regulatory analysts should be able to judge the regulatory quality, and more importantly determine what their outcomes will be for affordable housing provision by a private developer. Again, Dahlman (1979) stated that costs of information gathering, contracting and controlling contracts also exist. So another institutional infrastructure essential for cost overrun are embedded conflict resolution mechanisms in cases of; disputes, arbitrations and objection and appeal situations that may arise during public participation processes in land use planning and building development application approval processes among the exchanged parties in disputes. The importance of minimizing costs cannot be overemphasized in affordable housing production as cost minimization might make the final housing product more affordable and suitable to the target group (Arnott, 1987) and more profitable and attractive to the private developer too.

## **2.5. Institution Analyses and Development Framework**

The institution analyses and development (IAD) framework was developed by scholars at the Workshop in Political Theory and Policy Analysis, Indiana University (Oakerson, 1992; Ostrom et al., 1994; Rudd 2002). IAD framework has been widely applied in research aimed at studying local management of common resources (Benson et al., 2013; Clement and Amezaga, 2013; Nigussie et. al. 2018; Ostrom, Gardner and Walker, 1994; Steins and Edwards, 1999; Rudd, 2002), it has been adapted over time for empirical research that deals with many other problems concerning metropolitan organisations as well as public administration (Ostrom and Ostrom, 1977), policy analysis and design (Gerrard and Polski, 1998) as well as informal real estate markets and poverty (Mooya, 2009). It was originally conceived to address the management of natural pool resources such as fishing (fishery), tree felling (forestry), mining among others in a given community. As natural resources people are ordinarily bound to exploit it since it is open for general use to everyone in the community. So conflicts amongst users are bound to happen in such scenarios if the resources are not well managed. It is therefore applied in this study to explore regulatory impact in affordable housing which is a complex multi-faceted industry with diverse interests from diverse stake holders. If the affordable housing market is not well coordinated with good policies and regulations, there is also bound to be such conflict amongst vested interests that would affects its viability in terms of cost, affordability and location.

**Fig. 2.2 A Contextual Institutional Analysis Framework**



**Source: Ostrom 2005**

The Institutional Analysis and Development (IAD) framework is a generic theoretical framework which connects external variables in the context (rules-in-use, attributes of community and physical conditions) as well as the action situation, interaction, outcomes and evaluative criteria, in an iterative framework that determines the outcomes. Ostrom, (2010) suggested that the IAD framework analyses how rules-in- use (planning and building regulations), physical and material conditions (resources), and attributes of community in a given context affect the structure of action arena (actors and an action situation), influenced by their patterns of interactions, decisions and incentives and the resulting outcomes. It is a conceptual space in which actors consider alternative courses of action, make decisions, take action, and experience the consequences of these actions (Ostrom 2005).

## **2.6. Modified Institution Analysis and Development Framework**

In this study, the context and action arena are assumed to shape the efforts towards sustainable affordable housing provision by the private sector. The general elements of the IAD framework as illustrated in Fig 1 provides guidance for highlighting key insights on the building and planning regulatory institutional arrangements that affect affordable housing interventions. The IAD framework is applied in this study using the rule typology; presented as an economic tool

for modelling strategic interaction between two or more players in a situation that contains set rules and outcomes. So the IAD framework is a useful tool for considering an entire spectrum of impacts of planning and building regulations on affordable housing development by the private sector and their outcomes and necessary interventions.

**Context:** an important part of IAD framework is to firstly identify the rules-in-use (planning and building regulations) and the policies, bylaws etcetera that affect the affordable housing market that regulators (government officials) and those regulated (the developers and their consultants) observe. Secondly the attributes of developers speak to the different types of developers that exist and their different characteristics in relation to whether they are government or non-governmental, profit or non-profit making organisations and what qualifies them to operate as a developer in affordable housing market. Finally their interactions with other variables of the physical conditions relating to the exogenous physical conditions which are the resources that a developer need for affordable housing provision such land, funds/capital, labour, infrastructure, and the type of housing available in the environment are things the developer need to function properly in the affordable market space. This would help determine who can be accepted or functional in the affordable housing space. All these interact in varying patterns with all actors in the affordable housing situation in the second part of the framework called the action arena. The varying flow of information from actors and different variables have accompanying transaction cost in their different patterns of interactions that influence outcomes that require interventions.

**Action Arena:** this is an important conceptual which is a social space where things happen. It consist of participants in the action space interacting with all variables to analyse, predict, and explain behaviour within the mechanism that affordable housing provides. An action arena is adopted to be all participants that are actors in the affordable housing space, which is the market for affordable housing development. Here participants in affordable housing space play varying roles and are involved in different interactions and decision making. A developer for instance considers what he needs for affordable housing development; the land, funds, labour, location and infrastructure. For example, the developer has to buy land, develop it following all the processes of the rules-in-use.

**Actors:** The actors are those who participate in the affordable housing social space. These include the private developers; consultants or built professionals, the government officials and non-governmental officials and housing beneficiaries of affordable housing developments. The

access to land, capital, labour, infrastructure and technology, often times influence the actors' decision choices. An actor whether an individual or a corporate one has some clusters of variable that determine what qualifies him/her in a given market space. The actors in this situation are:

**Developer:** According to business dictionary.com a developer, is a person or firm who improves land with labour and capital and supplies utilities and essential services to be able to subdivide parcels of the land or build structures for rent or sale. So the boundary and position rules qualifies one to take a developer's position in affordable housing development. Therefore the attribute of the developer will determine how successful the development will be. What then makes a developer; what are the characteristics that define a developer and qualifies him in the affordable housing market. Developers, are the key coordinator and catalyst for development (Healey 1991) and can take many forms, including individual entrepreneurs, private investors, institutions, corporations, and municipalities.

**Consultants:** It is the duty of professional to apply the minimum required standards while planning or designing building plans. Their role and position are determined by the boundary and position rules. This thus speak to who they are and their position.

**Government Officials:** The government officials are chosen based on their qualifications to attain positions by both the boundary and position rules too. They are assigned to ensure compliance and are obliged to it, they do plan inspections and permitting approvals. Their role and position are determined by the boundary and position rules in terms of who they are.

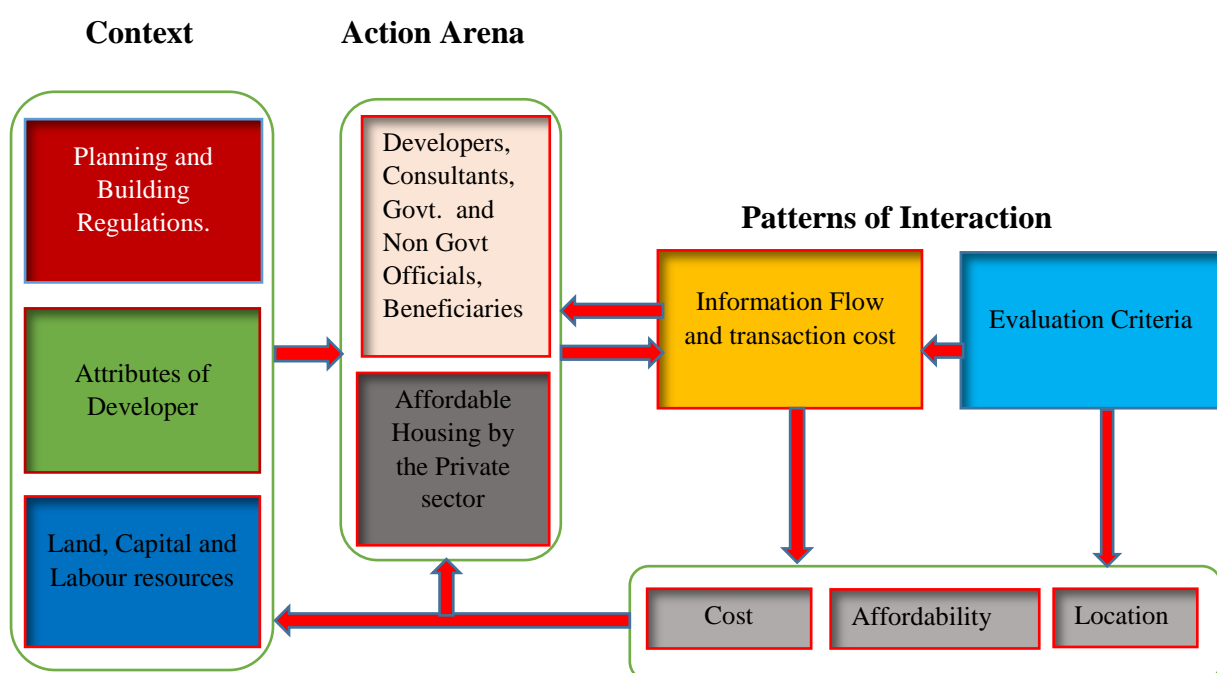
**Beneficiaries:** position and boundary rules guiding affordable housing determines who qualifies as a beneficiary in affordable housing development by the private. These are low income earners who either gained completely from social housing or partially subsidised FLISP program for affordable housing developed by the private sector. They are usually of a low or middle income class and could be owners or renting from owners of the affordable houses. Loxley, (2013) and Taruvinga and Mooya (2016) identified the classes targeted by government for affordable housing subsidies as those with little and unstable income or undocumented incomes, who have inadequate credit history or collateral. These features in their opinion, make mortgage funding for housing virtually impossible for them and thus the need for governments' assistance arises (Mosha, 2013; Taruvinga and Mooya 2016). Here, the Social Housing and Finance Linked Individual Subsidy Program (FLISP) are government's impetus for the funding

process. The housing products are either entirely subsidised or partially-subsidised or rental units (Macleod, 2013).

**Action Situation:** An action situation is conceptualised as the affordable housing market that regulations affect. It is referred to as the affordable housing social space in which individuals interact strategically with the different variables to realize anticipated outputs and outcomes of affordable housing by the private. Here the researcher considers the positions or roles that actors play in the affordable housing situation regarding who the participants are; the level of control they have, the actions they take, and how actions or interactions are connected to outcomes. The possible outcomes in this situation can be influenced by the information about the regulations and affordable housing that is available to participants and most importantly what costs (production and transaction) and benefits that the developers incur when they undertake any action in affordable housing situation.

**Outcomes:** Scope rules specify the outcomes that could be affected. Potential outcomes in terms of affordable housing planning and building cost that affect housing productivity are cost, affordability and location that affect supply and determined by scope rules. They specify the jurisdiction of outcomes that can be affected. The scope of building and planning regulation outcomes whose actors jointly affect variables determine the outcome of affordable housing provision by the private developer in South Africa.

**Fig. 2.3. A Modified Conceptual Framework**



## **Adopted from Ostrom 2005 Institutional Analysis and Development Framework**

### **2.7. Conclusion**

The effort in this study seeks to address the effects of building and planning regulations on affordable housing by the private using the Ostroms IAD framework. The result from this study should help improve the outcomes that can improve affordable housing production and supply by the private developer.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Introduction**

The previous chapter reviewed existing literature in accordance with the research objectives. This chapter supplements Chapter one as the research instruments are designed to achieve research objectives by producing answers to research questions enumerated in Chapter One of the study. In this section, different types of research methodology are identified and the specific research design adopted for this study subsequently presented. The chapter therefore describes the various research approaches, the research design, the sampling techniques, the procedures for data collection, the techniques adopted for data analysis and ultimately the testing of validity and the reliability of research instruments and the ethical steps taken to ensure that the study had no negative ramifications on the participants. The study attempts to define the different concepts of the research design and methodology in this chapter.

#### **3.2. Understanding the Theoretical Concepts of Research Methodology**

Leedy and Ormrod, (2005) defined research as the systematic process of collecting and analysing information (data) in order to increase the understanding of a phenomenon of concern or interest. Research is a process of steps used to collect and analyse information in order to increase our understanding of a topic or issue (Creswell 2005). Research methodology therefore according to Leedy and Ormrod, (2005), is a scientific study of how research is done and guides one on the various steps that are generally adopted by the researcher in logically studying the research problem (Lingayas, 2012). This involves a research design regarded as an action plan for getting systematic answers from the beginning to the end of research questions with an aim to achieve the research objectives. Kothari (2007) sees research as a way to systematically solve the research problem.

The methodology is structured by the research questions and essentially provides the steps that will be taken in order to derive reliable and valid answers to those questions. Research methodology is an all-encompassing macro frameworks that proffers principles of reasoning related with paradigmatic assumptions that validate various schools of research (O'leary, 2010) Hall and Hall (1996) agreed that it is that philosophy and the general principles for conducting research. The scientific rigour of any research project as opined by Phago (2010) is engraved

in the employed research tools and how these tools are used to obtain not only data relevant to the objectives of the research, but also what subscribes to the validity and reliability notions. This confirms Dahlberg and McCaig (2010) report that the research methodology section is an extension of the aims and objectives of a research project that clearly states the details of the approach to follow in a research project.

The choice of tools to conduct research and develop desired outcomes is made by the researchers from different fields (Leedy and Ormrod, 2005). Davis and Parker, (1997) asserted that researchers are knowledge workers, who use knowledge tools to conduct their work. Research methodology therefore, determines the appropriateness of a given research tool. Leedy and Ormrod, (2005) agrees that novice researchers often times confuse the research methodology with research tools unfortunately. They argued that a research methodology is the general approach that a researcher takes to execute the research project and outlines the types of research tool that the researcher will use to get study outcomes whereas, a research tools, is a specific mechanism or strategy employed by the researcher to collect and interpret data. The research methods commonly used case study (descriptive), empirical/quantitative, qualitative, mixed methods (both qualitative and quantitative), experimental, quasi-experimental, and simulations. Each type of research method encompasses many specific research tools that can be employed to address different research question. The methodology should generally be detailed and address the *how*, *when*, *where*, and *who* questions.

### **3.3. Research philosophies**

Philosophy is the basis of scientific research that provides the way for exploring research leading to knowledge development. Paul (1993) and Honderich, (1995) agreed that philosophy provides a thinking framework that facilitates the development and improvement of alignment between what people think and what people do. Research philosophy as described by Saunders *et al.*, (2007) is associated with the nature and development of knowledge that has the presumed key that lead to the research study perspectives. Philosophy as opined by Easterby-Smith *et al.*, (2002) produces a selection of a research approach with varying knowledge structure for research design decisions and failure to link research issues philosophically can adversely affect the research quality and design. The philosophical reasoning in research include the following:

### 3.3.1. Ontology

Ontology as defined by Merriam-Webster (2017) is a branch of metaphysics concerned with the nature and relations of being. It deals with entities and many authors agreed that ontology is associated with the nature of reality, its characteristics and describes assumptions about reality and what knowledge is (Tan, 2002; Creswell, 2007; Bryman, 2008; Dainty, 2008; Liu, 2014). It is concerned with the kinds of things that exist and what entities they belong to. It claims about what exists, what it looks like, what units make it up and how these units interact with each other. In short, ontological assumptions are concerned with what we believe constitute social reality (Blaike, 2000). Ontology according to Bryman, (2008), has two views: objectivism and constructionism, to the nature of social entities. Fitzgerald and Howcroft (1998) further argued that realism and relativism are two types of ontology positions.

**Ontological Assumptions: Objectivist/ Positivist ontology-** asserts social phenomena and their meanings as the independent existence of social actions. Positivist ontology explains the studies which are premised on the existence of a prior fixed relationships within phenomena which are typically investigated with structured instrumentation. Here reality is stable and can be observed and described from an objective viewpoint (Levin, 1988); phenomenon of interest is single, tangible and fragmental and both the researcher and the researched are independent. Realist ontology sees the external world as comprising of tangible structures that pre-exist independently. The latter relates to the individual's ability to acquire knowledge and is considered practical and unconcerned with the abstract or idealistic view of life;

**Ontological Assumptions: Interpretivist Ontology:** Here, reality is socially constructed and internally conceived in the minds of humans. Everything is by consensus. Nothing is objective but everything is constructive. Constructivist ontology affirms that social phenomena and their meanings are produced through social interaction which is constantly changing (Bryman and Bell, 2007). For instance, weights change continually, names are given to things, and people agree how long a meter is. Reality is indirectly constructed based on individual interpretation and is subjective. Relativist ontology observes reality as being directed by socially-transmitted terms and varies according to language and culture (Fitzgerald and Howcroft, 1998). There are multiple perspectives on one object or incident. Is predicated on the view that reality is a social product and hence incapable of being understood independent of the social actors (including the researchers) that construct and make sense of that reality (Orlokiwski and Baroudi, 1991) Reality is an extension of human consciousness and subjective experience (Burrell and Morgan

1979). Although the debate regarding the nature of social research is ongoing, all philosophical positions and their attendant methodologies hold a social reality view, which will determine what can be regarded as legitimate knowledge (Liu cited Walliman, 2005).

### **3.3.2. Epistemology**

Narrates how knowledge should be achieved and accepted (Tan, 2002; Bryman, 2008). It is concerned with questions of what should be regarded as acceptable knowledge within a discipline (Dainty, 2008). Just like ontology, some authors opined that there are two types of epistemology; positivism and interpretivism (Love *et al.*, 2002; Dainty 2008; Liu, 2014).

#### **Epistemological Assumptions (nature of valid knowledge): Positivist Epistemology:**

Concepts and knowledge are held to be the product of straightforward experience, interpreted through rational deduction (Ryan, 2006). There is a unique, best description of any chosen aspect of the phenomenon. Truth can be attained because knowledge rests on a set of firm, unquestionable, indisputable truths from which our beliefs may be deduced (Hughes and Sharrock, cited in Grix, 2004). The positivist paradigm is the method of natural science which can be applied to the study of social phenomena (Walliman, 2006; Bryman, 2008; Dainty, 2008). It is close to rationalism and empiricism, and objectively recognises only the observed non metaphysical facts and phenomena (Fellows and Liu, 2008). Therefore, positivism has a strong relationship with the quantitative approaches.

**Interpretivist Epistemology** - Knowledge is gained through a strategy that “respects the differences between people and the objects of natural sciences and therefore requires the social scientist to grasp the subjective meaning of social action” (Bryman as cited in Grix, 2004). The structure that allows one to appreciate objects as one socialised and trained to believe. The structures therefore exist and are embedded in every individual and carried at a social level. For example, a colour (blue) is by consensus, as like all other objects. Because we have a common socialisation, these social structures then appear to be external to us. On the other hand, the interpretive paradigm sees a difference between the objects of natural science and people within those phenomena that have different subjective meanings for those studied actors (Walliman, 2006; Dainty, 2008). It is mainly applied to social research including management, by indicating reality conducted by the people involved.

This is derived through observations and perceptions that are different to those of others and modified by socialisation (Pickering, 1992; Tauber, 1997; Walliman, 2006; Fellows and Liu, 2008). In terms of epistemological assumption, the researcher closeness to the participants being studied and stay in the study field as long as possible to understand their issues (Creswell, 2007).

Hence, interpretive paradigm of research is concerned with an unstructured qualitative approach that may include participant observation studies and in-depth interviews (Henn *et al.*, 2006; Liu 2014). This research philosophy is directed towards allowing study participants to present information in their own words (Henn *et al.*, 2006). Interpretivists believe that the study of phenomena in the natural environment is paramount, and scientists cannot avoid affecting the phenomenon being studied. Interpretivism deals with a subjective interpretation and involvement in reality which allows the reality to be completely understood. The fundamental idea of the interpretivist research paradigm is to work with subjective meaning already in the social world by acknowledging its existence, reconstructing the meaning, avoiding distortion, understanding the meaning and incorporate these as building blocks for theorising (Goldkuhl, 2012; Liu 2014).

### **3.3.3 Philosophical position of this research**

The philosophical position of this study is an interpretivist approach that explores the impact of planning and building regulatory policies on affordable housing developments by the private sector in South Africa. It is a constructivist interpretivism research that evaluates current regulatory policy and process practices and explores how they impact on affordable housing. This includes approaches, techniques and tools, applied to develop an acceptable Framework for analyses of the planning and building regulatory impact on affordable housing developments by private sector. Therefore, the research is aimed to prove the realistic effects of planning and building regulatory policy; their relationship with stakeholders involved in affordable housing and their subsequent consequences for the private investor and the end user who bears the burden.

### **3.4 Research Approach**

Research strategies/approaches are broadly categorised as qualitative, quantitative, or mixed method research. Table 1 summarises the terms of contrast between the three methodological research strategies which are discussed in the following sections.

#### **3.4.1 Quantitative research method**

Quantitative research is defined as an investigation related to positivism (Davies, 2007). Quantitative research is usually considered as an objective positivist undertaking, with large scale but little depth (O’leary, 2010). The quantitative methodological approach allows researchers to separate themselves from the object of study and promotes scientific objectivity (O’leary, 2010). It seeks to gather factual data and to study the relationship between facts and how such facts and relationships accord with the theories and findings of previously executed research (Fellows and Liu, 2008). The method of research allows for significant indicators of credibility such as validity, reliability, generalizability, and reproducibility (O’leary, 2010). It is frequently referred to as a tenet of positivism (Atkinson and Hammersley, 1994) hypothesis-testing research (Kerlinger, 1964; Fitzgerald and Howcroft, 1998; Naoum, 2002) being deductive in nature (Newman and Benz, 1998).

The development process of the quantitative research method presents respondents with clear questions which provide answers in line with research objectives (Dahlberg and McCaig, 2010). Hence, the purpose of quantitative research is to discover answers to questions through the application of scientific procedures, which have been developed in order to increase the likelihood that the information gathered will be reliable and unbiased and relevant to the question asked (Selltiz *et al.*, 1965). In formulating questions in quantitative research, Flick (2011) opined that the researcher understand; how to formulate the questions; which kind of questions to ask; and the purpose of asking the questions. In other words, quantitative research is used to answer questions about relationships between measured variables with the purpose of explaining, predicting and controlling phenomena (Leedy and Ormrod, 2005). Therefore, quantitative research requires imagination, patience and discipline at the planning and design stages; data collection may present technical problems and require tenacity but is often straightforward; the task of data analysis and write-up is largely, although not entirely, determined by the way the research was set up (Davies, 2007).

The advantages and disadvantages of quantitative research, as identified by Flick (2011); Kumar (2011) and Lui 2017, include the following.

### **Advantages of quantitative research method**

- The results have a high degree of generalisation; Covering wide range of situations.
- The quantitative approach allows the capability to manage a large number of samples as a study of a large number of cases for certain aspects can be done in a relatively short time
- The design of quantitative research is specific, well-structured and can be clearly defined and recognised and it is quick and economical.
- The quantitative approach possesses clarity and distinction between design and method of data collection.

### **Disadvantages of quantitative research method**

- The aspects of research studied are not necessarily the relevant aspects of the participants.
- The distance between the researcher and the study population is comparatively wide.
- Respondents may interpret questions differently from each other; Sampling limitation; Non-response limitation; Data collection errors; Data processing errors
- Fails to differentiate between people and social institutions from the natural world
- Refers to artificial measurement process
- Relies on instruments and procedures
- Creates a static view of social life

### **3.4.2 Qualitative research method**

Qualitative research is defined as an inquiry of understanding based on distinct methodological traditions that explores a social or human experience (Creswell, 2007). The qualitative research method is mostly characterised by small number and in-depth cases (O'leary, 2010). Many qualitative oriented researchers subscribe to a research philosophy known as constructivism (often combined with interpretivism) and its variants, which are seen as approaches to qualitative research (Howe, 1988; Mertens, 1998; Travers, 2001; Silverman, 2010). The qualitative tradition demands inductive and deductive logic, embraces subjectivity, accepts multiple perspectives realities and recognises the power of search on both participants and

researchers. Qualitative research studies social phenomena within their natural setting, attempting to make sense of, or to interpret the phenomena in terms of the meanings it brings to them (Denzin and Lincoln, 2003).

Qualitative researchers demonstrate a common belief that their approach provides a more in-depth understanding of phenomena than the quantitative methodological approach (Silverman, 2006). O’leary (2010) corroborates that the purpose of undertaking qualitative research is to acquire an intimate understanding of people, environment, subject and culture through rigorous involvement in the reality of the study. It involves the use and collection of a variety of empirical materials such as a case study, personal experience, interview, observational, historical, interaction and visual text, which describes routines, problematic moments and meanings in the life of an individual (Denzin and Lincoln, 1993). And so the research methodology involves a critical examination of the perspective of the individual or group that is of interest to qualitative researchers. It adequately examines population attitudes, ideas, intentions and motives (Henn et al., 2006).

Hence, data from qualitative research is defined as the detailed description of situations, events, people, interaction, observed behaviour and direct quotations from people about their experiences, attitudes, beliefs and thoughts; and excerpts or entire passages from documents, correspondence, records and case histories (Patton, 1990). Qualitative data is naturally suitable in extracting meanings from people involved in the events, processes and structure of their lives in terms of perception, assumptions, pre-judgements and presuppositions and qualitative research requires careful thought at the outset, demanding mental agility, flexibility and alertness during data collection, calling for advanced skills in data management and text-driven creativity during the analysis and write-up (Davies, 2007). It attempts to deduce answers as to how and why questions are explored within nature (Perry, 1994). Perry (1994) argued that a major issue is to identify the variables involved in the question.

The strengths and weaknesses of qualitative research as presented by Flick (2011); Lui (2014) Kumar, 2011) include the following.

#### **Advantages of qualitative research method**

- It allows for detailed and exact analysis of a few cases in which participants have much more freedom to determine issues that are relevant in the context.

- The main strength of qualitative research is the ability to study phenomena with much in- depth.
- Natural data collection methods
- Being able to change process over time
- Being able to understand meanings from participants
- Benefit to theory generation

### **Disadvantages of the qualitative research method**

- The analysis usually requires much time and results are not broadly generalizable.
- The design of qualitative research projects are less specific, and do not have a consistent structural depth.
- Limited generalisation capability
- Subjectivity
- Difficulty of replication
- Lack of transparency
- Data collection could be tedious and require more resources
- Difficulties in data analysis and interpretation
- Difficulties in controlling research process

### **3.4.3. Mixed method**

Mixed method research is regarded as research design which involves both quantitative and qualitative approaches within questions type, research methods, data collection and analysis procedures, and/or inference (Tashakkori and Teddlie, 2003; Liu 2014). Many authors have agreed that mixed research method is commonly used now as a combination of both quantitative and qualitative research method (Axinn and Pearce, 2006; Creswell, 2009; Teddlie and Tashakkori, 2009). Creswell and Clark, (2007) affirmed that utilising a mixed research method provides a premise for using both qualitative and quantitative approaches that subsequently offer a better understanding of research problems than when either of the two approaches is used alone. A mixed research approach reduces personal bias effects and maximises validity in research (Henn *et al.*, 2006).

Researchers employ a mixed methodological approach in the interests of combining qualitative and quantitative research pragmatically, purposely to compensate the paradigmatic shortcomings in the two approaches (Flick, 2011; Liu 2014). The mixed method is used to

adopt multiple methods, multiple measurements, and to investigate at multi-level analysis (Love *et al.*, 2002; 2014). The approach to mixed research method combines the qualitative and quantitative data, to become triangulated data (Creswell, 2009). The term, triangulation, is basically concerned with triangulating data sources, which is a means of seeking convergence across quantitative and qualitative methods (Jick, 1979; Flick, 2002; Fellows & Liu, 2008 Liu 2014). The method enhances collection of different types of data, and allows interpretation of results from a variety of different analytic techniques. The fundamental purposes of combining both quantitative and qualitative approach are enumerated by Silverman (2006) and Adebowole, (2014) as;

- Starts with a quantitative approach basically to establish a sample of respondents and qualitative research applied later to explore in depth key issues.
- Engaging a qualitative study that uses quantitative data to locate the result in a broader perspective.
- Applying qualitative research to explore a particular topic in order organise quantitative study.

There are two fundamental advantages of the mixed method research approach (Love *et al.*, 2002). Firstly, the capability of providing knowledge in a combined form is increased and the congregation of findings can provide greater confidence for the researcher in the reliability and/or validity of the results. Secondly, divergence can lead to greater definition and theoretical elaboration as the researcher attempts to think about different aspects of the phenomena to get a clear coherent image of it. In addition, mixed method research can improve the precision of both the measurement and description of the problem, in terms of formalising the problem along the lines of qualitative and quantitative research (Baumard and Ibert, 2001).

**Table 1: Difference between the three research strategies**

<b>Terms</b>	<b>Qualitative Approach</b>	<b>Quantitative Approach</b>	<b>Mixed Approaches</b>
<b>Methods</b>	Qualitative methods	Quantitative methods	Mixed methods
<b>Researchers</b>	Qualitative methodologists	Quantitative methodologists	Mixed methodologists
<b>Paradigms</b>	Constructivism (plus interpretivism)	Positivism Pragmatism	transformative perspective
<b>Research questions</b>	Qualitative research questions	Quantitative research questions	Mixed research questions
<b>Form of data</b>	Narrative	Numeric	Narrative and numeric
<b>Purpose of research</b>	(Often) exploratory plus confirmatory	(Often) Confirmatory plus exploratory	Confirmatory plus exploratory

<b>Role of theory</b>	Inductive; Grounded theory	Deductive (hypothetical); Rooted in conceptual framework or theory	Mixed inductive and deductive (inductive-deductive research cycle)
<b>Progress</b>	None-linear	Rarely linear	Concurrent
<b>Research design</b>	Ethnographic research designs and others (case study)	Correlational; survey; experimental; quasi experimental	Mixed research designs, such as parallel and sequential ones
<b>Sampling</b>	Mostly purposive	Mostly probable	Probable, purposive, and mixed
<b>Data analysis</b>	Thematic analysis: categorical and contextualising	Statistical analysis: descriptive and inferential	Integration of thematic and statistical analysis; data conversion
<b>Quality and validity</b>	Trustworthiness; credibility; transferability	Internal validity; external validity	Inference quality; inference transferability

**Sources:** (Neuman, 2006; Bryman and Bell, 2007; Bryman, 2008; Creswell, 2009; Teddlie and Tashakkori, 2009; Liu, 2014).

### 3.5. Overview of Research Design

Research design basically provides the plan or strategy needed to conduct a research work (Henn, Weinstein and Foard, 2006), which might include the entire research process from problem conceptualization to research questions, data collection, analysis, interpretation and report writing (Creswell, 2007). It therefore involves planning of the data collection methods and the techniques to be employed in data analyses while bearing the research objectives in mind and ensuring necessary resources are available (Kothari 1990). Flick agreed that the design of any research project involves explaining the processes to plan for data collection and analysis, and to select empirical material that could be situation, cases, and individual in order to provide answers to research questions in the available time with the available resources (Flick, 2011). Many authors agree that research design provides a framework for the collection and analysis of data and also identifies the appropriateness of research methods for the study (Walliman, 2006; Bryman, 2008; Tan, 2002; Lui, 2014). Others have also argued that research design leads the course of research process and helps to avoid barriers that might emerge in later stages of the research process (Royer and Zarlowski 2001). Silverman (2006) however contends that, instead of adopting the most attractive research design, there should be careful consideration of the appropriate research approach capable of providing answers to research questions in a valid, objective, accurate and economical method.

Different research topics can be studied in varying ways and adopt diverse approaches (Dahlberg and McCaig, 2010; Lui, 2014). According to Sekaran (2000) an exploratory study research is necessary when a researcher has little knowledge about the situation or has little information on how similar problems were solved in the past. Exploratory study ensures the appropriateness of the chosen research instrument. A descriptive/narrative research is employed to document and describe the phenomenon of interest (Salkind, 2000; Marshall and Rossman, 2006), which provides clear answers to who, what, when, where, why, and way (6 Ws) of the research problem and the data basically collected through a questionnaire survey, interviews or observation(s) (Gay and Diehl, 1992). Fellows and Liu (2008) and Liu (2014) opined that there are five basic types of research design within the construction industry. There are; survey, case studies, action research, ethnographic research and experiments research, but for the purpose of this study we will only consider survey and case study.

**Survey:** A survey researcher selects the kind of population that best suits an investigation of the research topic, formulates a research instrument and devises a means of administering the instrument (Bryman, 2006). O’leary (2010) defines survey research as the process of data collection whereby a range of individuals are asked similar questions related to their characteristics, attitude, or opinion through a questionnaire administration. This form of research is undertaken purposely to afford the researcher with statistical information, either on particular subjects/challenges that require improvement or to test the robustness of an existing theory (Hann *et al.*, 2006). Dahlberg and McCaig (2010) claim that response rate is an important factor to be considered for a survey to be statistically valid and to allow study conclusions to be generalizable to the research population. Babbie (2004) posits that survey research is perhaps the best available method for collecting data from a study population that is too large to observe directly

**Case Study:** A case study is described by Simons, (2009) to be the study of the singular, the particular, and the unique. Thomas (2009) and Lichtman (2006) agreed that a case study involves in-depth research into one case or a small set of cases. Barbour (2008) suggests that the adoption of a single case study is highly advantageous since it is possible to closely scrutinise the case under study. Many authors refer it to be a method, a strategy and an approach. A case study research is concerned with the complexity and particular nature of the ‘case’ in question (Stake, 1995). It is done by generalising experimental theory instead of an empirical generalisation (Fellows and Liu, 2008). Henn *et al.*(2006) opined that it is a

retrospective study that uses historical sources, documentation and interviews. It is affiliated with location of community/organisation considered for research (Bryman, 2008). A case study is also said to be an empirical inquiry that deeply investigates a contemporary phenomenon and within its real-world context (Yin, 2014).

Simons (2009) defines a case study broadly as that process of conducting systematic, critical inquiry into a phenomenon of choice and generating understanding to contribute to cumulative public knowledge of the topic. (Flick, 2011) agreed that it is studied at different levels as individuals within a community, group, organisation or phenomenon which can either be a single case or a comparative one. Qualitative research can however be comparatively appropriate for a case study, because qualitative research provides tools for in-depth case study. However, Bryman (2008) argued that case studies are frequently employed by both qualitative and quantitative researchers. In other words, mixed method research and multiple data collection techniques can be applied to case studies. However, there are challenges that could be experienced when conducting case studies such as lack of rigour, data analysis problem and so on. The nature of the topic being studied, the researcher experience, location of the study and the study participants all determine what approach to use.

**Population and sampling:** population is defined as a group of individuals, with at least one common characteristic which distinguishes that group from other individuals (Best and Kahn, 2006). Bryman (2006), opined that the unit territory from which a sample selection is made is regarded as population. Population largely depends on the nature of the researcher's study and does not necessarily refer to people being sampled in a study. O'leary (2010) defines population as the total membership of a defined class, objects or events. It could also be a set of all cases of interest (Richardson, 2005). In addition, Flick (2011) posits that the sample of a study should be a minimal population representation as regards the variables and elements heterogeneity. To solve the problem of size, it is necessary to select a sample from the target population that would form the basis of the research study. A sample is a small proportion of the population that is selected for observation and analysis (Best and Kahn, 2006). The process of selecting elements of a population to be included in research is referred to as sampling (O'leary, 2010). Richard and Morse (2007) assertion that purposive sampling technique enables the researcher to select study participants with respect to their characteristics. Plowright (2011) further argues that a purposive sampling strategy is a system where the researcher deliberately chooses a sample for a study, having a purpose in mind.

**Data collection techniques** is the exploration of different sources of data for a research project. Different types of data and their sources could help to best achieve the aim of the research (Creswell and Clark, 2007). Struwig and Stead (2007) noted that the two main forms of data are primary and secondary data:

**Secondary data** are available data explored from sources other than data generated on the current research project (Struwig and Stead, 2007). Secondary sources are accounts of an event not actually witnessed by the observer, this could be found in literature, articles, magazines etcetera. A qualitative and quantitative research employs secondary sources as a method of data collection. Kumar (2011) states that a review of literature serves to improve and consolidate the researcher's knowledge base and assists in integrating the findings with the existing body of knowledge. Related literature review by the researcher enhances knowledge and the production of new knowledge is fundamentally dependent on past knowledge (O'leary, 2011). Dahlberg and McCaig (2010) position that the review of literature enables a researcher to explore the depth of evidence that has been gathered in a research area and reveals areas that are under-researched.

**Primary sources of data** as described by Best and Kahn, (2006) are eyewitness accounts; reported by an actual observer or participant in an event. This method of data collection requires researchers to ensure respondents properly understand the purpose and relevance of the study, especially when using a quantitative approach (Kumar, 2011). Primary data are the new data generated for the research project (Struwig and Stead, 2007). It is also the most appropriate approach for studying complex and sensitive areas as the interviewer may prepare the interviewee before asking sensitive questions (Kumar, 2011).

**Questionnaire:** According to Adler and Clark, (2008), a questionnaire is an instrument used for data collection which contains questions and statements designed to solicit information from study respondents. Research questions may be observed from different perspectives but should address relevant issues of the study (Flick, 2011). Poorly designed questionnaires leads to obtaining insufficient, inefficient or useless data that cannot be properly interpreted (Dahlberg and McCaig, 2010). Whereas, a well- structured, well-planned, and carefully-designed questionnaire can increase response rates and greatly enhance summarising and analysis of collected data (Burns, 2000). Babbie (2004) notes the importance of the wording of questions questionnaire design; that incorrect wording of a question may lead to untrue and unintended response from the respondent and ultimately affect the reliability of the research.

**Open-ended questions:** A questionnaire is considered as Open-ended when it does not give precise guide to possible responses. In this form of questionnaire, the respondents have a choice of conveying their perception on a particular question in a personal way in their own words (Kumar, 2011). The open-ended interviewing is not meant to create preconceived ideas across to the respondent but to allow and access the perceptions/viewpoint of the person being interviewed (Patton 1990; Best and Kahn 2006). Neuman, (2000) agreed that they are appropriate for a study that intends to explore the way respondents think, and discover what is really important to respondents with the use of questions with many possible answers.

**Closed-ended questions:** Kumar (2011) describes closed-ended questions as questions that delineate possible responses in questionnaire design. Respondents select the option that best describes the answer to the question being posed. Burns (2000) notes that closed-ended questions have the benefit of achieving greater uniformity of measurement and therefore greater reliability in making the respondents answer in a manner fitting the response category. They can therefore be easily coded. Conversely, closed-ended questions invoke the possibility of discouraging respondents that find none of the alternatives suitable, and therefore heighten the probability of inappropriate responses. Therefore, closed-ended questions should provide sufficient possible responses to achieve the purposes of using the questionnaire.

**Interview:** A researcher who employs interviews as data collection techniques interacts with one or more individuals at each interview with a certain purpose in mind (Kumar, 1999; Gillham, 2000; Liu, 2014) and a purposeful conversation to attain instant feedback for the explanation of complex situations and seen as the most appropriate method to investigate a situation (Bogdan and Biklen, 1982; Kumar, 1999). Things to be explored could include meanings of a particular phenomenon, the perception of processes within a social unit; a historical account in the development of a phenomenon, an exploration prior to a quantitative study (Liu, (2014). Interviews commonly used by researchers are categorised into three basic classes (Walliman, 2006; Fellows and Liu, 2008; Lui, 2014):

*Unstructured interview:* No closed-format questions are used here but a flexible format that is usually based on a question guide. The format could remain the interviewer choice who can allow the interviewer to ‘babble’ in order to get insight into the attitudes of the interviewee.

*Semi structured interview:* this consist of standardised and open-formatted questions that includes structured and unstructured sections

*Structured Interview:* Here, standard questions are read out by the interviewer according to an interview schedule. Answers may be closed-format;

*Focus Group:* This group concentrates in-depth on a particular theme or topic in an interactive way (Walliman 2006). It is usually made up of people with specific experience of knowledge regarding the research subject, or those who have a particular interest in it (Walliman (2006). According to (Morgan & Krueger, 1998; Walliman 2006; Bryman, 2008) the focus group can be used in a structured interview where standard questions are read out by the interviewer according to an interview schedule. The answers may be closed-format and can generate hypotheses based on the informants’ insight; gain the participants’ interpretation of results from earlier studies; develop an understanding as to why people think the way they do; bring forward ideas and opinions not foreseen by the interviewer; challenge interviewees between other members of the group regarding their replies; and to find interaction within group dynamics which are close to the real-life process of sense-making and acquiring understanding. Axinn and Pearce (2006) opined that the potential benefits of the focus group is that informants may feel greater confidence within a group setting, that could encourage them to communicate better and discuss issues they would not ordinarily talk about in a one-on-one interview. On the other hand, focus groups have their challenges: there could be difficulty in organising the focus group due to complications in gathering the people together for a discussion session (Walliman 2006); collaborative settings may present problems for data collection (Axinn and Pearce 2006) how to document the data in a way that allows the identification of individual speakers and the difference between statements of several parallel speakers (Flick 2002; William, 2006).

Interviews could be done through one-on-one face to face, or telephone and computer based methods (Bugher, 1980).

**Table 2: key specifications of case studies and surveys**

Terms	Case studies	Surveys	
		Questionnaire	Interview
Amount of investigation	· A small number of cases (like just one)	· A large number of cases	· A small number of cases
Amount of data collection and analysis	· A large number of features of each case	· A small number of features of each case	· A large number of features of each case

<b>Sample control</b>	<ul style="list-style-type: none"> <li>· Naturally occurring or in 'action research' form</li> <li>· Study of cases created by the actions of the research but where the primary concern is not controlling variables to measure effects</li> </ul>	<ul style="list-style-type: none"> <li>· Naturally occurring</li> <li>· To maximise the representativeness of samples in relation to a larger population</li> </ul>	<ul style="list-style-type: none"> <li>· Naturally occurring</li> </ul>
<b>Priority of data</b>	<ul style="list-style-type: none"> <li>· Qualitative data is prior</li> <li>· Both qualitative and quantitative data involved</li> </ul>	<ul style="list-style-type: none"> <li>· Qualitative data is prior</li> </ul>	<ul style="list-style-type: none"> <li>· Qualitative data is prior</li> </ul>
<b>Main concern</b>	<ul style="list-style-type: none"> <li>· Understanding the case studied in itself</li> <li>· No interest in theoretical inference or empirical generalisation, but they may attempt one or the other, or both</li> <li>· Alternatively, the findings may be conceptualised in terms of the provision of vicarious experience, as a basis for 'naturalistic generalisation' or 'transferability'</li> </ul>	<ul style="list-style-type: none"> <li>· Empirical generalisation from a sample to a finite population</li> <li>· As a platform for theoretical inference</li> </ul>	<ul style="list-style-type: none"> <li>· Generation of theory</li> <li>· Social and cultural phenomena study</li> <li>· To describe and explain</li> <li>· To explore and interpret</li> </ul>
<b>Advantages</b>	<ul style="list-style-type: none"> <li>· Being easy to start and flexible</li> <li>· Multi-perspective analyses</li> <li>Triangulated research strategy</li> <li>· Multiple data collection methods are often applied</li> </ul>	<ul style="list-style-type: none"> <li>Relatively less expense</li> <li>Being of use in describing the characteristics of a large population</li> <li>Administration from remote locations using mail, email or telephone</li> <li>Very large samples are feasible</li> <li>Making the results statistically significant even when multiple variables are analysed</li> <li>Many questions can be asked about a given topic with considerable flexibility to the analysis</li> <li>Flexibility at the creation phase in deciding how the questions will be administered</li> <li>Standardised questions make measurement more precise</li> <li>Standardisation ensures that similar data can be collected from groups and then interpreted comparatively</li> <li>High reliability is easy to obtain</li> </ul>	<ul style="list-style-type: none"> <li>· Data gathering methods seen as natural rather than artificial</li> <li>· Flexibility for changing process over time</li> <li>· Enable to understand people's meaning</li> <li>· Contribute to generate theory</li> </ul>

<b>Disadvantages</b>	<ul style="list-style-type: none"> <li>· Lack of rigour</li> <li>· Generating too long and massive results</li> <li>· Difficulties in analysing data</li> <li>· Difficulties in assessing where context begins and ends</li> <li>· Difficulties in generalising findings</li> <li>· Difficulties in writing up case studies</li> </ul>	<ul style="list-style-type: none"> <li>· Accuracy of findings due to difficulties in checking first hand understanding of respondent</li> <li>· Progress could be delayed due to dependency on others' responses</li> <li>· Inability to demonstrate causality mainly in survey for opinion</li> <li>· Requiring the initial study design to remain unchanged throughout the data collection</li> <li>· Ensuring a large number of the selected sample will reply</li> <li>· Relying on standardisation of question development</li> </ul>	<ul style="list-style-type: none"> <li>· Expensive</li> <li>· Data collection could be time consuming and need more resources</li> <li>· Data analysis and interpretation may be difficult</li> </ul>
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**Sources:** (Hammersley & Gomm, 2000; Tan, 2002; Saunders et al., 2007; Bryman, 2008; Gibson & Brown, 2009; Blaxter et al., 2010; C.S.U, 2011a; C.S.U, 2011b in Lui, 2017).

### 3.6. Research Design of this study

The direction of this study was partly driven by available scholarly literature which have revealed gaps. The research adopted qualitative research strategies through which the impact of planning and building regulatory policy framework (IAD) is being developed and validated. Literature review helped in obtaining narrative data where the IAD theoretical framework from which Framework development (modified IAD) was conceptualised. Qualitative data collected through interviews and the questionnaires were analysed using content analysis. Content analysis is the most used qualitative data analysis technique and can be implemented to explore large amounts of textual information (Weber, 1990; Mayring, 2000). It can ascertain trends and patterns of words that are used, their frequency, their relationship and structure and discourses of communication (Weber, 1990; Mayring, 2000; Grbich, 2007). The analysis covers a range of processes and procedures, which presents the transition from collected data into forms of explanation, understanding or interpretation of the views of participants and situations under investigation (Bryne, 2001). The analysis process typically involves identifying, coding, and categorising patterns found within the data (Bryne, 2001). The complete qualitative data analysis process goes from unitising data to categorising data (Lincoln and Guba, 1985).

The research design was both theoretical and empirical, with case studies and surveys done through purposeful and random sampling respectively. To ensure validity of data, the empirical data was collected from five Case studies in which interviews were conducted with the developers and their consultants and survey done with the beneficiaries of the identified affordable housing developments. Interviews were conducted at a later stage with key informant (National, Provincial and City government officials). This qualitative research approach explores the perceptions of respondents on the planning and building regulatory factors affecting the efficiency of affordable housing developments by the private. To find answers to research questions and objectives, therefore the research was done through a combination of desk-top research, and administration and analysis of semi-structured questionnaires and interviews. A well-structured closed ended questionnaire design was administered to project beneficiaries while the developers, built professionals and government official's perceptions were sought through semi-structured interviews with open ended questionnaires in order to validate the qualitative data obtained. The inputs of the first set of developers at the first stage of the interview helped the researcher to improve subsequent follow up interviews with developers.

**Case study:** The interviews with participants was meant to investigate the interface between government and the private sector that affect affordable housing outcomes of cost, affordability and location considered in this study. The planning and building regulatory institutions that all actors comply with and the role of such regulatory institutions in the affordable housing market and their impact on affordable housing developments is explored and documented. The overall challenges, strategies, interests, interventions and recommendations based on participants' experiences that impact these outcomes are documented. This study considers case studies of housing projects with a selection criteria based on their characteristics and attributes, their development type, whether profit or non-profit; government or non-governmental and the selection done purposively. The case studies involves the developers and consultants who are purposive selected and a survey of beneficiaries of affordable housing to show their demographics, social profile and other details that qualified them in that space. This is done through a random sampling. The key informant interview seeks to understand the phenomenon of regulatory practices impact on affordable housing development by the private from the regulators perspective. The form of interview adopted for a research purpose is dependent on the purpose to be achieved, so for the purpose of this study with a structured questionnaire survey for beneficiaries, complemented by semi-structured face-to-face semi interviews for

developers, consultants and key informants; a qualitative data for this research is gathered. Thus, the interview method is adopted for data collection in the second phase of the research the qualitative interviews were able to initiate dialogue between interviewer and interviewee.

Due to the probing power and flexibility advantage of semi-structured interviews, the subject was explored to a satisfactory depth for validating the most significant factors affecting affordable housing development by the private sector. The interview was fundamentally restricted to these informants for validation of data. In the cases examined, each project visited had an experienced developer engaged in the interview process but only three consultants participated. So the Primary data was collected through the use of shorter in depth and focused interviews. It provided a platform through which the researcher could obtain a clear understanding of the respondents' meanings and experiences. By probing, the researcher got deep insight into the respondents' experiences regarding affordable housing development. Interviews also had the added advantage of allowing the interviewer the flexibility to clarify any questions the interviewee may not have understood. In this study the researcher was able to make an accurate deduction of the challenges. The informal conversational approach is used in some cases to provide leads as to where to search for more information on the subject and to stimulate discussion, based on the respondent's experience on the subject matter. Semi-structured interviews are applied to this study to capture the meanings of relationships between revealed variables. The unitising process that ensures narrative data is divided into the smallest pieces of meaningful information units under each interview question is used.

**Survey research** the research seeks to explore ways in which private developers can be stimulated in their activities to produce affordable housing for the low to moderate income majority of South Africa. The main instrument used for information collection was in-depth interviews and questionnaire administration. The survey in this research only involved the beneficiaries where their demographics, social profiles and other details regarding affordable housing are sought like general perceptions about the development in terms of location etcetera.

### **Study sampling technique**

This study therefore proposes a purposive methods used to identify the key respondents of this research. The respondents were selected according to their position and role in the subject area. The researcher selected the cases on a variety of the developer attribute type and looked at a mix of whether they are government or non –government, profit or non-profit type. Case

studies are not meant to be generalised. There was no bias in the application of purposive sampling, so it was not for convenience. However, the convenient sampling techniques because it considers the complex nature of affordable housing development operations and the busy schedules of developers, project professionals and government officials. So it is necessary to schedule interviews based on their convenience.

### **Data collection techniques**

This study considers different types of data and determines the sources of data that could best achieve the aim of the research.

### **Secondary data collection**

The secondary data collection for this study is obtained through reviews of literature, articles and journals as well as books in order to obtain background information on the study area. These publications contained a wealth of information on the various aspects of housing and regulations. The data obtained from the existing body of knowledge reveals diverse opinions on these topic, and a significant number of factors explored from existing literature facilitated the formulation of the research questionnaire.

### **Research Ethics**

Critical care was taken to observe ethical requirements while conducting this research. Firstly, clearance was obtained from the University of Cape Town Ethical Clearance committee in order to proceed with the research topic and proposed research methods. Secondly, informed consent was sought from all respondents participating in the study (consent form will be attached in Appendix). Respondents participated in the research study voluntarily. They were neither coerced nor bribed to participate in the study. Thirdly, the interviewer avoided bringing harm in any way possible to the participants, so sensitive or difficult questions were asked with a conscious level of respect and mindfulness. Fourthly, information from the respondents was kept anonymous. No information about the respondents was shared with others other than for purposes of the research. Recordings obtained from interviews were kept under custody of the researcher alone. Confidentiality of the respondents was maintained. Last but not least, the researcher was also diligent in transcribing the interviews and intends to share the transcripts of the interviews with the respondents in order for them to verify their accuracy before data

analysis commenced. The findings reported in the data analysis are an accurate representation of information obtained from the respondents.

## **Conclusion**

This chapter describes the methodology and design of the research study. The chapter deals with research methodology; provides a philosophical positioning of qualitative research interpretivist constructivism philosophy and qualitative strategies also adopted for the research. A description of the research design was further done. This empirical data is obtained through a questionnaire survey and face-to-face semi-structured interviews and follow-up interviews. Findings from literature review, questionnaire in the next chapter will be used as the basis of recommendations for improved planning and building regulatory policies that will positively impact on affordable housing development by the private sector in South Africa. The questionnaire results is presented in the next chapter.

## **CHAPTER FOUR**

### **DATA ANALYSIS**

#### **4.1 Introduction**

This chapter presents an overview of the research aims and objective summary. With the lens of Ostrom's IAD theoretical framework the aims and objectives are examined in section two; this is followed by an overview of what is done with the empirical data. The five cases are thus presented in section three and the follow up interviews with developers analysed in section four. The key informant interviews are further analysed in section five, followed by a critical evaluation of the aims, objectives and hypothesis in section seven, where the analyses, interpretation and discussion of the overall empirical data was done. In summary, the chapter describes the different respondent's perceptions in the questionnaire survey. The core of this analysis is the case studies and the interviews conducted with the key informants. The interviews are discussed, reflected upon for policy implementation using the IAD theoretical frameworks.

#### **4.2. Overview of the Aims and Objectives of the Study and IAD Framework Application**

This study aims to investigate the impact of planning and building regulations on affordable housing development supply by the private sector in South Africa. The objectives are:

- To establish the main types of planning and building regulations that affect the supply of affordable housing by the private sector and
- To determine how they affect outcomes in terms of cost (both production and transaction), affordability and location.
- To determine the scope and nature the revision of these regulations should be and the changes therein that can influence better outcomes and
- To finally make recommendations based on the findings on how planning and building may be reformed for improved outcomes in terms of cost, affordability and location, that can encourage the private sector in affordable housing supply in South Africa?

Therefore the overall variables that affect developers in the affordable housing market such as the planning and building regulations; the attributes of the developers as well as other stakeholders and their characteristics are scrutinised in conjunction with the required resources (land, finance and labour) to establish the overall impact on cost, affordability and location of affordable housing supply by the private sector. An overall scrutiny of planning and building regulatory rules-in-use, the attributes and characteristics of developers in affordable housing market are spotlighted to establish the overall relationship between all stakeholders how they function and the regulatory institutions they observe. The action arena speaks to these actors (all stakeholders) in the affordable housing market and their various relationships and interactions are being evaluated to establish how the overall cost, affordability and location outcomes affect affordable housing development by the private sector.

#### **4.3. Overview of data collection process**

This study involves examination of five affordable housing cases in which surveys were conducted with their beneficiaries as well and as interviews with their developers and consultants. This was followed by a key informant interviews with government and nongovernment officials. The developers as well as the consultants had semi- structured interviews with open ended questionnaires. This is followed by the key informant interview done with government officials from the national, (NHBRC -National Home Builders Registration Council), the provincial, (DoHS-Department of Human Settlement Department) and the City of Cape Town. A closed ended questionnaire was emailed to developers to address uncovered issues of cost in the previous interviews. The overall interview design is meant to explore their perceptions on what constitutes the most critical impact that planning and building regulatory policies have on affordable housing development by private sector. The responses from the semi-structured case studies and key informant interviews are relevant for the analyses aligned with the questions, aims and objectives of this study with the IAD framework as an under pinning tool. The analysis of the empirical data from beneficiaries is done with SPSS tool kit whereas all the other interviews are analysed with Nvivo 12 analytical tool used for data storing and manipulating purposes.

All the interviews were recorded to facilitate the analysis of qualitative data. Firstly the recordings were transcribed to capture the full extent of verbal data. Each transcript of data was

read several times in order to tidy and organise the transcription content. Secondly, key points of transcript information were obtained, coded and categorised into key themes to help identify similar and different options. The analysis was conducted both manually because the amount of data appeared manageable at some stage and also with the use of qualitative data analysis software, some of them were also transcribed. Using the analytical tools, the themes are coded accordingly as seen in table three below and grouped according to their relevance to address the basic research questions formulated in order to achieve the research aims and objectives.

**Table 3: Code Interpretation of Respondents**

<b>Code</b>	<b>Interpretation</b>
CS1D	Case Study One Development
CS1DR	Case Study One Developer Respondent
CS2D	Case Study Two Development
CS2DR	Case Study Two Developer Respondent
CS2CR	The Case Study 2 Consultant Respondent
CS3D	Case Study Three Development
CS3DR	Case Study Three Developer Respondent
CS4D	Case Study Four Development
CS4D-R1, R2	Case Study Four Developer Respondent 1, 2
CS4CR	Case Study Four Consultant Respondent
CS5D	Case Study Five Development
CS5DR	Case Study Five Developer Respondent
CCTPR	City of Cape Town Planner Respondent
CCTPI-R1, R2	City of Cape Town Planning Inspector Respondent, 1,2,
CCTBI-R1, R2, R3	City of Cape Town Building Inspector Respondent 1,2,3
CCTMR	City of Cape Town Municipality Respondent
DoHSR	Department of Human Settlement Respondent
NHBRCR	National home Builders Registration Council Respondent

The information of respondents shows that they all played different roles and occupy different positions as government officials. The developers are either government or non-governmental agents. They are either profit or non-profit oriented. The planning and building officials are

mostly section heads and development inspectors as well as land use section heads and inspectors. The City's planner was in the unit responsible for the restructuring of the city through metropolitan spatial planning, long term planning, and policy development at the city. The department of human settlements officials are provincial officials and the driver of projects and the city of Cape Town is regarded as their client. They implement projects from inception phase to completion and also manage projects. The NHBRC R1 is the provincial manager of the Western Cape NHRBC and deals with the entire management of four provinces and NHBRC R2 is the inspection manager and only deals with inspections. The main City of Cape Town Officials consists of a director responsible for urban integration and urban planning in terms of policies and planning direction with his assistant, a senior professional officer urban integration and three other officials who are currently working on variety of issues related to affordable housing.

#### **4.4. General assessment of the perceptions and experiences of developers and consultants in Case Studies**

In order to have an effective analyses of the empirical data, the profiles of both beneficiaries and developers are highlighted, followed by the analysis of the main building and planning regulations that developers comply with. This is followed by the analyses of other factors such as the resources of land, capital and labour that the developer needs and further determine the cost, affordability and location outcomes of the affordable housing variables. The reason for investigating the interface between government and developers was to establish whether this interface facilitates or constrains development. The analyses begins with profiles qualitative data on the characteristics of beneficiaries in terms of their gender, age, previous location, no of dependents, employment, education and income levels and general perceptions about the respective cases. The importance of these characteristics to this study is to determine to what extent they contribute to the financial viability of the different cases and outcomes.

##### **4.4.1. Case Study One**

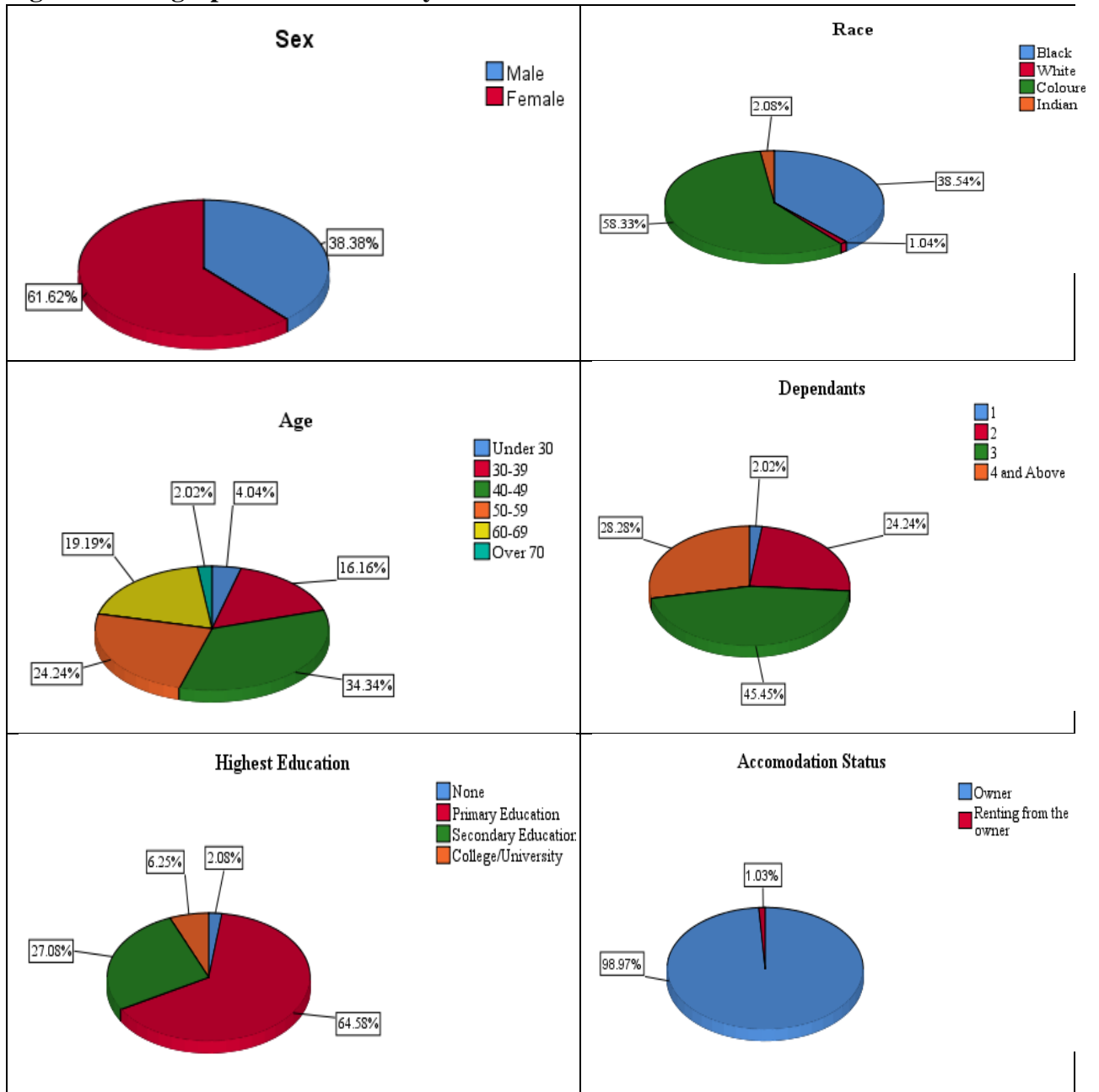
###### **Overview of the development**

Case study one interview involved CS1DR only and the CS1CR was absent. It is a social housing whose development type CS1DR confirmed is "*mixed use, middle income residential, rental stock, own occupiers and then there is also retail, a commercial type with focus on residential*". It has 485 housing *units*, from which 250 units has been done and about 448 under

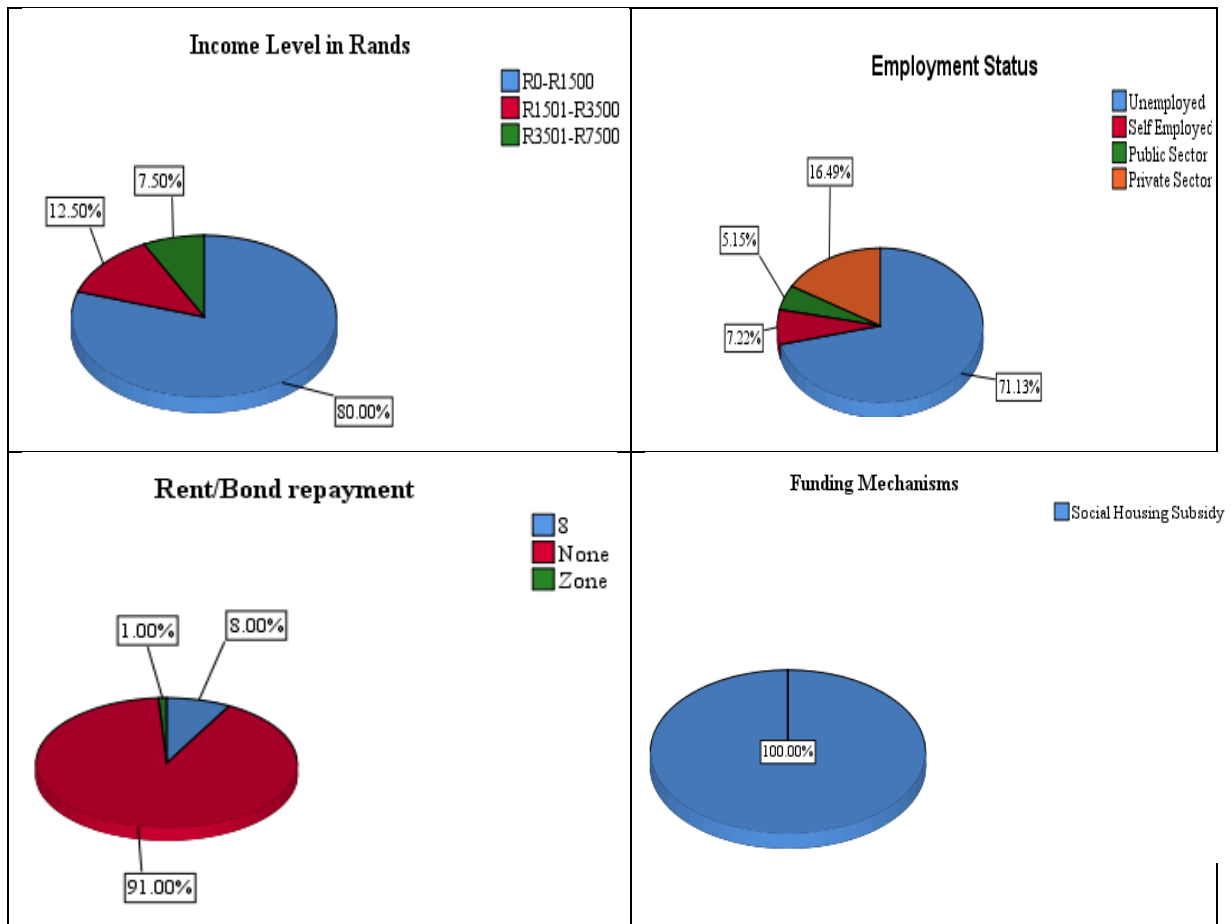
construction. It also has a retirement village with about 826 units too. CS1D is located outside the CBD of the Cape Town City. It is a very small size company with five permanent employees, although a room for expansion is allowed, if growth occurs. It has an outsourced model through which a necessary “core” members are identified and this has been very successful for them and so, CS1D basically sub-contracts. The major role players to CS1D are Kuils River’s Rate Payers Association, the city, province and rental public. Case Study One Developer Respondent (CS1DR) has been in the business for 40 years and plays multi-functional *role*. He acts as the Chief Executive Officer (CEO), Chief Operating Officer (COO), Chief Financial Officer (CFO) in charge of operations and environment and project director, in the execution of work from raw land to zoning as well as Rights of Deeds (RoD). The respondent appoints professionals for project implementation and does marketing and sales; he plays the whole developmental role.

The demographics of beneficiaries who inhabit CS1D shows females dwellers are dominant gender with that 38.4% are males and 61.6% females with a racial mixture that is predominantly coloured of which 58.3% are coloured, 38.5% blacks, 2.1% Indians, and 1.0% white respectively. The predominant residents are people between 40-59 years who make 58.58% of total dwellers; where 34.34% participants are between 40-49 years, 24-24% are between 50-59 years 19.19% are between 60-69 years, 16.16% are between 30-39 years, 4.04% are under 30 and 2.025 are above seventy. Again, 45.5% dwellers had three number of dependents, 28.3% had four and above, 24.2% had 2 dependent and 2.0% had one dependent. The highest education attained by beneficiaries indicates that 64.6% have primary education, 27.1% have secondary, 6.25% have college education and 2.1% have no education. The study also shows that 99% of the beneficiaries are owners and just a percentage, rent from owners. This study shows that dominant residents only have basic primary education and that explains their high unemployment and low income levels which qualifies them for social housing.

**Fig. 4.1. Demographics of Case Study One Beneficiaries**



CS1D is evidently more of a social housing that is completely subsidised than FLISP housing that is partially subsidised. This beneficiaries financial shows a population concentration of 80% beneficiaries earning between R0-R1,500; 12.5% income earners earning between R1,500 - R3,500 and 7.5% earns between R3,500 – R7,500 and reflected in the rent/bond repayment where 91% pay none of such repayments. 71.15% majority of this project dwellers are unemployed. 16.5% are employed in the private sector. 7.2% are self-employed and 5.2% work in the public sector. This explains why it is a fully subsidised social housing. The funding mechanism also confirms that CS1D is social housing.



**Fig. 4.2 Social Profile Details of Case Study One Beneficiaries**

The location of CS1D shows that beneficiaries are 100% happy and satisfied with the location even when it is outside the urban core very ironical to common views of many researchers about such locations. This could be due to the fact that 71.15% are unemployed and worry less about transportation, though it still indicates that the 28.85% who work in different areas far from location still worry less about location and transportation cost. This thus counters the popular notion of locations away from urban core. The empirical data again shows that 49% were previously living in backrooms /backyards, 42% in shacks, 8% in rented rooms and a percentage came from RDP houses, and so living in a formal housing could be another reason for their happiness and satisfaction.

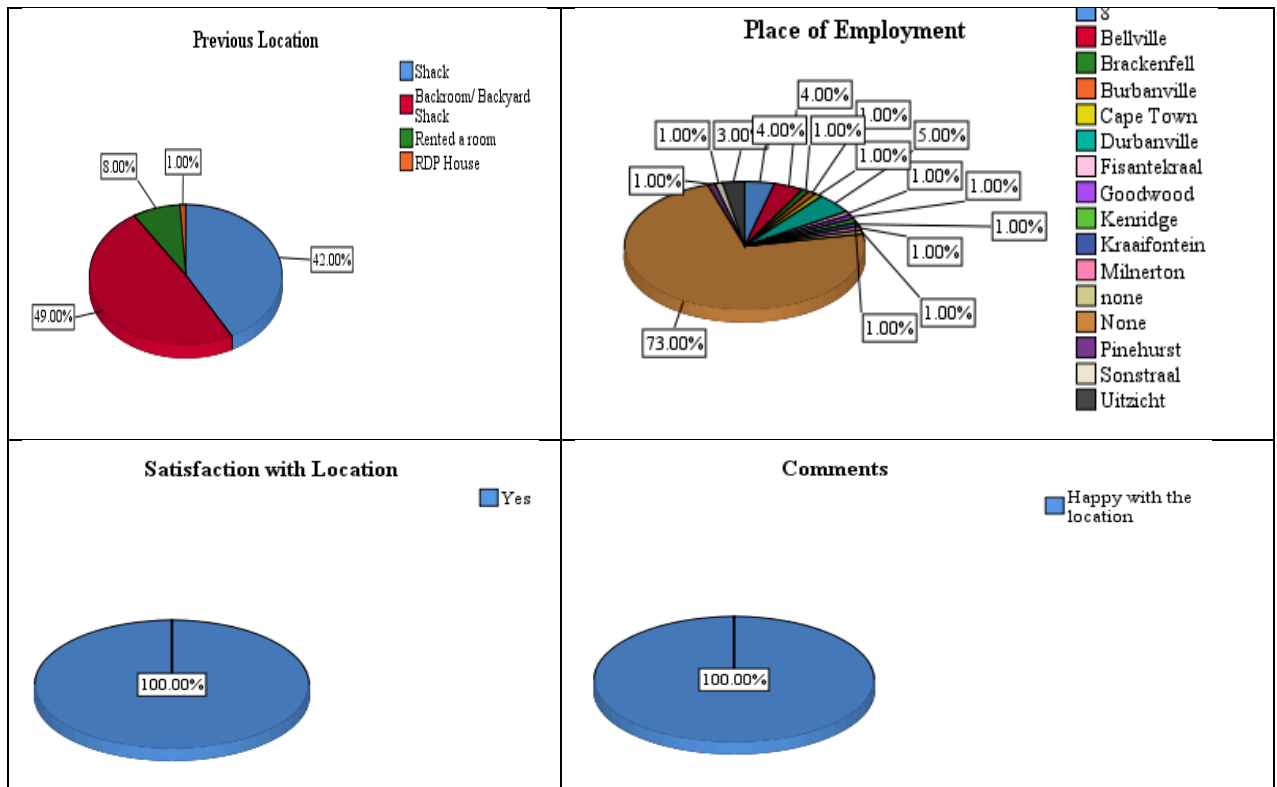


Fig. 4.3 Location Details of Case Study One Beneficiaries



Fig 4.4 Aerial View of Case Study One

**Planning and building regulations (rule-in-use):** To understand the main planning and building regulations that impact affordable housing the most that developer one complied with, CS1DR agrees that they adhere to every provision found in regulations of the City Council bylaws and the statutory laws such as the NBR, NHBRC, SANS, NEMA (the environmental are very big challenges). *“We comply with everything. One cannot do anything in the Western*

*Cape without regulatory compliance..... the environmental are very big challenges*". CS1DR affirmed that the environmental planning regulatory process affected them the most because the land was originally zoned for Agriculture and the regulatory requirement adhered to required them to change it to business through a rezoning process. CS1DR asserts that the rezoning process which began in 2004, was very hectic, strict and took a very long time. This was because there was an "objection" and the permitting approval processes involved zoning steps that entailed Site Development Plan (SDP) and building plan, which were things necessary for implementation. Because it was an agriculture land developer was required by planning regulations to provide bulk services as well as the development contribution levy too. CS1DR agrees the key planning costs are in the areas of processes cost overruns, land cost and land services, in terms of bulk contributions and development contributions to the local authorities and the general processes.

Building regulations also require CS1DR to provide two parking per house and one and a quarter for the apartments units which are not cost effective considering the level of people this housing is meant for. The empirical data indicates dwellers are predominantly unemployed and those employed extremely low-income earners where only 7.5% earns between R3, 500 – R7, 500. This regulatory requirement adds avoidable cost to the developer and the excessive space for parking could have been more beneficial to the private developer who could have used it to increase housing units per plot. If for instance, an average parking bay requires 25 to 30 meters square, including circulation space, almost the same amount of parking space as living space would be required in a standard 40 meter square unit development, reducing the density by up to 50%, this reduces the number of units that can be supplied, and decreases the income achievable (Massyn et al 2015; Hogarth, 2015), and invariably driving up the per-unit costs (ULI 2014). The City is thus implementing a system of 'public transport (PT) zones' where parking minimums are reduced according to Hogarth, (2015), but these are still too high and generic in the affordable housing context.

The regulatory processes in getting the approval of alternative design when necessary is also said to be long and hectic. This is even more complicated by resistance from people to alternative building material use which according to CS1DR "*people neither want a timber shack nor an alternative building house that is actually better thermally than the block house. They want the block house because it is what was promised*". The building regulatory requirement made for alternative building material use when certified by Agreema or when

rational design is proven and tested by a registered engineer involve very hectic processes CS1DR agreed which be frustrating to the developer

### **Review of other factors**

**Land:** CS1DR asserts that one of the most significant constraints the developers in the Cape have compared to other provinces is the cost of land. The land for CS1D was located outside the urban core which makes acquisition more costly regarding bulk service provision. These service provision is some of the cost triggering factors that impact a private developer.

### **4.3.2. Case Study Two**

**Profile of the development:** The beneficiaries of case study two could not be reached for interviews. The approval of the beneficiaries for CS2D is done through the normal process of the City of Cape Town rules and regulations and policies. CS2DR asserts that the beneficiaries were selected by the City through their database and the selection process is usually out of their hands. So they only administers once the beneficiaries are approved.

**Fig. 4.5 A perspective view of Case Study Two Beneficiaries**



The two semi structured interviews were conducted firstly with the developers and followed by the consultant. The roles of CS2DR are that of property development, planning and master visioning which has evolved into the various other activities that are required to obviously drive their primary objective. The Case Study 2 Consultant respondent (CS2CR) is one of the outsourced professionals and is a director in planning and a lead town planner in projects. He has been with D2, for about 35 years, in the Western Cape and is well experienced. His role does not relate to the rural type municipalities, but assists with spatial development plans, all around the Western Cape and Southern Cape with responsibilities of creating concept and ultimate design, project management and coordination getting things started and done.

Case Study 2 Developer Respondent (CS2DR) said company started in 1919 and is 98 years old. The company was originally started by Mr A whose great-grandson is the chairperson of the company currently. CS2DR deals with the middle income group and not involved in small informal housing. It has very small size with a core group called 'holding company' made up of 25 no of employees which is an ancillary companies that provides them with various services. These includes a separate construction and contracting company and other companies within the group called the Arch Way Foundation. This has about 19 employers and their construction field properly employed about 300 to 400 people through various sub-contractors. CS2D has a factory that makes a special block for alternative building technologies used for affordable housing developments.

**Planning and building regulation:** Compliance to the planning and building development requirements is very essential and compliance to the zoning requirements and overall district plan gave guidance to CS2DR in terms of the broader principles, on what can be done. CS2DR asserts that the land was zoned for agriculture and therefore had to go through a re-zoning process that includes sub-division, phase one and the departures and the old planning ordinates of 1985 for application use; it's an Ordinance Act relating to Ordinance 15 of 1985. So every application has to have a title deed and all the red tapes took a lot time for approval. The approval processes took eight years for them to get the project off the ground due to these planning and red tape challenges. D2R said *"There was an objection the moment the land rights for 767 hectares of land were granted, subject to subdivision approval. Afterwards, the phase development application was immediately made and the approval and clearance from government took two-and-a-half years"* CS2C also agrees that when they went through the EIA process were riddled massive issues and they made every single application required. The

town planning application started in 2010 and involved every possible specialist to prepare everything required. CS2DR agrees that services are the biggest constraint faced as it is in any development, *“As soon as you go out of the inner city, delivery of services become a huge constraint”*. The regulations that affect them the most is the Environmental application made in terms of Section 99 of the bylaw which tells developers what to comply with and the service to provide. The EIA process is brought under 1989, the Environment Compliance Act of 1989 (ECA) and Act 70 of 70; Agricultural, Sub-divisional Agricultural Land Act.

In order to reduce delays in regulatory processes CS2CR unlike CS1DR opined that the City now has probably the most sophisticated planning processing management tool called DAMS where everything is submitted electronically circulated to internal departments and commented on electronically too. Response to comments also done electronically and if an alteration application is made, every department of the City, National, Provincial, Local Government would be involved. Therefore, one needed to tick every box correctly, and that *“the system at the moment is fantastic, but it’s flawed in the way it gets implemented” as regards human factor*

CS2DR affirmed that building regulations certainly affect the cost of the project; the energy regulatory provision that requires hot water cylinder and electricity provision which CS2DR provided is not cost efficient. CS2DR provided underground cables which were about R11, 000.00 per unit more expensive than electrifying overhead suburb which makes CS2D very unique from other BNG. CS2DR does cross-subsidisation to be able to fund projects and also acknowledged that the regulatory resistance of alternative building materials also exists and agreed that *“People don’t want a timbre shack. They don’t want an alternative building house that is actually better, than the block house..... They want the block house because this is what was promised. Even when a developer is allowed to enhance housing product products with alternative technology, regulation seems to restrict them. “The community doesn’t necessarily always like this, but a lot of times the, authorities don’t like it either”*.

Another regulatory challenge that CS2DR identified is that of density requirements. He argues that while the City encourages high densities but the national bye laws they follow discourage that but prefers low densities. So there seem to be a mismatch between what municipal government propagates now on density and what regulations require from a developer *“the problem with government is that the interpretation of density is left with the individual person at the City who don’t interpret in terms of the books requirements but interpret them according to what they want to see”*. The CS2CR argued that the City now have a new, well Transport

Orientated Design (TOD) policy that really encourages and advocates for high densities especially in transport corridors such as railway lines and major roads too as the growth corridor found in SPLUMA policies. CS2CR reiterates that there is no such thing as absolute integration and no integration was absolutely critical. *“We haven’t integrated as much as we should have yet.* Higher densities with mixed use developments for affordability can be more profitable to the developer if they are adequately incentivised and engraved in regulatory byelaws but at the moment national byelaws restrict this and should be adjusted, as this can impact negatively on supply and affordability that affects the developer and end user as well.

CS2CR had issues with parking regulatory requirements and challenges the City on giving two *parking* spaces where they are not needed given the class of people the development is meant for and so there was some relaxation on it. He said *“Building standards, parking requirements, density controls have to of course they should have been relaxed. They were never. But they should be relaxed”*. There revision of some of these regulatory requirements are necessary for better outcomes.

### **Review of other factors**

**Land:** CS2D’s land was acquired privately from an owner and bought for a long term use on a 99-year lease. What is unique about this development is that CS2D was provided on “Own land” because affordable housing by definition is usually provided on “State land”; either provincial, national or city land. CS2DR alludes that they probably are the only company in the country that has done such which makes them have no value for the land, as they actually gave away the land at the cost of the subsidy. This could be why the processes took them so many frustrating years. The land was outside the urban edge and guide plan area and the regulatory planning requirement allowed CS2DR to apply to have it redefined to get inside. Subsequently, bulk service provision became necessary as community infrastructure regarding provision of schools, sports fields which are usually requirements for every other developer who went through sub-division. CS2DR agrees that government has a lot of lands but lacks byelaws to guide the process *“there are lots of lands available for the government, but there is no political law to drive the process to make that land available to the people who can develop it”*. CS2CR also confirmed that the City has a lot of lands but the province has more and the national government has even more.

**Labour:** CS2DR outsourced specialist and do not have in-house specialists but only have professional managers who manage and coordinate consultants. So the outsourced professionals (like architects and planners) do plan approvals for them and the managers manage the core, coordinate external professionals who come up with proposals. Key Role Players according to D2R are the Arch Way Foundation; national, provincial, and local government; as well as other players from a regulatory perspective. The Case Study two Consultant Respondent (CS2CR) is a Planner who asserts that the role players on his side were town planners, engineers, client (developer), the City of Cape Town, provincial government, specialists such as; botanical, agricultural, zoologist, fresh water-ecologists whose endorsements, make application a lot easier for them. In terms of community development, both respondents agree that the community members are developed and trained to become block installers who became block layers for CS2D. 90% of their employment is from the existing community even though this is fraught with challenges absenteeism and commitment.

**Cost:** CS2DR asserts that funding is done using all owned resources and is self-funded completely. The money made from the bonded houses is spent on CS2D through cross subsidising and that government would only put money into the project if it became a viable project from national government, either when a developer developed or improved BNG housing project not FLISP projects. Eskom would also only build a sub-station if the development is viable and actually meant for Breaking New Grounds (BNG) purposes. *“Funding is secure once you have approval for the BNG market and there is no risk there but when you go to the FLISP housing there is a huge risk involved because you have to build on spec and then you have to hope that buyer of the your house will qualify to buy”*. Again, there is also a complete disjunction between the banking institutions, the government and the developer. A 10% rejection of approvals from the banks is experienced where in every 100 applications only 10 became successful. CS2DR perceived FLISP housing as hugely more risky than other spectrum of housing market; where the person is going to be guaranteed a bond as opposed to the gap housing and government carries no risk in the gap housing market.

**Affordability:** In considering the affordability of CS2D for example, the subsidy amount for top structure at the moment is about R123, 000.00 and if another R43, 000.00 for underground services is added, then the developer spends about R165, 000.00 in total for a subsidised house consisting of 42 square metres. Therefore if the government’s subsidy amount of R165, 000.00

is divided by 42 square metres, R3, 900.00/metre square, becomes the cost per meter square which is too high for affordability.

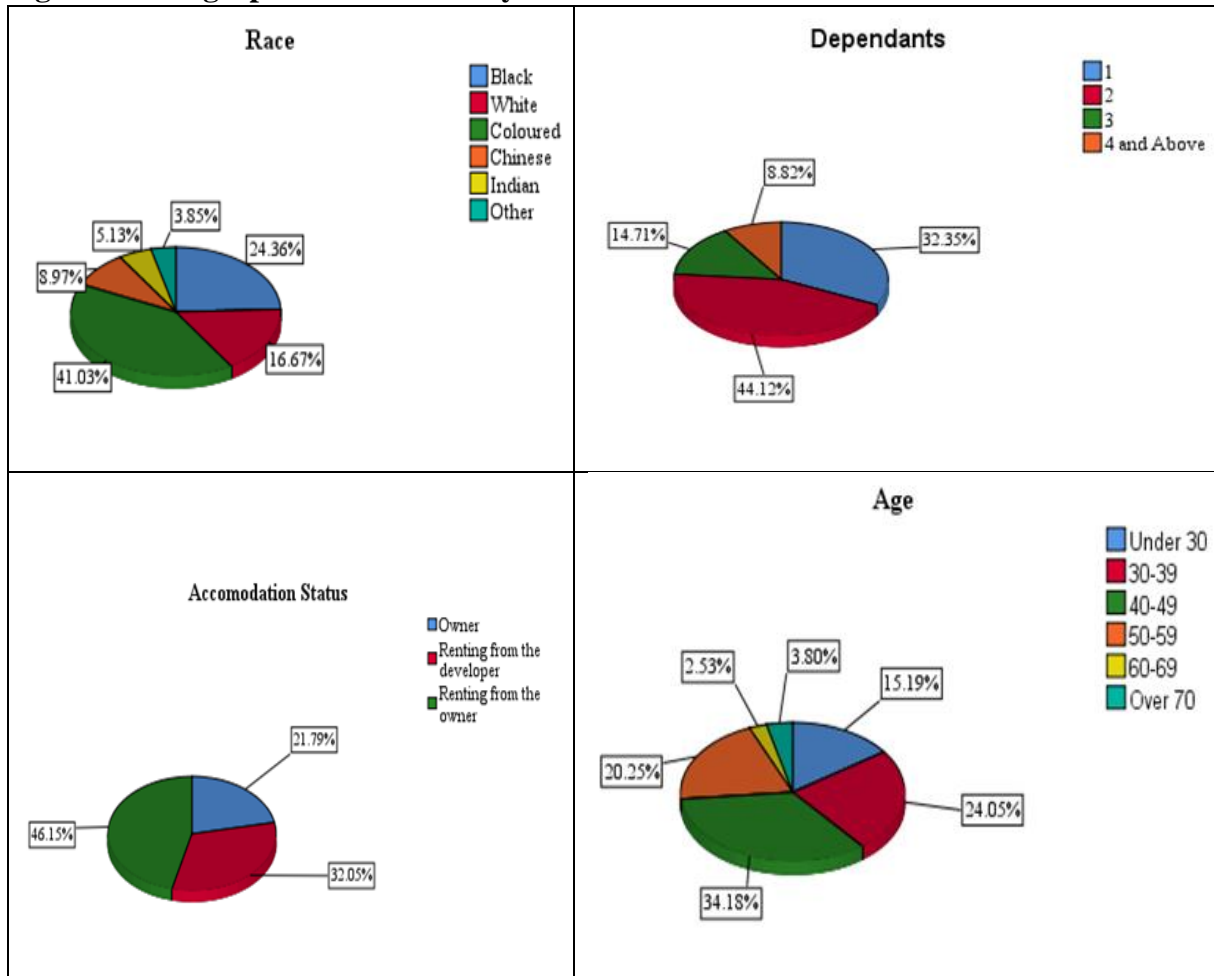
CS2CR laments that the developers pay for the EIA, bulk services, development contribution, sub-contractors and everything possible which adds up significantly to cost. CS2DR also agrees that developers make huge losses on affordable housing. *“There is no such thing as making a profit on affordable housing. Making money in the affordable housing market is difficult except shortcuts are taken and very wrong for the end user who suffers the consequences. That Profit margins can only increase if one has a steady stream of production; not with building small 77 numbers .....Loses of about R15, 000.00- R20, 000.00 are made each time a key is handed out”*

### **4.3.3. Case Study 3**

#### **Profile of the development**

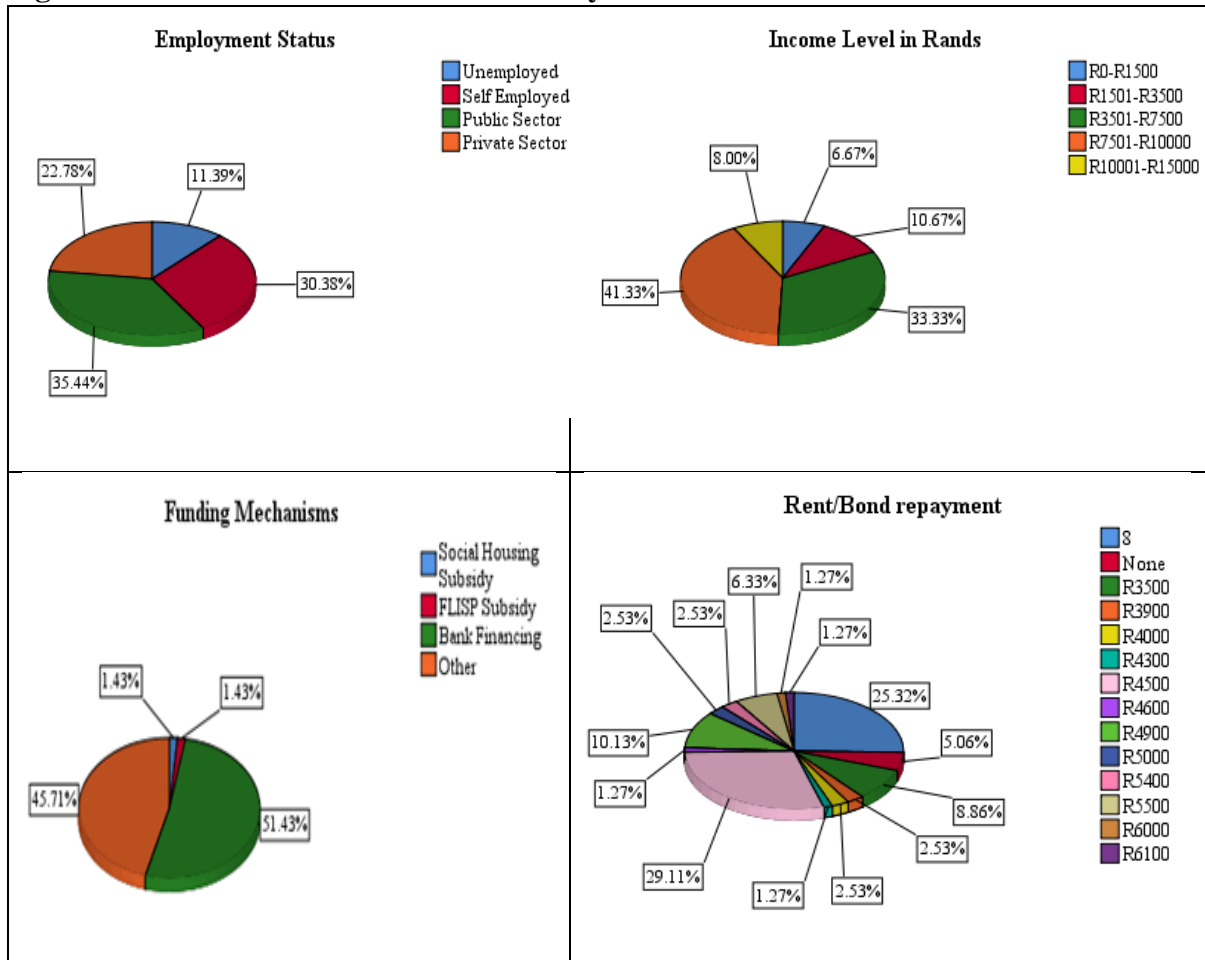
Case Study three Development CS3D profiles beneficiaries who are predominantly males with a composition of 67.1% males and 32.9% females. CS3D has a mixed racial composition of 24.4% blacks, 16.7% whites, 41.0% coloured, 9.0% Indians, 5.1% Chinese and 3.8% other. Their ages indicate that 34.2% of them are between the ages of 40 to 49 years, 24.1% are in their thirties and 20.2% are between 50 and 60 years, 15.2% are under 30 years , 3.8% were between 60 and 69 and 2.5% are over 70 years. The predominant age bracket of dwellers in this project are between 40-49 years. The highest number of dependants that inhabit of P3 are 3 with a minimum number of 1. People with two dependants dominate with 44.1%, followed by 32.3% with 1 dependant, 14.7% with 3 and 8.8% with 4 and above. The study shows that 46.2% of them are renting from owners, 32.1% are renting from the developer and 21.8% are owners and they are averagely educated.

**Fig. 4.6. Demographics of Case Study Three Beneficiaries**



It has mixed income, monthly bond rebates and rentals composition. It is a mix use with mostly employed dwellers and predominantly populated with a 41.3% income earners that fall between R7,5, 000-R10, 000 salary bracket, which place them at the FLISP category. 35.4% of this dwellers are public servants, 30.4% are self-employed, and 22.8% are private sector employed and 11.4% are unemployed. This shows the mixed-use development type with a combination of both FLISP and social housing. Their level of income indicates that 41.3% earn between R7,500 -R10,000, 33.3% of them earn between R3, 500- R7,500, 10.7% earn between R1500 – R3,500, 8.0% earn between R10,000 -R15,000 and 6.7% earn between R1000 - R1,500. This clearly confirms what many authors have described that the class of low income earners that qualify for this type of housing do not qualify for completely subsidised social housing but the FLISP housing for ownership. Those who earn below R3500 are those social housing. But it can be deduced from the responses that this development is mostly rentals with 78, 2% dwellers.

**Fig. 4.7. Social Profile Details of Case Study Three Beneficiaries**

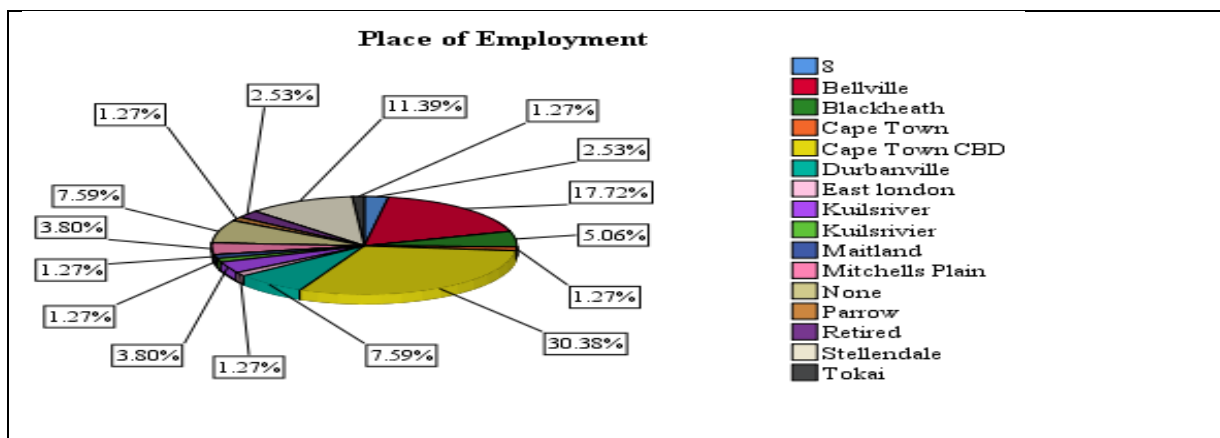


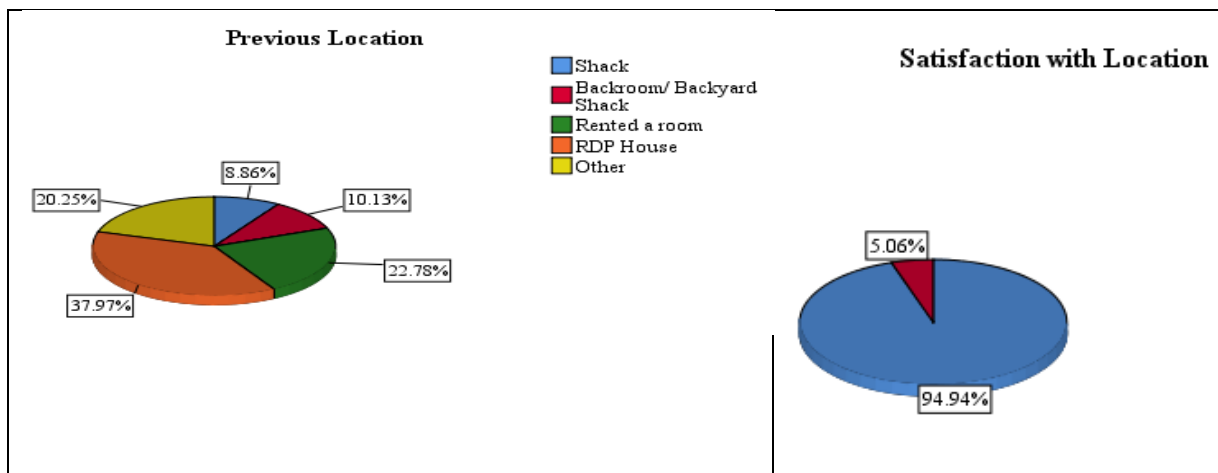
CS3D has been operating as accompany for 35 years and CS3DR works as a senior development manager and a director. The consultant did not oblige to the interview. They develop commercial, rental, and industrial which includes mix use (apartment blocks, office blocks, luxury apartment, single residential housing, and bulk estates), virtually everything. CS3DR had evolved through the RDP and affordable market. The development type is a much bigger long-term-integrated development, from BNG housing to affordable which also includes commercial. It consists of 84 single residential selling units and 850 number of units. Their prices range from the entry-level units which are about 42 square metre units is R420, 000.00 and R425, 000.00 up to R600/700,000.00 for the bigger units, which is too high for affordability for unsubsidised dwellers. This confirms CAHF, (2015b) assertion that households earning between R3,500 - R15,000 monthly should ideally afford to buy a house costing between R170,000 and R377,000, but the cheapest newly built housing unit available on the market currently is around R370,000, which is affordable only to the very top end of this market.

CS3D is small sized, profit oriented developer but does not target massive profits especially on these kinds of developments, so happy with a 5% profit before tax. CS3DR has a philosophy of uplifting and providing housing, infrastructure, job creation, which then naturally produces money for them. CS3D is mainly for people who earn between R8, 500.00 -R10, 000.00 up to R20, 000-R25, 000.00 a month. So, nurses, school teachers, government employees, police officers are targeted. The majority of dwellers in CS3D earn between R3, 500-%10, 000 which make these units unaffordable for ownership except qualified for FLISP subsidy, this explains why many are renting from owners. The ‘gap’ market size across South Africa is estimated at about 4.3 million households (Lachman 2012), and 30% of South African workers, including these key public sector workers mentioned here as well as those in the mining and manufacturing industries fall in this class (CAHF 2015b).

CS3D is located at the outskirts of the City’s core and CS3DR agrees that creating affordable accommodation in the inner city where there is a significant restriction on land is a problem. Traditionally the affordable housing has been on the outskirts of town and travelling to, and from town costs a lot of money he added. Conversely, the beneficiaries do not regard location of CS3D as a problem. 94.9% of the dwellers feel satisfied and happy with the location, even when they live far from their place of work as opposed to the popular notion and report from various authors. Their previous location indicates that 8, 86% were in shacks, 10, 13% backroom or backyard shack, 22.78% rented a room 37.97% RDP house and 20.25% other. This shows that 58.76% of the beneficiaries are previously living in some form of formal housing unlike the project one beneficiaries but just happy to upgrade to something more befitting.

**Fig. 4.8. Location Details of Case Study Three Beneficiaries**





**Planning and Building Regulations:** To get the planning rights in place for this development took two years due to town planning, engineering, environmental, health and safety, electrical, sewage issues relating to re-zoning process. He added *“It takes a long time, there are lots of processes”*. EIA planning regulatory requirement and public participation processes were involved so CS3DR appointed community liaison officer as an Environmental department partner who got involved with a lot of the processes. The community was informed in advance about the proposed project and CS3DR got their input and explained what the project was about and they seemed very nervous about the BNG or RDP housing coming in their vicinity. CS3DR opined that the regulations they had to deal with are appropriate but the cumbersome processes to comply with are inappropriate, frustrating and time consuming. CS3DR complies with required regulations and agreed that all the regulations are there for a good reason even though 20% of the regulations are not necessary. Consequently all the regulations have cost effect and CS3DR agreed that *“cost was a big thing; the NBHRC, the development contributions, plan approvals, all those processes and the requirements costs a fortune. 25% of the house price was government induced costs. Obviously the challenge is time, time is money. Every month things get delayed there were price escalations and the house became more expensive. If a house was sold for R400, 000.00, approximately R100, 000.00 of that R400, 000.00 was government taxes cost”*.

### Review of Other Factors

**Land:** CS3DR affirmed that *“Land is exorbitantly expensive. And simply because it’s so expensive, you had to sell the product too expensive too”*. The land for CS3D was provided by the Department of Human Settlements when CS3D won a tender in 2015, for a large portion

of land in the City of Cape Town. It was an agricultural land, inside the urban edge with a very good topography and with no physical constraints, but approval constraints.

**Labour:** D3R affirms that D3 *Permanent employees* are about 1,000.00 and employs probably about another 1,000-2, 000.00 depending on the number of projects running. CS3D has various divisions underneath it. The two main divisions in the group are Company's Construction and the Developments Company. The community officer engages with the community to try and source the labour as much as possible, locally. So the contractor on site engages with the local community to obtain labour from the local community.

**Cost:** The strictness in this regulatory institutions increase cost which could demotivate a developer, as shown in this study. Barriers to affordable housing production could be very substantive; obstacles such as bureaucratic bottle necks and red tapes together with administrative conflicts among different administering internal parties (road, water and fire departments) and inadequately trained inspectors are among the administrative impediments that cause delay and subsequent cost overruns, as well as the restrictive cost-saving materials and technologies (Listokin and Hattis, 2005).

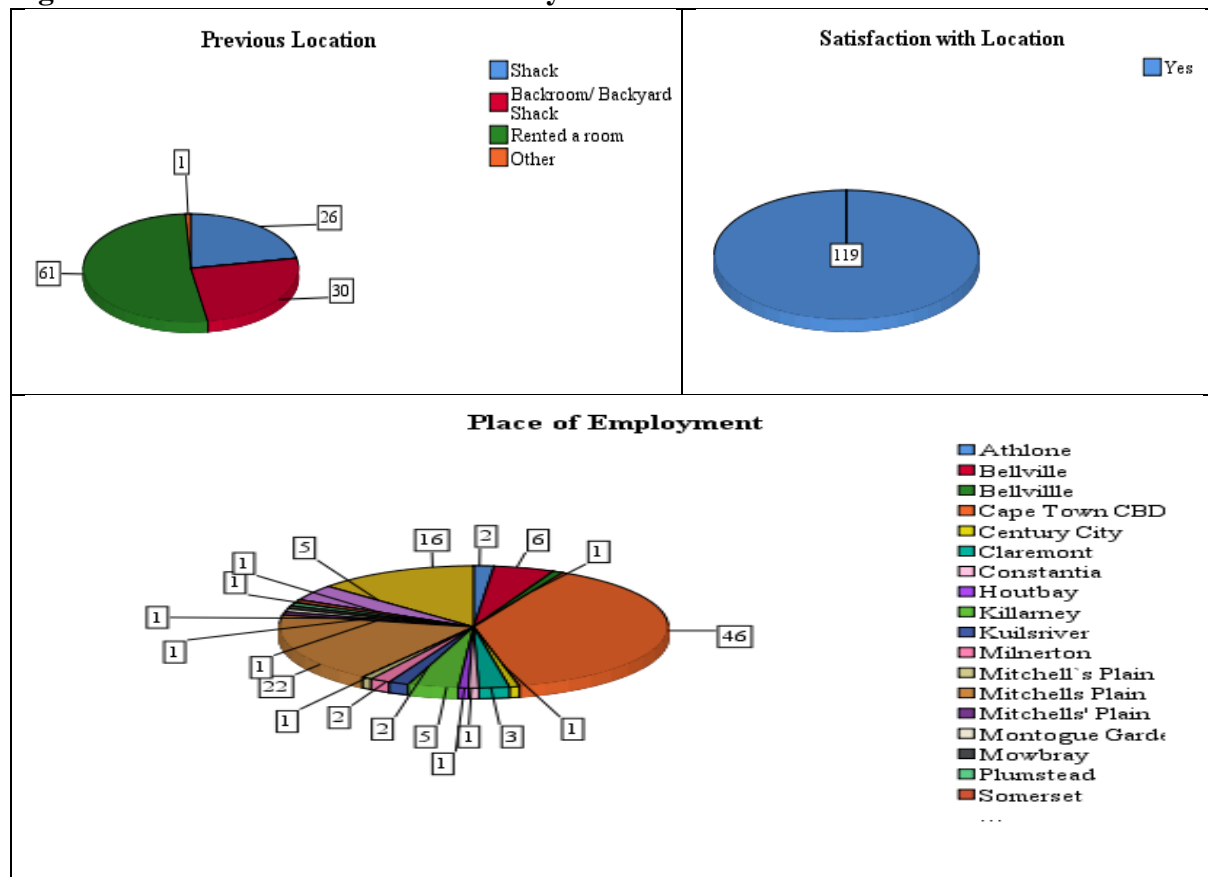
CS3DR, also highlighted some other reasons; *“There is an excellent reason why people are not getting engaged in that market. It is a difficult market. It is regulated in such a way that, as you know there are salary caps etcetera .....it is difficult because your operational cost is constantly at a critical point where the feasibility of the project could be in jeopardy because you don't charge a high rate”* A study in New Zealand (Tippett and Porteous, 1980) describes the cost impact of standards. It presents the findings that showed Product cost impact (material and labour costs). Process cost impact (planning, development and execution costs). User cost impact (maintenance and repair costs) Systems and industry cost impact (compliance costs) and prove that higher costs translate to higher housing prices. In theory, regulations could adversely affect housing production and could increase housing costs through both substantive (technical) and administrative impediments.

#### **4.3.4. Case Study 4**

CS4D is 100% social housing subsidised project. CS4D has 36.1% male dwellers and 63.9% predominant females with a racial combination of 73.1% coloured, 25.2% blacks, none Indians and 1.7% whites. Whose 21.8% under 30 years, 58.8% respondents are between 30-39 years,

15.1% participants are between 40-49 years, and 4.2% are between 50-59 years. Unlike other cases, CS4D seem to have a younger class of dwellers who are predominantly in their thirties. 14.4% dwellers have three dependents, 48.2% have two dependants, and 36.4% have one dependent. The highest education attained by beneficiaries indicates that inhabitants are predominantly high school qualifiers with 18.6% primary education, and 81.4% secondary qualification. The study also shows that 99% of the beneficiaries are owners and just a percentage, rents from owners. CS4D data shows that location is not a problem, as the still dwellers feel satisfied and happy with the location of the project, even when they live far from their different places of work. Their previous location shows that; 21.8% were resident in the shack, 25% were from backroom or backyard shack, 51.3% rented a room, and .8% were from other location.

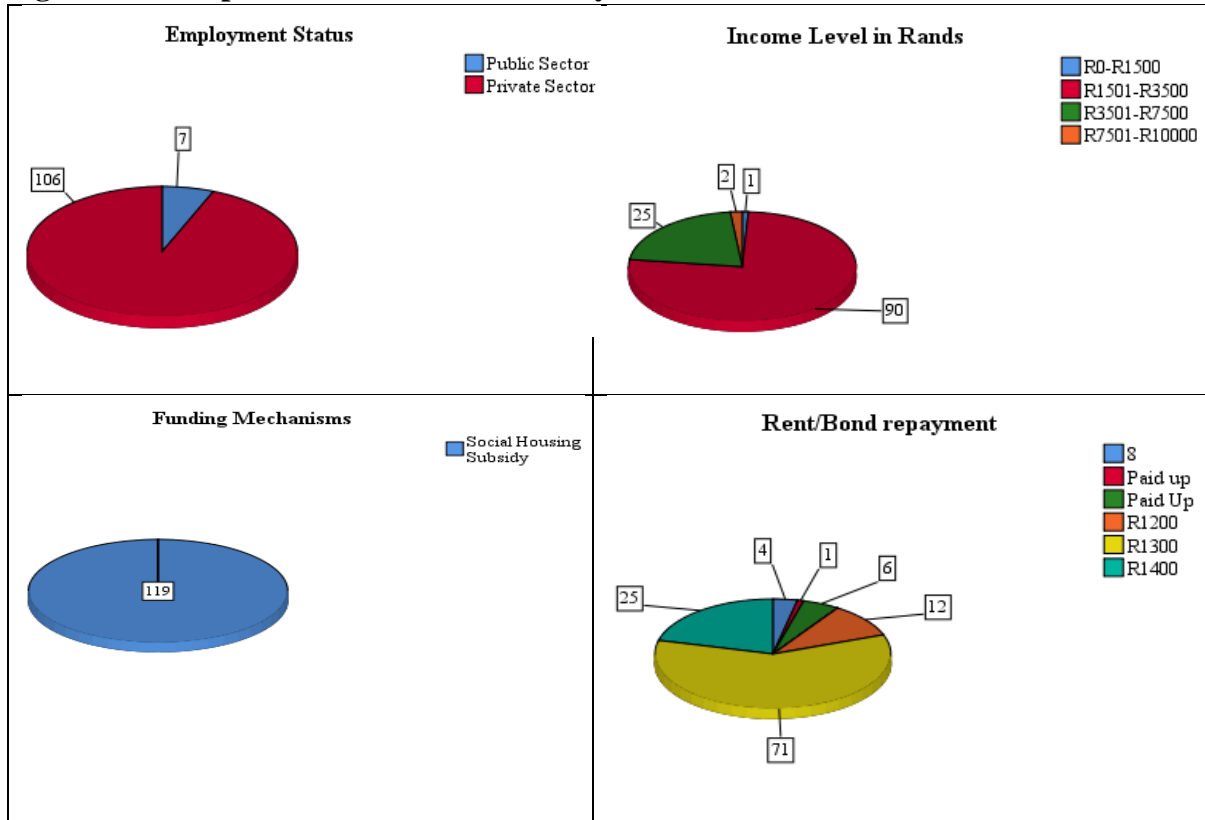
**Fig. 4. 9. Location Details of Case Study Four Beneficiaries**



A highly populated concentration of 83.8% are privately employed, 16.2% are publicly employed 8% of the beneficiaries earn between R0-R1,500, 76.3% income range is between R1,500 - R3,500 and 21.2% earn between R3,500 – R7,500. 1.7% of this project dwellers earn R7, 500-R10, 000. This indicates that the project is more of a social housing that is completely subsidised than a FLISP house that is subsidised partially as confirmed in the mixed rent/bond

repayments that shows 8% and 5.0% paid up, 10.1% pays R1, 200, 50.7% pays R1, 300 and 21.0% pays R1,400 rebates. The funding mechanism for this project is 100% social housing.

**Fig. 4.10 Social profile Details of Case Study Four Beneficiaries**



Two respondents were present for the interview. Case Study 4 Developer Respondent 1 (CS4DR1) works as the marketing and client services manager and Case Study 4 Developer Respondent 2 (CS4DR2) is designated as the property development manager whose role is to afford new opportunities, new projects, package those projects up till construction readiness and ensure that projects are always in the pipeline. The Case Study Four Consultant Respondent (CS4CR) is the principal and owner of the planning Company with offices in different provinces, and have been working for developer for about 35 years, in the Western Cape. CS4CR is also an employee of CS1D and accountable for project one.

CS4DR affirms that the company was established in 1998 as a joint venture between the City of Cape Town and the National Health and Finance Corporation (NHFC) and both parties put up equity. They nominated staff from City and the private sector and then established CS4D and experience ownership change in 2009. CD4D's objective is to develop affordable housing and deliver good quality institutional subsidised housing of about 850 units completed in 2015. CD4D is a very small size government developer. Just like others, its number of employees are

18-32. The critical role players are the province and the municipality and all the government entities that regulate the sector. Including the NHFC and the SHRA (Social Housing Regulatory Authority). C4DR argues that even the NGOs, make profit, so they want to make profit however small and a difference exist where the gain is not distributed to directors and shareholders and goes back into the business.

**Fig. 11. View of Case Study Four**



**Planning and Building regulations:** CS4DR attests that conformance to the National Building Regulations and the NHBRC's building specifications was compulsory. CS4DR had to follow the required specifications and building standards, and was not a problem because according to him *"those that are working in the sector, are influenced by all these regulations"*. CS4DR ensures permitting application is granted and agrees that the processes take very long, even though CS4DR didn't have to do EIA. The *Zoning* of the land is correctly done for residential purposes basically involves rezoning to sub-divisional area with a sub-divisional plan and by-laws. So bulk services provision are planning regulatory they had to conform to even when the land was properly zoned. Parks and recreation were required and provided, and they all attract an extra cost to the developer. CS4DR perceives that the Western Cape developers complain a lot about how expensive it is to develop, for various reasons. One is the enormous burden that the Heritage Western Cape and the environmental authorities that the developers are confronted with right from the start of a project. The resulting red tapes and bureaucracy are things CS4DR had to deal with. Before the started, CS4D had spent about 800 thousand to a million in fees already on specialist studies.

CS4CR added that regulations also mandate installation of solar geyser; energy efficiency requirements like solar geysers which are expensive and SANS energy regulations increase initial construction cost. The regulatory parking provision is required too, and CS4DR conformed to it *“the parking is always the challenging part as well and the City has recently made a 180 degree with regards to parking requirements....Because, they’ve now got maps to see TR1, TR2, and Zone”*. Many scholars both internationally and locally, agree that parking minimums are regulatory barrier to the provision of well-located affordable housing (McGaffin 2014; ULI 2014) due to limited space on site for surface parking, especially in good locations, while the option of basement parking is not cost effective, and often making a development unfeasible (ULI 2014; Massyn et al 2015; Hagorth, 2015).

### **Review of other factors**

**Land:** The City provided the land for P4 development, at a highly subsidised rate. Getting land works through the partnership agreement with the city. The land was zoned correctly. So CS4DR suggested that the City needs to give some form of incentive to encourage developer especially in the new high density concepts and integration is evident in different kinds of land uses within one precinct but where the problem lies is in the income groups difference. He added *“It’s going to be interesting when you build a ten-storey building and you’ve got a person that stays in the penthouse and next to him stays a domestic worker. I think it can’t work. I think, the income bands, you could integrate up till certain levels”*. So since the focus now is inwards and whole philosophy has changed. Thus prices are increased inside the urban inner core.

**Finance:** National Housing Finance Corporation being 100% shareholder to CS4D, provided the top-up finance or a term loan to enable CS4D to give the top-up fund and used the subsidy accredited by the SHRA. That the subsidy amount is R150, 000 and only the subsidy portion is free; the loan is not free. CS4DR creates own marketing to raise funds, by handing out flyers in train station, and road and advertises to suppliers, newspapers, radio, and other conventional means of bringing development to the market place and pre-sales are used to get people to begin. According to Hogarth, (2015), the subsidy is increasingly insufficient to cover development costs (NASHO and AFD 2012). McGaffin (2014); Massyn et al (2015) and Hogarth, (2016) have all agreed that development will only proceed if the estimated market value of the completed project exceeds the estimated development costs, including profit if required. The profit required by a developer to compensate for the time, effort and risk involved

will depend on attributes of the developer and the projects where more significant projects will allow for economies of scale; the time taken to complete project development-longer periods trigger higher risk the security of the projected income stream, and the ‘opportunity cost’ or potential return on alternative investments (Guy and Henneberry 2002; Hogarth, 2015).

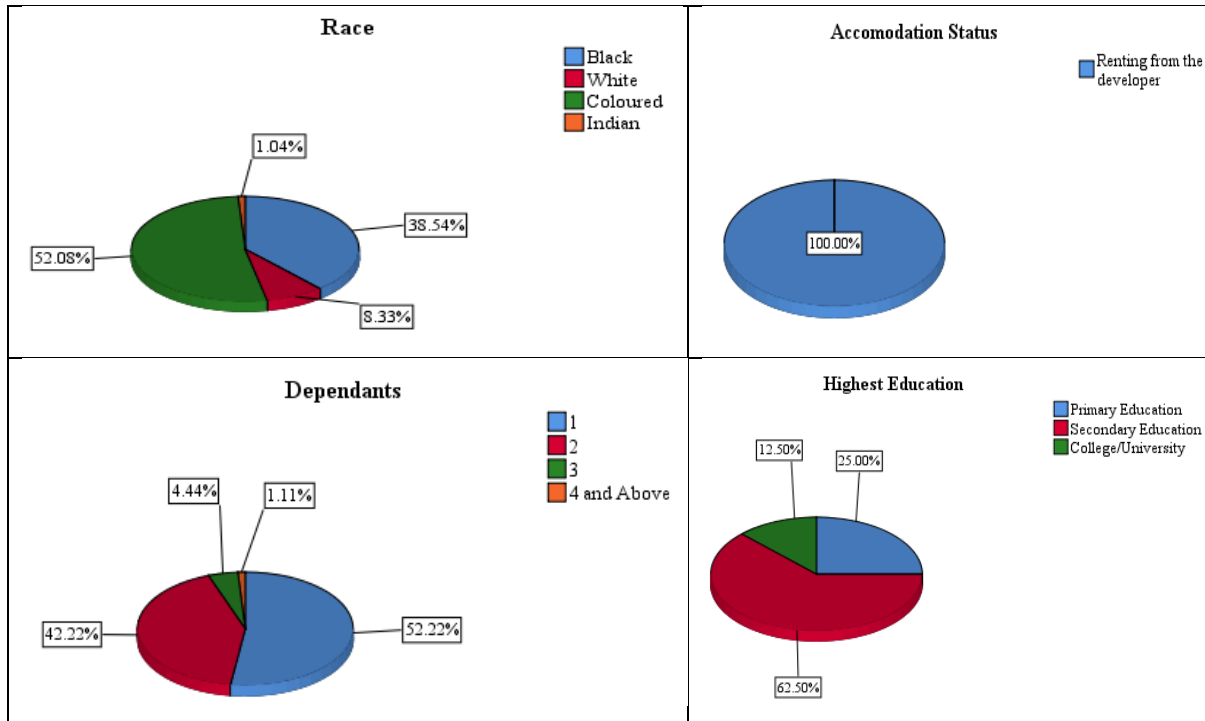
#### **4.3.5. Case Study Five**

Case Study five Developer Respondent (CS5DR) joined company in 2008 as COO, Corporations Officer and as a principal consultant of the projects and as a project management in this project. The roles include managing the; site meetings, professional teams, making progress with project implementation and reporting back to both the City and fiancé institution. CS5D is non- governmental and non-profit oriented and a social housing institution, who partners with the SHRA and the developer (who in this case is CS5DR) to produce affordable housing. This development was implemented by this social housing institution themselves. CS5DR agrees that for any development to be executed, a developer who becomes part of the tripartite agreement (involves the SHRA, the social housing institution and the developer) and that bounds the developer to the development and that has been working well for this social housing institution. The developer gives CS5DR a lump sum amount that is agreed upon before construction. This social institution is a relatively small young company, with equity that is not very big. The type of collaboration that exists between CS5D and the City or CS5D and the stakeholders or financing housing is that CS5D as a social housing institution belongs to NASHO which is the National Association of Social Housing Organisation which deals very closely with the regulators and SHRA.

The beneficiaries demographics of this case show that CS5D is made up of 49.0% males and 51.0% females who consist of 38.5% black, 8.3% white, 52.1% coloured and 1.0% Indian. In which 34.2% of them are between the ages of 30-39 years, 24.1% are under thirties and 20.2% are between 40 - 49 years, 9.4% are 50-59, and 1.0% are between 60-69 years. They are predominantly between 30-49 years. This development shows inhabitants who are averagely educated with very high employment rate and the predominant income class of 51.6% earning between R3, 500 – R7, 500. This shows that they are in the gap class, who qualify through the FLISP program for ownership, though majority are renting from owners. The highest number of dependants that inhabitants have are predominantly one dependent with 52.2%, followed by 42.2% with 2 dependant, 4.4% with 3 and 1.1% with 4 and above. The study shows that 46.2%

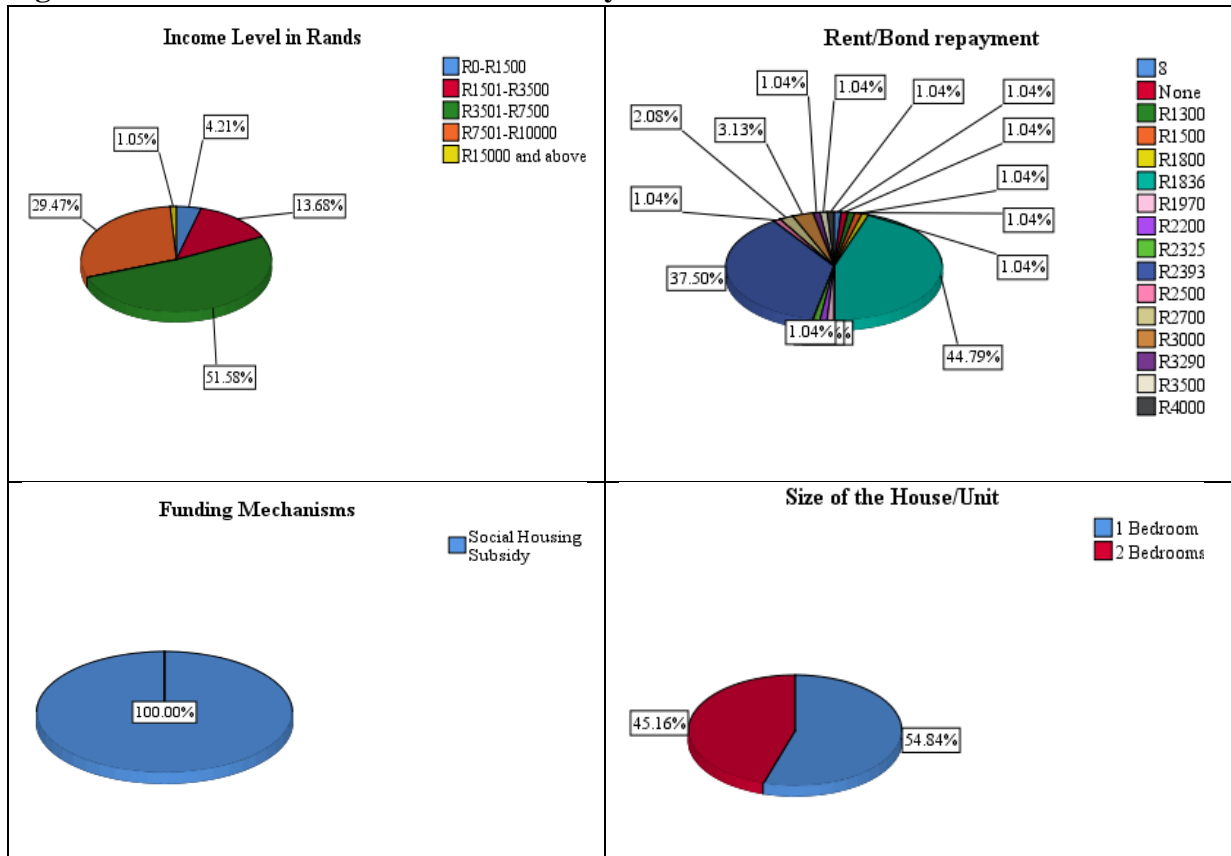
of them are renting from owners, 32.1% are renting from the developer and 21.8% are owners.

**Fig. 4.12. Demographics of Case Study five Beneficiaries**

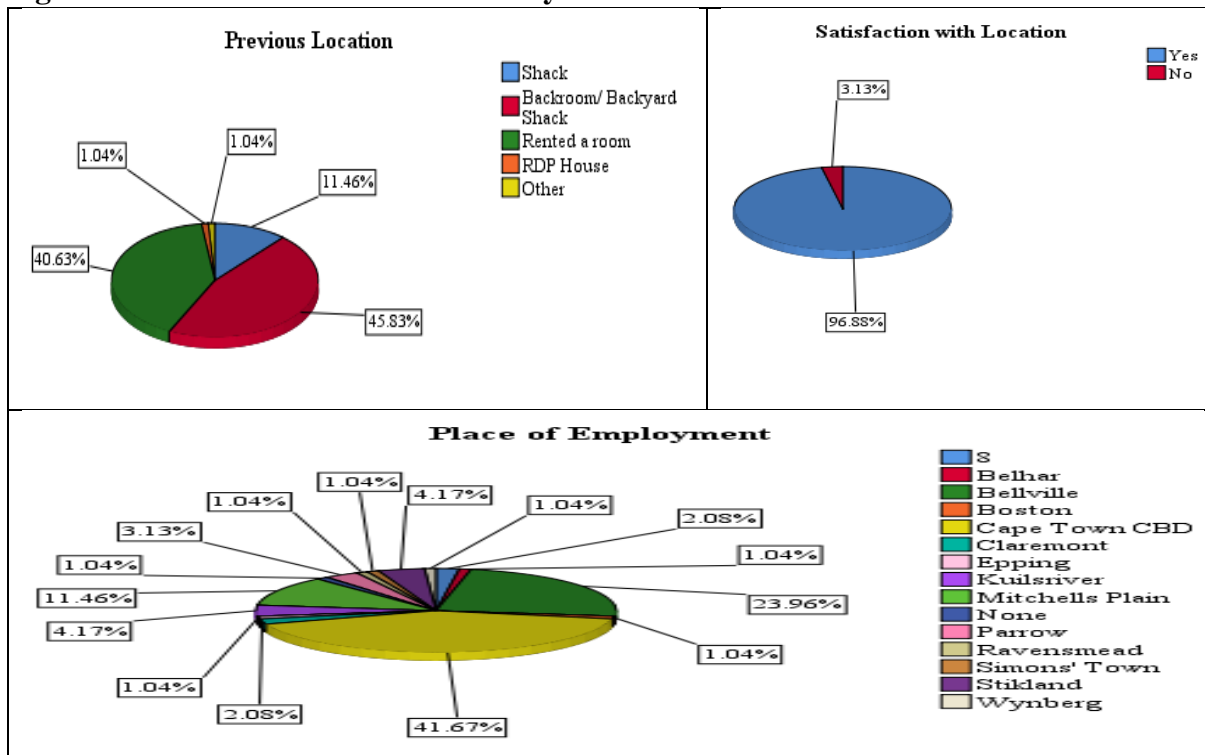


Their social profile show that 2.1% of beneficiaries are unemployed, 7.4% are self-employed, and 20.0% are publicly employed while 70.2% are privately employed. 4.2% of the beneficiaries earn between R0-R1, 500, 13.7% income range is between R1, 500 - R3, 500 and 51.6% earn between R3, 500 – R7, 500. 29.5% and 1.1% earn R15, 000 and above. The predominant dwellers who earn the most earn about R3, 500-R7, 500 of which 54.8% live in 2 bedroom and 45.2% reside in a bedroom. This indicates that the development has mixed income and more of a FLISP housing that is partially subsidised than a completely subsidised social housing as confirmed in the rent/bond repayment. CS5DR affirmed that “*affordable housing market is riskier than the welfare housing market segment*. And that the returns on this project should be about R8 000.00 a square metre which includes everything. The upper limit of the sale price range for the rental market used to be 2, 2 million rand, that’s the 33% of the salary which is quite high for affordability.

**Fig. 4.13. Social Profile Details of Case Study Five Beneficiaries**



**Fig. 4.14. Location Details of Case Study Five Beneficiaries**



CS5DR reported that this development took two years to get developed after being approached

by the City to take over the project from Commune Care; another social housing entity who negotiated with the City to manage CS5D for about 7 years and failed. CS5DR then came on board and took over. There was huge delay due to bulk infrastructure prior to the time of construction. It was at a point where Commune Care lost interest in the project, probably because of the fact that there have been some escalations in costs due to cost overruns. CS5DR suggests that there are about 200 and 2 650 number of units in it, the type of development involved is both high-rise in the City and communal. CS5D creates a housing ladder where building shelters, traditional rooms, communal rooms, social housing were started and are now doing the rental market, the private rental market, and is three and four storey walk-ups with 630 units. He explained that the reason for focussing on these developments is the social housing component. The objective is to provide clean, safe and affordable housing and to get people out of backyard dwelling and uplifting that community and giving people the opportunity to go into very well managed units at an affordable rate. And again, there is a big gap in the market for development institutions and strong institutions to offer this product are not enough.

### **Review of the required Planning and building Regulations**

CS5DR opines that hiccups exists in processes and apart from that there is no additional cost effects of normal building and planning other than the normal regulation concerning fire escapes, their design and built and the energy efficiency regulatory requirement which trigger cost increases from hot water supply through alternative energy and all these have significant cost implications but agreed that those are not really cost implications technically, they are required to provide a safe environment with all this development. CS5DR alludes that if one is used to doing things according to the regulations then it feels like there is no big burden on complying with the regulation. *“I’m also from a civil engineering background, so I would say, no regulations are appropriate, the regulation is actually helping me to make sure that this is a project that’s going to be there for perpetuity and therefore I don’t see a negative effect. So the regulations are appropriate”*. The unique thing about CS5D is that they have heat pumps stations and so there is no conventional geysers used. But the hot water is generated by a centralized hot water systems called v-pumps which takes ambient temperature from the air and then transfers it into water. And added *“We have done our tests and we can very clearly talk about at least a 45% saving on energy when it comes to that”*.

The study confirms many authors opinion that municipalities regulate many aspects of the built

environment, including land use, density, height, parking, setbacks, and design (Downs, 1991; Gabbe, 2017). Bertaud and Brueckner, (2005) and Manville, (2013) agreed that regulatory provisions could be viewed as a ceiling or floor imposed by the government which impose cost increases on the developer. CS5DR also provides adequate parking as required by the regulation. This confirms another comprehensive studies on building code burden done by (Field, and Rivkin, 1975) based on a survey of 250 home manufacturers and 1000 local building officials and showed the prohibitive nature of building codes. The study revealed that housing innovators, perceive code regulations as a problem where the existing pattern of building codes results in unnecessarily higher building costs and house prices and socially, discriminates against lower-income families and that they obstructs new building technologies and restricts the introduction and diffusion of innovations into the market place. The manufacturer' s survey in that study revealed that most of the firms experienced costs increases due to incidences of stricter standards. It cited several previous studies that also found added code burden on construction firms, ranging from 2% to 10% of construction costs.

On density regulatory requirements; CS5DR took over after the town planning approvals, before the construction stage, so the implication of this is that they had no control over the density; thus the development was not very dense. He reported, *“We couldn't change the SPP of the project, so we're stuck to what we had”*. CS5DR' s argument on high densities and integration concepts is that *“.....bringing everything back to the City because that's where you work and the transport. Then I quite often think to myself, how about we ask the tenant, the end beneficiary where he/she wants to be....? did you consult with the beneficiary? I think, not. I think we made up our minds about what we think what is suitable for people in general”*.

### **Review of other factors**

**Land:** CS5DR inherited a lot land which favoured them time wise but not so much in terms of what they would have loved to design. The land for CS5D belongs to the City and was bought from the City, at a reduced rate that the City offers for social housing, to social housing institutions (such as CS5D). There were no land acquisition challenges faced as the land has been correctly zoned for a residential development already, so the land rights are basically part of the contract CS5DR has with the City as well as the institutional subsidy and therefore CS5DR knows the land rights would have limited development since it was inherited. The land has flat topography with no physical constraints. The constraints are bulk infrastructure

upgrade. The length of time approval takes generally depends on the project itself; because if a proposed project have some bulk issues it can cause significant delays and if everything is fixed it doesn't take that long. CS5DR agreed *"it is in an instruction zone and the minimum requirements and the town planning approvals and all those things are met....if ever we have a serious delay it is mainly because of bulk supply and technicalities"*. Land appears to be a common issue to both the regulator and the regulated in all cases.

**Finance:** land funding, construction bulk services, and bank approvals acquisition, were part and parcel of CS5D agreement with the City. The institutional subsidies were offered through the province and CS5D applied for it and went through the normal application process. CS5D acts with the subsidies and State funding. The cost of the project was just over 200 million and the breakdown percentage of state funding and private funding is *"about 67%, the State funding is broken now between the institutional and the SHRA money."*

**Labour:** CS5D has roughly about 2 000 employees at that time, and the size of the company is about 120. Why the number is relatively high is because CS5DR does a lot of in-house work as well as outsourcing when necessary; so the cleaning, maintenance and security components are in-house managed. CS5DR also outsources some of the subcontractors, contracting some of the services and the professionals. The developer and the contractors and sub-contracting and the in-sourcing in this arrangement by implication add to the total cost of the project and the affordability of the units.

CCS5DR perceived that the local government is very serious about using local labour and in most cases force it on them CS5DR said *"for many reasons it is a very beautiful thing and for many other reasons, it is why the projects are often delayed or why they are perhaps not upstanding or outstanding, because there is a labour force being forced onto a contractor, you will use a percentage of the local community. So it is not our choice and when you have a situation like that the person's skills and the quality of work and the liability and so forth doesn't come matching. So it is an obstacle that we can just understand and face, but it is also a way to plough back into the community, right and so one has to find the balance there"*. And thinks what many people have done correctly is that they train people in order to use them as local labour in the proposed project location. They start with early in training programmes into the project and through that their abilities are improved.

### **Brief History of CS5D**

This social housing development institution (CS5D) started in Johannesburg, in Hill brow as an NGO; a charity organisation which basically gets people off the street and train them through some skill acquisition programme and a lot of other social services. CS5D realised afterwards that once these people have gone through the programme, if they do not have clean, safe and affordable housing, they fall back onto the streets again. CS5D therefore started with communal housing where the people share bathroom and the kitchen facilities and has developed about a thousand units in Hilbrow, Johannesburg based on that model. Within these developments, there is a certain percentage that is self-contained with both kitchen and the bathroom, but predominantly like a communal union. CS5D later ventured out into a green field's building in Fleurhof and Jabulani, and about three years later they came to the Western Cape and subsequently developed that model in two projects; including CS5D. They recently started a company called Step Up that manages affordable housing, market related rentals on behalf of others who act as a managing agent called Team Africa.

**Fig. 4.15. View of Case Study five**



#### **4.3.5. Developers Supplementary interview Perceptions on Cost**

**Planning and building regulations impact on cost:** This follow up interview with developers was meant to give greater insight into the total cost (transaction and production) incurred in implementing projects and involves four of the five developers. Their perceptions indicate that in Cape Town there is very high cost impediments arising from transaction processes and that affects production and supply. The degree to which land use development approval processes increase cost is about 20-30% which is very high for affordability. The developers agreed that about 20% goes to development cost alone aside the transaction cost which affects overall

affordability component of this housing type and makes it very expensive for the end user. CS2DR affirmed *“to comply with regulation and statutory requirements to obtain approval can cost as much as R90, 000 per house. This could be up to 20% of the eventual selling price”*. This is absolutely too high when affordability is considered both for the developer and end user who bear the brunt of regulations.

The planning regulations that has the highest impact in their perceptions are those of red tapes and bureaucratic processes. Environmental Impact Assessment that involves public participation where objections are common to these type of development and the processes could involve appeal situations with arbitration as dispute resolution mechanisms. They confirmed that these red tapes and bottlenecks cause delays that that translate to cost overruns. The building regulatory requirement that seem to impact developers the most show that regulatory cost relating to XA-Energy usage in buildings increase cost the most in the development of affordable housing and in project construction, the incentives provided for this are assumed not to be enough as developers still augment with a significant amount.

Their report indicates that construction phase in which increases in regulatory cost occur mostly are the foundation phase and the roofing stages; not so much increases on sub structure walling. As such the areas where the cost of building affects them the most are on the foundation and roofing phases of building development. The cost of regulatory compliances is also confirmed to be very high and that reduces profitability and attraction to this type of housing. CS4DR opines that supply of affordable housing by the private can be improved *“by reducing the time it takes to jump through the hoops involved in the approval process and by finding ways to subsidise statutory costs as these has the most influence on the cost of the end product”*.

#### **4.3.6. General assessment of the perceptions and experiences of key informants**

##### **Review of Key Informants**

The key informant interviews are classified into five main groups. They consist of two City of Cape Town Planning Inspectors Respondent 1, 2 (CCTPI-R1 and R2); three City of Cape Town Building Inspectors Respondent1,2,3 (CCTBI-R1, R2, R3); A City of Cape Town Planner Respondent (CCTPR); three Department of Human Settlement Respondents (DoHS-R1, R2 and R3), Two National Home Builders Registration Council (NHBRC-R1 and R2) and five

main City of Cape Town City Respondents (CCTC -R1, R2, R3, R4, R5). They were all purposively selected around Cape Town.

The CCTPIRs and CCTBIRs are sectional heads and planning/building inspectors. They are in charge of land use regarding land management and land development plan and building approvals and inspections.

CCTCRs on the other hand alludes that public participation processes are often used to try and block developments like those of affordable housing and that is something that the City has to manage both at the political level and the managerial level through the workshops and seminars. NHBRC- R2 alludes that their approval takes three days, depending on the volume.

DHSRs who represent the province agree that if they decide on a property they would put it out for tender for a proposal call and the tender would be evaluated on company's (applicant's) proposal. Through an evaluation process, a tender would be adjudicated, then human settlement will enter into a main availability agreement with the company, in which the company has to go for public participation processes, acquire the development rights, go through the advertising period with the communities, etcetera and once all that is successfully done, in all that and the developers shows that they have the financial capabilities to do it then they can start building in terms of the agreement.

The National Home Builder Registration Council respondents (NHBRC) R1 and R2 who represent the national body agree that the National Building Regulation (NBR) is applied through their inspection stages; from the foundation stage; through the super sub-structure wall, sub-structure stage; to the roof stage. Their inspections work is different from their City counterpart because they pay particular attention to absolute details completely, using NHBRC standards, manuals and NBR. The various respondents shared their views in issues relating to their categories in the semi structured open ended interviews.

### **Planning and Building regulatory requirements and Processes: A Regulator's Perspective**

Approval of plans in terms of the National Building Regulation and Building Standard Act 107 which promulgates regulations called the "deem to satisfy rules". Therefore if one complies with these rules, one complies with the regulations. This regulation could be satisfied in three manners; by firstly adhering to the rules which basically outlines the requirements expected for any given building in terms of proper quality construction and safety of building. Secondly, if

one does not want to comply with the rules then a submission of a rational design is compulsory, which is a design made by a registered engineer that actually calculates and proves that the building would satisfy the regulation. And thirdly, the use of Agreement SA certificate is allowed; where one erects a prototype building which is tested by the South African Bureau of Standards (SABS) under mandated people who give certification.

It is perceived that approving a building plan is very complicated and the things they check include: compliance to NBR; compliance to many other common laws like, the labour law which gives an end user the right to enjoy the property. Approval of plans also has some disqualifying factors in relation to building appearance and the neighbourhood in order not to derogate the value of the adjoining property as well as not being danger to life or property around the vicinity and blocking people's views which planning inspectors mostly deal with. Both the planning and building inspectors agree that approvals depend on the product to be approved. If the client submits a bad product, then it has to be amended and that happens all the time and if the amendment was improperly done, then the process could take forever because it goes through the phase (back into the system) all over again and this contributes to the delay.

The building inspectors assert that the approval processes are complex and involve different sections of the City and approvals are based on, "type Plans"; 1,2, 3, 4, and have put all the different types on a property and approval of the proper type is done with critical scrutiny. A plan is only considered fine based on meeting all requirements in terms of building plan, site plan and building orientation, then they approve the plan and circulate it to all departments. The different department a plan goes after a thorough scrutiny include transport; to see if parking was correctly done; water, to check mechanical issues of plumbing and sewage and electricity; to ensure electrical issues are handles properly in design. In order to fasten the process the Development Application Management System (DAMS) is used where everything is done electronically, so all the different departments get it at the same time and with quick feedbacks then it could be approved by them early enough. And then the planning department can do public participation. So approvals depend on how good or bad the content of application is. This are the red tapes and bottlenecks that every developer complained about earlier are confirmed in these processes.

The CCTBI R1 opined that it is a difficult task to approve a development as it basically involves two sections (land development and land use). Land development has a shorter time frame than

Land use managements section which have different time frames and takes much longer time. Ideally for building development section, there are categories for approvals; buildings under 500 square meters are given 30 days' time period and buildings over 500square metres and more, are given 60days and land use management approvals takes ideally up to six months; which could be much longer if public participation, objections, arbitration processes are involved. This is confirmed in the study as delays of two to eight years are reported her. For affordable housing, they allude that a shorter time frame for approval is agreed upon, shorter than a plan that will come from a private applicant.

If disagreement ensues, there is a review board that reviews cases and makes decisions when contacted in an arbitration or dispute situation and it seldom happens with affordable housing but common with other buildings and mainly on common things of traffic, parking and sight, devalue to property. Any dispute could be resolved internally or arbitrarily. The CCTPI -R1 and R2 also agree delays are caused by cases of public participation, objection and appeal processes. They assert that objection occur quiet frequently. This is confirmed by developers in this study

In terms of management tools supposedly used to accelerate the process; the CCTBIR and CCTPIR have agreed that the DAMS electronic tool is in use. But the challenge is that the DAM system still requires the human element to assist, so there could be also capacity issues on City's side where it could be one person looking at 10-15 applications, so that could also pose delay challenges as well. The NHBRC respondents agree that they have a project/programme management system too, and deals with it on a programme basis. So when an application is received it is processed tracked and monitored with the IT tool which helps in tracking and managing projects.

The CCTPI-R1 however agrees that, typically, the developer could not depart from floor space and heights; so they have to rezone to the next sub zone and they use forward planning policy that speaks about social development and local headed plans. They also assist developers in making a right choice of zoning in some cases where the developer seems not to know the right type of zoning that suites what they are undertaking. They take into consideration what kind of zoning they would assign to social housing development because the normal single residential zoning; one single, one zoning could be a bit prohibited. They help them look at the single residential tools and the development parameters for that in terms of the zoning that is necessary.

It is also perceived that regulatory resistance to alternative building material and technology by the City which is worsened by community resistance too.

### **Review of other Factors**

**Land:** Many of the government respondents have agreed that government land is huge, but for other intentions and the private developer is not allowed access unless government puts it up for tender and most of the time the social housing project is done by either the province or the city of Cape Town through a consultants who submits the application for the development on the City's/province's behalf. CCTCRs agreed that the City owns a lot of land and holds a significant amount of land all over the metropolitan region for different reasons which include; road reserves, and for an interim measure for the area that might be earmarked for future housing. But that the city is very secretive about its intentions for the land because it may precipitate legal challenges, and other political issues. If it has not purchased the land but intends to purchase it, declaring City's intention might raise the property value by the property owner and a lot of other unintended consequences may occur if that information becomes available to the public.

Their perception is that the city's land is made available to developers who share same objectives as the City. So making land available is actually aligned with developer's objectives that are pushing same agenda with the City. This type of developer can then enter into partnership with the City; not as a developer in the private sector who is pushing a profit agenda. The officials agree that there are certain mechanisms in place to ensure that the land is a little bit more affordable for the developers since they understand that land has a significant cost component unto development cost. Therefore, developers normally get land for affordable housing with quite a significant discount. *“There is a program that is called Turnkey here, where the city gives the land to the developer, he secures, goes through the processes and he gets the team that secures the land use rights, he does the development for himself, we don't have much control over it but at the end of the day they provide a product and they get reduced cost in terms of the kind”.*

This is done under a land availability agreement, if it is a city owned but on all developers, obviously the intention is to make profit as well. *“But I think when they get involved in this type of partnership they have access to the full funding; land quantum deal, subsidy quantum deal, depending on the mix. A 100 will not do you well but if it is close to + or – 4000 units”.*

The land use act has also enabled their social housing development viability and a land offered on lease own basis meant that the developer does not have to carry the cost of the land upfront, as regards land tenure because banks do not really delight in financing developments with no title deed “in order to have more security, they need either longer term lease and preferably 50- 99 year lease, not 30 years that they were mostly giving. Department of Human settlement respondents (DoHSRs) agree that in most instances the city buys the land and human settlement develops it. They assert that most of the land owned in the city actually meant for housing purposes is used already according to him. They have embarked on a land release program and have released some small land parcels and are busy doing catalytic projects among other things for now.

**Cost:** According to CCTCPR, the things of concern with the planning and building norms and standards that raise costs beyond what is feasible is almost about everything from, the cost of fire doors and the minimum area for an apartment, energy efficiency requirements and so on. NHBRC-R2 for instance argues that *“a normal geyser cost 3 000,00R but the current energy efficient geysers cost R10 to R15 000, 00 Rand. Now, you’ve put that requirement on the developer, but you do not provide money for that.... So the new, SANS energy regulations escalate cost... if you had any hot water in your house, 50% of that must come from an alternative, a renewable stable switch, but these things are expensive..... You will have solar geysers and power; have an element of direct power to that panel of the geyser to make sure there is heat then that did not come as cheap. Those things are in the region of R4, 000.00 – R5, 000.00 normal 150Ltr is R2.5, 000 – R3, 000”.* he added that the green part (geysers and solar panels), impose on the developers pose cost incentives, but not enough as the developer still has to add a lot more to it.

NHBRC-R1 believes that if one must look at the cost of the elements adding to affordability, one must consider reducing the service cost in regulatory requirement which he said *“do not come at capital cost, (there was no increase in the capital cost but in the service cost), the used cost, that is where the affordability cost is, so service cost could be returned upfront but the capital cost could be recovered but over the period of 10, 15 years, the benefit of the capital cost is seen in the service cost”.* The developer must consider the long term gain (maintenance cost saving) more than the immediate (initial construction cost). HSR1 and CCTCR argue that when developers go higher densities, cost is reduced in terms of infrastructure, so that helps to argue for high densities, lower infrastructure cost and integration. A density subsidy to

basically assist developers with the additional cost that they are likely going to accrue in going higher height is eminent.

The CCTCPR also agrees that through the prospectus for affordable housing project, there are a full range of incentives that they provide to encourage a developer. So whether it has been applied in the past is what CCTCPR is not sure of because nothing has changed in terms of the regulations. The city being a growing organism expands sometimes beyond the set boundaries. This has its advantages and disadvantages. The cost of locating services exists for the developer even though it gives room for service provision and job creation. The CCTCR also argues that there are various incentives that the city offers to developers to make things work and give relaxations on development charges as an example, which could be a significant cost where there is major bulk' infrastructure upgrades that are required by the developer. *“We've got precedence in social housing where we got development discount at 19% of the market value which basically helps to massage some of those financial constraints that come with developments”*. They also argue that financial sustainability constraints exists where various mechanisms are employed to make the development work upfront. Land is one of the mechanisms used and thus the option of cross subsidising with the market driven units is also used in order to make the affordable housing unit work.

NHBRC suggests that regulatory revision to ease cost should be on things that will not affect the structures of the building *“let a concrete floor be, let's not drop stuff on the structure. These costs that you are looking at kitchen cupboards and things like let's just live it open let people who have the means to actually put counters and cupboards, let's build the building and live the building like that. So you have to maximise the full print at the cheapest cost”*.

#### **4.4. Evaluation of Aims, Objectives and Hypothesis**

***Objective one: To establish the main types of planning and building regulations that affect the supply of affordable housing by the private developer in South Africa.***

The City of Cape Town has a lot of bye-laws and policies that govern planning and building projects. This study presents a strong evidence that regulations found in NBR, SANS, SABS and other manuals could constrain the supply of housing.

**Planning regulations:** The evidence from the empirical data in this study prove that the EIA processes and rezoning regulatory planning issues with accompanying bulk services provision are identified as a main planning regulation that affects a developer the most in the supply of affordable housing. Zoning processes and rezoning are regarded as regulatory hurdles that developers are required to cross in most instances due to land location. In four of the five cases under scrutiny, the land was agriculturally zoned either close to urban edge or outside it. The rezoning processes are affirmed to be riddled with bulk services issues that add significantly to cost. The EIA is the evaluation of the effects that are likely to arise from a major project (like the development of affordable housing in a vicinity) that can significantly affect the neighbouring environment. EIA is a systematic process which considers possible impacts prior to taking any decision on whether or not a proposal (building) should be given approval to proceed. It is thus an anticipatory environmental management tool that involves publication as well as consultation through public participation and objections which are integral part of evaluation process as seen in this study. These processes are riddled with red tapes and bottlenecks bureaucracy that are time consuming, hectic and frustrating, which translate to cost overruns in the labour, material etcetera. These affect a developer's productivity and impact on affordability and location.

**Density Regulatory requirement:** This study has shown that the current NBR on density and floor area ratio bylaws are restrictive and do not encourage high density developments to avoid sight obstruction, which is one of the things the City check while approving any plan. Development rights are not given to developers who contravene this rule. Some respondents have however argued that when developers go higher densities, cost is reduced in terms of infrastructure and a developer can gain more by allowing them to construct more units in a development but high densities come with cost increases in terms of the development contribution levy per unit cost aside the cost of providing lifts, fire services and other building requirements. The current NBR regulatory requirement on density does not encourage high densities which then contradicts the new concept of densification and urban regeneration that the City of Cape Town as well as politicians and urban planners propagate. There is therefore a mismatch between what they want and what is stipulated in bye-laws.

**Parking Regulatory Requirement:** This study shows that developers are mandated to provide two parking spaces regardless of the class of potential occupants the affordable housing development is meant for, which is not cost effective. Even when developers negotiate for one

parking space in some instances, approvals become difficult. In this study, CS4DR negotiated for the parking provided and was lucky to be granted, whereas many others were not as fortunate. The only way to prevent this and achieve better outcomes is if the regulatory planning requirement is being addressed in bye-laws, which is not the case at the moment.

**Building codes/Regulations: (Energy regulatory requirements)** - There is strong evidence here that energy efficiency regulations have substantial impact on the cost of housing for the low-income earners and are perceived as additional burdens that developers bear. This adds significantly to overall project costs that eventually affect affordability and location. The incentives available for this are insufficient to give a developer a significant relief. Many developers regard energy efficiency requirements as a cost driver in immediate construction rather than a cost savings mechanism in the long run that benefits the developer and makes affordability easy for the end user but the cost is borne by the developer.

Most of the costs in development that go to the finishes, cost of fire doors and so on in a minimum area for an apartment is expensive, therefore, everything building is cost implicated. In cases where cheap buildings are erected, maintenance becomes very costly, leading to eventual loss of value. It is revealed that over the years, the wall thickness of new developments had been reduced from 180mm to 140mm (for the main block) in order to save cost while not sacrificing quality. Such adjustments are relevant to reduce cost while not compromising quality and standards. Innovative modifications in regulation while still maintaining their functionality should thus be encouraged.

**Alternative Material/Technology Regulatory Restriction:** The regulatory restrictions which prevents the use of cost-saving materials and technologies also create barriers to the development of affordable housing. The use of alternative building materials was generally resisted either by the community the affordable housing is built for or the regulators with stringent and difficult approval processes when a 'rational design' or Agrema SA certificate are presented. Any alternative building materials have to be South African Bureau of Standards (SABS) accredited and this process takes long and involves so much costs too. Both the City and NHBRC regulatory institutions are very strict with the use of alternative methods and some participants here agree that a lot more opportunities should be presented to developers to be more innovative and explorative in the way they build.

***Objective 2: Determine the main impact of building and planning regulations on the total cost (Production and Transaction) of affordable housing developments by private developers***

It is evident from this study that planning and building regulations have a significant cost impacts, and on the financial viability of affordable housing. A restrictive regulatory environment can thus restrict formal housing supply. This study have shown that both planning and building regulations can have adverse effect on housing productivity and increase housing costs through both substantive (technical) and administrative impediments. The technical impediments include issues of bulk services provision, restrictions of high densities and floor ratios, parking requirements as well as energy efficiency and general code requirements and barriers to cost-saving materials and technologies too. The administrative impediments surround barriers buried in administrative bottlenecks and red tapes that accompany EIA and title deeds removal processes. These are evident in public participation and objections, appeals and arbitration and conflicts that may arise among stakeholders and within the different regulatory administration parties; found in the different internal departments (road, water and fire departments) and inadequately trained inspectors all exist as examples. Developers in this study had to deal with most these issues and all these result to delays with cost overrun impacts in terms of transaction, labour and material cost increases. The structural and energy regulatory requirements as well as fire and other codes requirement usually pass through substantive administrative impediments with adverse cost implications too.

Apart from the costs arising from minimum regulatory standards a developer comply with, costs accrue from consulting professional whose fees could be very exorbitant as specialist; Botanist, Surveyors, Architects, Planners and Engineers consultation costs exist, which then contribute to the overall increase in the total production and transaction cost and by implication adversely hampers affordability and supply. This is aside the sub-divisional zoning that requires a developer to produce bulk services and development contribution per unit cost explained earlier, which adds significantly to total cost as well. The development contribution levies that developers pay per unit cost to both the City of Cape Town and NHBR also add very substantively to the overall cost and that is why some respondents regard these duplicated payments as exploitative. Developers agree that about 20% goes to development cost alone aside the transaction costs, so before real construction commences, the developer would have spent between 20-30% costs already. Therefore if one needs to understand what the baseline for costs is, regarding affordability, the unit cost of a block and plaster will be a good yardstick.

Compliance with regulations relating to XA-Energy usage in buildings adds cost significantly as evident in this study. Regulatory compliance cost is very high and reduces profitability. The follow-up interview with developers also shows that the foundation and roofing phases of building development take up most costs in an actual construction phase. Costs accruing from the foundation phase comes from casting floating slabs or entire slabs, but cost-saving technics exist that can create the necessary cost relieve to developers. Cost saving technics like a precast slab that is slotted into columns are those available alternative technologies that are cheaper and faster. The regulatory restrictions which prevent the use of cost-saving materials and technologies also create barriers to the development of affordable housing. The current cost-saving examples include the use of precast foundation and reduced wall thickness to 140mm, among others.

***Objective three: To Determine the scope revision for revision and nature of revision of building and planning regulations and what should the changes be to improve affordable housing supply by the private sector in South Africa.***

Regulations are determined nationally, and the regulators are called regulator of the compulsory specification regulations. They regulate through the South African Bureau of Standards (SABS) and the National Building Regulations and Building Standards (NBRBS). It is evident in this study that high regulatory standards can price developers and poor households without subsidies out of affordable housing because the overall cost of production seems too high for the developer to deliver affordable products for end users. Although most participants in this study think codes are not too high regarding standards that are required for safety, but the processes are. They agree that building regulations worldwide are stringent and should be so, to avert adverse consequences and compliance should be mandatory.

The argument from the City is that regulators are subject to the regulations and cannot lobby for changes to the regulations but however, some argue that there is a constant revision of the regulations and the latest revision to a part of the regulation was in 2016. The review for a national building for a cavity wall or even two brick skin, called collar joint wall are examples of such amendments. This, however means that a wall can stand if it is 140mm wide by 390 long by 190 high as the revised accepted block which gives one a kind of yardstick for cost measurement; one can build a house with this as minimum requirement plus the plastering and painting of the block. Therefore for a developer who wants venture into affordable housing

investment the building stand/unit to consider concerning cost of the minimum standard to comply will be the cost of that block/unit. The City claims again that there is a revision on zoning for a second dwelling in a unit. If a developer provides a dwelling, he is initially required to apply formally for a second one and application for the second building has been a requirement in bylaws of the development management scheme but that has been amended; the developer does not need to apply for the second dwelling any more.

Revision is done when the different bodies involved in the revision process have to look at the various sections of regulations. The parties involved in the revision processes include the NHBRC as a controlling body in the building department; the industry people who manufacture building materials, etcetera who rewrite the regulations where necessary. The problem with this is that it is not all-inclusive. There is the question of transparency and all-inclusiveness of other stakeholders in the process. Developers who feel this impacts directly do not seem to be involved in the consultations to ascertain their challenges and explore useful innovative ideas from their perspective that can improve the affordability of houses. Despite the potential cost savings of innovative materials and procedures, some of the local building codes could still prohibit their use. All these make affordable housing production very expensive for affordability. The regulatory resistance to high densities should be amended in bylaws to buttress the concepts of densification, which is being propagated that improve the affordability of housing

#### **4.5. Discussion of Findings and Reflection on Policy Implication**

Housing problem in Cape Town appears to be multi-dimensional, sophisticated and with identified common features that define them. The first is that significant housing backlogs exist and the supply of affordable units, in short supply. Secondly, sharp contrast and margins exist between rich and poor in the areas of; wealth, and economic opportunity, infrastructure and services and these are bolstered by inequality that burdens poor households and the city as a whole. And finally, houses are built following regulatory institutions that do not create the necessary approaches that ease and support affordable housing supply by the private sector for proper City functions. Empirical evidence from this study has shown that, without government regulatory intervention, the private sector cannot produce large well-functioning affordable housing markets. Safety and public welfare have been the overriding concerns of regulations, but these studies have shown that the rationale for these regulations is not without impacts on various actors (developers and beneficiaries alike).

The cost consequences of regulations on developers as well as end users of affordable housing and the society at large are prominent in the empirical data in this study. Even though these impacts do not seem to affect policymakers or the general public directly, but the developer and the housing end user suffer the consequences. These are perhaps because of the nature of the regulatory system; a system where those who pay direct costs do not have any influence on the regulatory systems and policymakers do not pay costs as consequences for their policy decision, so there could be less concern on their part. This why a developers application can be rejected for non-compliances and the regulator can stay free when time frames in approval processes are not met or delayed. Again, policymakers do not engage developers while making policy decisions regarding affordable housing development. However, political will is being demonstrated by the City in this study that signals a wind of change in a positive direction with some level of interest in the consequences of planning and building regulations on affordable housing provided by the private. This is found in the new concepts being promoted to enhance affordable housing supply. This is as a result of the increasing proliferation of regulations and their perceived burden on the various actors involved in the building industry. These impacts are said to be environmental, economic, social or technical, in nature and is very evident in the perceptions of respondents in this study.

Therefore the application of IAD Framework in this study is meant to principally explain how planning and building regulatory, institutional deficiencies can influence outcomes of affordability, cost and location of affordable housing developments. Through the steps provided by the IAD framework, the planning and building regulations and other factors concerning the required resources that a developer needs to function appropriately in the affordable housing market, and as well as developers attributes and overall interactions are used as the units of analysis. The analysis therefore systematically follows a decision making path of a developer from pre-planning of affordable housing projects to planning, with regards to the planning and building regulations which guide actors in their activities to remain functional and viable in the affordable market space. When these, as well as the other factors like land, finance, and labour, are evaluated against the impact of the regulations on affordable housing outcomes; cost, affordability and location become the focal variables to consider for interventions.

So the application of the IAD framework in the analysis of this empirical data has shown that developers' who function in affordable housing markets occupy various positions and play different roles. They are either profit or non-profit oriented, government or non-governmental

agent. The variations also reflect in the demographics and social profile of the beneficiaries. The findings show that all the developers are small sized, mixed tenured, mixed-income group and racially mixed in nature. The developers' share the same objectives of providing quality affordable housing and making profit however small, but they are also very much limited by similar challenges embedded in the institutional rules and regulations which they observe in the provision of affordable housing. These concern the red tapes and bottlenecks embedded in processes of acquiring rights and resources of land, finance and labour as well as the transaction cost and uncertainties therein. It is also clear from this study that the key informants have peculiar attributes that define each category in their various positions, roles and other details. However, differences also exist accordingly. Each unit of this group seems to share similar challenges, and objectives. They seem to have common problems confronting them too while executing their duties especially regarding the institutional regulations and their processes. Compliance to regulations from both the enforcer (City) and the enforced (developer) is said to be compulsory and strict.

**Planning and building regulatory requirements:** Compliance with the planning and building development requirements is essential. In all the cases, it is evident that the developers had to comply with every regulation and no shortcuts that can be found in other places are allowed in the Western Cape. The application for plan approvals is made regarding bylaw, Section 99 of the ordinance which prescribes to developers what to comply with. The building regulations adhered with are NBR SAN10400, which covers the requirements for building developments from the ground up to the roof and also incorporates the energy efficiency requirements. Others are the planning regulations of National Environmental Management Act (NEMA) 107, 1998; SPLUMA- Spatial Planning Land Use and Management Act 16, 3013; the city council-the bylaws and the statutory laws and the National Home Builders Registration Council as well as the South African National Standard (SANS). The NBR provides guidelines for both the regulator (City) and the regulated (developer), and the guide plan is prepared in terms of the Civil Planning Act of 1991. The Environmental Impact Assessment process under the Environment Compliance Act of 1989 (ECA) and Act 70 of ' 70 Sub-divisional Agricultural Land Act. And of course, the density, parking, all of those are all part of regulations that the developer follows. The city does not process application for those who do not comply with the basic submission and technical requirements, and they refuse acceptance in terms of section 76

and 73 of municipal bylaws. This attests to the high-quality buildings of most of these affordable housing developments as seen from the different images

Therefore the impacts of the planning and building regulatory requirements on affordable housing by the private sector can be viewed from different perspectives. For instance; the developer may be interested in regulatory requirements that limit his\her productivity and innovative choices, increase the building cost and housing prices, reduce affordability and supply and affect location; which is what his study is about. The regulator may be concerned with strict compliance. The beneficiary may be involved with affordability issues, subsidy qualification and safety requirements and labour may be concerned with the impact of code provisions on subcontracting or employment. A precise determination of these impacts thus requires proper identification of impact groups and cost triggering factors evident in the empirical data in this study. In considering the impact groups, the researcher considered those involved in affordable building projects (developer, beneficiaries, consultants, government non-government officials and so on). The undesirable consequences resulting from the regulatory structures and their red tapes and bureaucratic processes, appear to have ripple effects on the developer. These manifest in cost overruns, increases in initial construction costs (both transaction and production), decreases in construction and supply that strengthen affordability and location challenges not forgetting the benefits of regulations too regarding safety and good quality housing products. All these pros and cons must be borne in mind when evaluating any introduction of new regulatory provisions or when making changes to existing regulations or making policy decisions.

The challenge with NBR, unfortunately, is that it is seen to be too generic to address affordable issues and common to all forms of residential developments whether social, FLISP or bonded. The requirements for development rights application are very much generalised. Therefore no regulation is made mainly for affordable housing and affordability is not taken into consideration, unfortunately, in the regulatory requirements, so the requirement for parking for a bonded house, for instance, is the same requirement for a BNG whose dwellers may not have the luxury of a car.

The regulatory challenges common to all developers are those of restrictive land use planning and development requirements found in zoning, rezoning and bulk services which the regulator implements on the regulated as well as the cost triggering building regulations they adhere to

among other things. The effect of acquiring development rights come with application approvals from town planning, engineering, and environmental, health and safety, electrical and sewage department and their accompanying issues which are quite challenging too. The delays arising from these processes are very problematic besides those from objection and public participation as requirements of rezoning to the sub-divisional area with sub-divisional plan and bylaws. Timeframes and time constraints are the biggest challenge in these processes experienced by all developers. No developer had approval earlier than two years including CS5DR who inherited from another housing institution and still encountered a two-year delay.

The study reflects a different view of respondents on the reason for the delays. Whereas some City officials argued that, aside the fact that the protocols are observed in bylaws such as public participation, objections etcetera, approvals are delayed when a developer submits a wrong or incomplete product. But some city officials and developers, on the other hand, argue that apart from these red tapes the City is under-resourced and under-capacitated and attribute the inefficiencies in the system to both the human and technological under resources. However the blaming game goes, the implication that these delays have a significant cost overrun for the developer is established and remains a big concern.

The study reveals that there appears to be a duplication of building development inspection roles from both national and the City in what they do. Though the NHBRC argued that they do things differently from City to avoid duplication of tasks by paying particular attention to the technical details of the building plan to ensure strict compliance. Whereas the City only examine specific specification details, materials and construction and their approval take three days. However, these arguments are the fact that the developer pays double development contribution levies per unit cost are established and also bears the cost of both institutional requirements substantively, and this is not cost effective for affordability considering the class of people that these buildings are meant. NHBRCs however, argues that this class of people need even more protection given the fact that they may have limited financial resources to maintain a housing unit if a bad product is given to them. So it is required that a policy instrument that synergises both regulatory bodies is put in place to relieve the developer of these duplicated costs that affect productivity, supply, affordability and location.

The land use regulation concerning density and Floor Area Restrictions (FAR) are quite challenging too. As a land development regulation, density/FAR serves as an upper limit on the ratio of the total floor area to the lot size of the land to be developed. So density caps are a

common constraint for developer particularly of affordable housing and large developments because many developers would build more densely if zoning allowed it, but the South African bylaws do not permit this. So policies that politicians, economists, urban planners, and environmentalists push, for higher densities, should be enshrined in the national bylaws. Conversely, the existing ones promote low densities which do not favour developers who want to go higher.

Aside from the cost implications, energy regulatory requirements help to reduce greenhouse gas emissions and other pollutants that affect health as well as the ecosystems. So energy efficiency just means that the buildings can perform more with less energy with a reduction in the need for fossil fuel-generated power but with other alternative power supply like solar, wind and hydro. So energy efficient construction should ideally help ensure comfort and even save cost in the long run. Smarter design and development can reduce initial project costs rather than maintaining a non-compliant building with relatively high operating and maintaining expenses in the long run. Unfortunately, the emphasis from respondents is on the immediate construction costs and not the management or maintenance costs in the long term. It is argued that there are incentives for this regulatory requirement but very insignificant to give the necessary relieve, as the developer still has to add significantly to augment whatever the government provides. So the government should increase incentives for this regulatory requirement and look at the long term cost benefit to the low-income end user, and the developer should also consider the long term benefit not the immediate cost.

Policies are determined at a national level, and those in the national level have minimal grass-root experiences, unfortunately. DHS-R1, for instance, perceived that those at the national level do not know what officials go through every day to implement the policy that they set. They set policy and neither consult the provincial nor city levels and even developers. Regulations should, therefore, be developed in an open, transparent, democratic, national process way that welcomes input and participation from all interested stakeholders for overall inclusiveness and efficiency. Although the current process of revision involves NHBRC and manufacturers of building materials the involvement of developers and other stakeholders is critical to have an insight into their challenges and for inclusiveness. The national government should provide the wheel to drive issues in province and municipalities that is very inclusive. Synergising the present institutional requirement both City and national bylaws is essential; these bylaws for

affordable housing production and all the new ideas that can improve it should be entrenched in national bylaws.

### **Review of other factors**

**Land:** The absence of cheap land in the City core forced all the development to be located far away from it. So the conversion of Agricultural land to business land seemed common to all developers in this study. Government owns some vast parcels of land and should be prioritised for affordable housing. The research indicates that these developers are not profit driven and that aligns with government objectives, which qualifies them to be eligible for land incentives. So more land should be freed for this purpose and used as incentives to motivate developers.

**Finance:** The findings indicate that affordable housing can only be made possible if there is money for it and made available through funding, subsidy and incentives. The biggest challenge perceived by various respondents on finance is that getting development funding for developers and the buyers to get end-users funding is very difficult. The reports here indicate that only developer two entirely self-funded development from the five projects. It is evident that some developers did presales, cross-subsidised and used profit made from bonded houses as part of strategies to raise funds while others had to do these alongside the partial subsidy government could provide them. Unfortunately, the banks do not offer to-build loans, so some of the developers found investors to provide development capital. It is also evident that banks do not give mortgages on land if the lease is less than 50 years, they prefer a 50-99 year lease instead, but most tenure allows just 30 years and banks do not accept that and this one of the things government should negotiate with the banks.

Funding is only secure when a developer could have an approved BNG market because there is no risk in this market when compared with FLISP housing. FLISP is a “failed” project that is filled with massive risk because the developer develops only with a hope of success and the expectation that the buyer qualifies from the bank. But the frustration is that if 100 people apply for a subsidy, only ten would be approved in the FLISP housing category. Unfortunately, government do not fund projects except social housing, so developers employ alternative measures to raise capital, such as the pre-sales and cross-subsidisation. So it will be proper to adequately incentivise the developer in every way possible either by providing more subsidies on the land or giving bulk services and waving development contributions to encourage affordable housing provided by the private.

The findings reveal that the national government has been reluctant to increase subsidy that has remained constant for some years and the city plans to use their land as incentives anywhere they negotiate for high densities with the developers through “Band” and turnkey projects. This should be pursued with enthusiasm, and good speed as this will give the necessary relief to developers whereas some developers argued that the city does not provide incentives to them but waives all municipal charges (bulk and development contribution) when they are involved in any development. But the city argues that they offer incentives in the form of very highly discounted prices on city land, bulk charges, rates and rebates. However, it is clear that a developer who aligns his objectives with the City’ s objective, which is non-profit oriented is the one that who likely benefits. Currently, the fact remains that developers need to be adequately incentivised for efficient delivery of affordable housing because the developer needs finance to functions properly in the affordable housing space.

**Labour:** Developers are mostly a small sized company and subcontracts most of their work. Subcontracting is regarded as not being cost-effective as the developer requires has all these professional in their payrolls. They are involved in community development activities, where some developers train their workforce from the community and engage them in capacity building programs that equip them with relevant skills to work for them. Though there are challenges with that concerning truancy and absenteeism in the part of the employees, the overall aim is to integrate and bond with the community and enhance their living standards more smoothly through that. The inefficiencies in the city are attributed to human capacity deficiency, so more capable human resources are required. The technological use of DAMS is meant to enhance human efficiency in service delivery, but there are glitches there as well which should be addressed.

### **Regulatory Effects on the outcomes**

**Affordability:** Affordable housing is meant for the lower income class, as evident in this study, the various developments had a good mix composition of beneficiaries’ sex, race, income, employment status, mixed-use, and so on. But affordability becomes a problem where the cost of production is too high for the developer and impacts on the prices of housing products. The results have shown clearly that private developers are struggling with the affordability component in affordable housing provision given that government regulations are costly and funding is very minimal as well as subsidies and incentives that are insufficiently provided.

From the findings, it appears impossible for the private developer to make a reasonable profit with the overall cost implications of almost everything from inception to completion of the project.

The beneficiaries who determine the demand for affordable housing in terms of the housing type, size, tenure and location are established by how qualified they are regarding their social profile; affordability and preferences, which are influenced by factors such as household employment status, income levels, no of dependent and expenses. Their creditworthiness is tied to these factors, so financial literacy is vital to get them more qualified for a sufficient demand and affordability. A developer needs to first have a method of identifying what the effective demand for affordable housing in the city is. In other words, the difference between effective demand and demand being effective should be clear. There needs to be some evidence base for understanding the amount of demand for affordable housing. Very importantly, investors and developers will go where it is easy and profitable to develop, no amount of taxation or incentives can force developers to enter a market where the demand is not evident. The relationship between value and cost is vital in understanding the developer' s decisions when embarking in a development project; developers must have value for the costs they incur. The decision will not only affects where and when the development will occur but also what form and shape the development should take too whereas affordability on the supply side is determined by the relationship between house prices and input costs incurred by the developer.

A significant finding from the study reveals that the national government is propagating the agenda for affordable housing without a policy framework designed explicitly by them to guide its implementation processes and this poses a significant setback. The city has argued that a political will is demonstrated in the social housing sector where the city subsidises on land made available for social housing institutions and development projects. This was confirmed in this study where only one out of the five developers developed a project on privately owned land. The rest of the developers developed on government land, either partly or wholly subsidised by the city or the Human settlement Department (province). So the "political will" of the government that exists currently to push for affordable housing should be reflected in the presence of a national policy framework that direct the process.

The understanding of affordable housing by developers and key informants is very crucial to the researcher, to gain a better insight into their knowledge of this topic. This study reveals

firstly that, affordable housing meant different things to different respondents. Even though the overall perceptions are that affordable housing is meant for the low-income earners, but respondents have varying opinions on the specific income bracket. While many agreed it addresses R3, 500-R15, 000 income earners, others opined that it was for R3, 500-18,000, the critical fact here is that every presumption has a monetary connotation to it. However, it was clear that affordable housing should be defined contextually and not generically because the definition of affordability in the City built will be very different to affordability rural areas; so the issue of affordability should not be generic across-the-board. Affordability should be determined by the different factors prevailing and affecting a locality. Therefore, the definition of affordable housing varies, but generally includes a financial component, which should have a standard for what constitutes minimum socially acceptable housing. The developer must have a clear idea of the income groups that are affected, and their eligibility for housing assistance. The beneficiaries' composition in this study shows a range of sizes, tenure options; bond and rental, and affordability thresholds that considers households of different income levels and employment status in each development. In many parts of the world, "affordability" is defined as housing costs that consume no more than 30 to 40 per cent of household income.

Affordable housing is also described as a "gap market" or "subsidy housing", and this study reveals that many variations and inconsistencies exist, regarding the specific income bracket, where the gap lies. So an overall sentiment that there is a "gap in the gap market" also exists, but there some variations on the specific income bracket where the gap really lies, where subsidy concentration should be. The city argues that there is a subsidy policy instrument already in place through the social housing institutional framework. This caters for income earners of R0-3, 5 000.00 (Social housing) and R3, 5-15 000 (FLISP) either completely or partially subsidised respectively. So where the gap really exists is in the bracket between R15, 000-22, 000 who earn too high to qualify for either social or FLISP and too little to get bonded houses. The findings in this study confirm that the social housing does not have many issues compared to the FLISP housing which many respondents regard as a "failed project" and a challenging market to get people who qualify for it. Summarily, the affordable housing market is described as a tough one for developers who sometimes incur great losses and every developer needs to make return on investment however small. Therefore as households continue to struggle with housing affordability issues, state and market interventions become very necessary and this is possible through proper regulatory interventions.

**Cost:** Cost is an influential critical factor that determines other outcomes of affordability regarding housing prices and supply that impacts on location. The higher the cost, the less affordable houses become, so for affordable housing to be affordable, both transaction and production cost should be considerably reduced. This is achievable through the recommendations in the following chapter. This present study reveals a lot of cost triggering components that planning and building regulations mandates on a developer. From planning regulations that include rezoning, title deeds removal, their processes, and bulk services to building regulations like energy, walls and roofs insulations, fire, cost-saving material restrictions etc. requirements. These requirements are not cheap but very expensive.

Most developers perceive high densities as an excellent measure to save on cost regarding bulk services and infrastructure savings, and others agree that densification has development contribution per unit cost increases in it which is quite substantive as floors increase vertically beside, the cost associated with design in terms of vertical levels and lifts, etcetera. Developers also experience cost on subcontracting for labour where many professionals are consulted, and that also impacts on the total cost of the project. Thus being cost-conscious in building development requires that stakeholders look at what critical cost-saving mechanisms are available and possible to achieve without compromising the building safety. A safe building can be made with cheaper materials that are tested and correctly proven, but this becomes a problem where the use of alternative materials approval processes are beclouded with red tapes and worsened by community resistance to such innovations. Therefore, in order to achieve economic value, research and innovations should go the direction of getting critical information on what consumers really want and where the market is headed without compromising safety and adequate workshopping and education become very necessary too to tackle the resistance. It is also essential that inspectors ensure that the buildings are done and complied with appropriately and that is very important because of the cost element, to avert fatalities or adverse situations that noncompliance could create when building collapses and the loss of investment or even deaths.

Codes are developed by counting on established scientific and engineering truths, and experience of leading technical experts, construction professionals, enforcement personnel and product manufacturers. Unfortunately, the process does not include other stakeholders like the developer, and this seems to be a problem because input from a developers' perspective who feels the cost impacts directly in affordable housing could make a difference. The strength of

an authority' s (City' s) building code affects the competitiveness of developers, builders and building suppliers alike. Therefore an all-inclusive code review changes that enable innovation in the building sector and permit more innovative products and processes to gain a more affordable market share are necessary. As new building requirements are reviewed through the code revision process, innovative stakeholders (developers) can make their cases for inclusion. These innovations should add value to buildings and improve their impact on health and safety as well as the overall cost of construction.

**Location:** There do not seem to be any direct link of planning and building regulation to location. Planning and building regulations do not seem to have a straight forward relationship as it is the case in “affordability” and “cost” that can be directly linked. The study does not show whether planning and building regulations hinder or does not hinder better location of affordable housing except that it easier for developments to happen in the fringes of the City where cheap land could only be found. This study reveals that even when the developments are located far from the inner core of the City, yet the beneficiaries are highly satisfied and happy with the location in contrast to popular opinions of most authors. Even when these developments have strong social housing components revealed in their social profile and low-income class, they seem to cope and be comfortable with the inefficiencies in the system. So just like many respondents have argued, people should be allowed to make their choices of where to live. Some people prefer to live in such areas for different reasons that they are convenient with. This means that with an efficient and functional transportation system affordable housing can be located anywhere even though the location of the projects prompts long distant travelling to the CBD and may not be safe and cost effective to them. When economic zones are also created in such locations dwellers will worry less about transportation issues.

The locations of most of these developments also confirm many authors assertion that cheap land can only be found at the periphery of the City where developers could not get well-located land. Most of the developments are located in agricultural lands near the urban edge or outside it and have to be rezoned. So these projects are mostly located far away from the City's core. Four of the five developers had to deal with all the attendant red tapes and bureaucracy of having the land redefined/rezoned and faced services delivery constraints. Even though the argument is that these have some advantages; because value is created in such locations where none existed before regarding infrastructure and jobs creation, but one cannot ignore the cost

implications these have on the developer. This can discourage a private developer who is not adequately motivated through funding and incentives.

Developers' experiences in this study indicate some resistances demonstrated in "public participation" and "objection" processes. Developers are struggling with resistance from communities especially when it involves affordable housing as people are wary of affordable housing connotation and how that impact on the value of the homes and neighbourhood. The non-receptivity of affordable housing by the neighbouring community is said to be a mind-set problem which can be addressed through adequate education and workshopping using concrete local and international examples for a mental change. Unfortunately, communities object to everything including very insignificant things. The problem with this is that the "public participation" and "objection" processes are not restrictive but open to everyone anywhere, everywhere not necessarily people living in the neighbourhood, and this pretty much affects a developer negatively. An interesting finding to tackle this resistance shows that the city has a precinct level management model, which requires that the community gets involved, at an earlier stage in the development planning process with upfront engagements, to basically go through all the steps together with them. This is a positive direction that the city is moving towards. Even though this is not a structured model, this study shows that so far, the level of resistance compared with the level of support that the city gets is encouraging and good. So the city is getting more support than opposition, as people become well informed and very familiar with what is about to happen near them.

However, many respondents have argued that there is no such thing as absolute amalgamation of people in terms of huge income variations, but it is possible through the land use planning regulations that have already decreed a collective "meeting point" in terms of parks, school etc. provisions, which are applied in some of the developments. So such social cohesion exist for inhabitants; some of these developments have a central space which acts as a potential meeting point. This study has, however, shown a general profile mix of beneficiaries regarding income levels, employment, and race etcetera; where you find R1, 500 income earner staying in the same development (location) with R7, 000-R15, 000 income earner. Though the proportions may not be too high, the fact that this is possible means that when density regulations are adjusted in bylaws with adequate incentivising that can attract a developer, densification and integration concepts for more affordability of housing can be achieved.

#### **4.8. Conclusion**

Planning and Building regulations are meant to provide guidance on how to plan, design, build and operate buildings to achieve affordability, resilience, stability, sustainability goals and buildings that are liveable for generations in a viable city. They are effective only if they are enacted into law and enforced by the designated authority. So a big problem arises in a situation where they are made so generically with no consideration for cost, affordability and location implications for the developer. Regulatory provisions that are unnecessary should be reviewed and red tape reduction and cost-reducing strategies adopted and enshrined in national bylaws to avoid contradictions that could be frustrating to a developer. Taking parking and density regulatory requirements as examples. The income class of these people could restrict them from making use of such provision in building and that already adds to the developers' cost. When it will be more profitable for a developer who is allowed to use such space for more units for maximal profit. The study prove that, the more units a developer creates the more the return on investment.

## CHAPTER FIVE

### CONCLUSION AND RECOMMENDATION

#### 5.1. Introduction

This chapter presents a summary of the dissertation in section one by featuring the aims and objectives of this research, and what the research findings are. Section two presents the summary of the dissertation as well as presents the research findings and recommendations in part three. This is followed by the theoretical, empirical and policy contributions of the study, in section four. Section five presents the conclusion of the study with a link to the hypothesis of the study and Section six addresses the limitation of the study and section six finally presents the areas of further studies.

#### 5.2. Summary of Dissertation

**Chapter one** is the opening chapter and outlines the aim, problem statement, main research questions, and objectives of this study. This work emerged from the assertion that compliance with planning and building regulations have economic burdens on the production of affordable housing by the private and a theoretical framework to identify the regulatory impacts and outcomes is lacking. So it proposed a conceptual framework and featured the significance of the study as well as how the research will be approached and chapter layout.

**Chapter two** explains the regulatory concepts that exist in the economic theory of regulations and features the theoretical frameworks of the NIE and IAD theories, and other regulatory and housing studies were critically reviewed. The economic theories of regulation of both public and private interest theories were analysed; the concepts of NIE became the critical theory that underpins the planning and building regulations as institutions that address development rights that involve accompanying transaction cost in the processes. Therefore, planning and building regulations became the institutions and organisational arrangements that a developer follows in affordable housing provision. The main outcome of chapter two was the development of a conceptual framework from tools of Institutional Analysis and Economics (IAD), as well as insights from NIE and other regulatory and housing literature.

**Chapter three** is concerned with the methodological approach, for undertaking the study on the impacts of planning and building regulation on affordable housing development by the

private. It firstly deals with the understanding of methodological concepts of research, before discussing epistemological and ontological issues that determined the philosophical position of this research which is an epistemological interpretivist position that involves a qualitative approach only where the research design was presented.

**Chapter four** presents empirical data from the five case study of affordable housing in Cape Town. Evidence on the main planning and building regulations that confront a developer and how they affect outcomes of affordable housing development are documented. The evidence is also presented on the existence of impacts of planning and building regulations on affordable housing development by the private sector in South Africa.

### **5.3. The Main Findings and Recommendations**

**Planning and Building regulations:** This study reveals that the red tapes and bottlenecks embedded in bureaucratic planning processes impact the developer the most. The EIA, the title deeds removal and rezoning regulatory requirements processes, which grant documents that prove a person's legal rights to own land or property entails public participation, objections and other processes which are laden with problems that worsen the regulations. Delays in these processes with corresponding cost overruns reduce supply and affect affordability and location. This is complicated by the energy, fire and general regulatory code requirements that trigger cost increases for the developer.

Strict compliance to regulation and time frames by both the regulator and regulated is essential for the desired change in the processes to happen. Developers are denied development rights by the City if noncompliance is detected. Similarly, if the time frames are not strictly adhered to, there should be consequences for those (either the regulator or public participants in neighbourhoods) involved in the processes as part of red tape reduction strategies to avert delays and cost overruns for the developer that affect the affordability and location of housing. The Speed of delivery of services is a crucial factor in the success of any project. If both the private developers and the regulator can execute projects on tight, predictable schedules and apply cost-reducing strategies the economics around affordable housing can improve tremendously. The purported political willingness should be one that targets these inefficiencies in the system as well as red tape and code reduction strategies while not sacrificing the safety of housing structures and the use of cost-reducing strategies to significantly better the economics and outcomes of affordable housing.

Therefore, a national policy instrument that directs rezoning processes for timeous delivery is vital; a stronger and stricter institutional framework for red tape reduction is crucial in bylaws to guide the regulator and the regulated with penalties for each party that fails to comply. So stakeholders should commit to keeping deadlines by streamlining planning approvals activities for affordable housing developments as suggested by most respondents and in literature, through extensive reinforcement mechanism that can create “task team” for affordable housing within the City, tasked with reducing ‘red tape’ and delays. This also requires the active involvement of stakeholders across all departments involved in every process through an integrated information sharing mechanism among the various departments in the City. Without an integrated information system, these communications and services process is slow and costly. Great objectives can be achieved if all participants understand how development processes function; by understanding who the participants are, and how their objectives are interwoven across the different departments. The failure is also attributed to under-resourced human and technical capacity. Provision should, therefore, be made for a more efficient human and technical resource. So further recommendations are to implement a more accommodating planning requirement, and streamlining the planning approvals process.

It is evident that national policies that can guide the general implementation of affordable housing process do not exist in bye-laws let alone those that can reduce costs to encourage private sector participation in the supply of affordable well-located housing. The only policy instrument that exists in SPLUMA provisions gives policy guidance that is not enough to guide the processes and implementations for the effective delivery of affordable housing by the private. Thus, policy should be made to harmonise all these preceded regulatory discrepancies that exist in the new concepts meant to improve cost, supply, affordability and location of affordable housing. What the regulatory institutions require in national bylaws from developers should harmonise with the propagated concepts, so policy reshaping is necessary to address these anomalies in the direction that is being propagated, for better outcomes.

**Land:** This study reveals that the government has a lot of lands so best utilisation of land is required especially on governments own land particularly in the inner City and Greenfield development within the city. Land should be released and the government’ s intentions/purposes prioritised to include affordable housing development. It should be used as land rebates and incentives to developers to motivate private developers for affordable housing.

Land should not be so politicised that its good utility will be jeopardised. Unutilised buildings around Cape Town should also be converted for affordable housing.

**Cost:** There should be substantial financial and institutional support from the government; regulatory interventions should offer a cost-effective and wide-reaching opportunity to facilitate a more improved private sector involvement in affordable housing supply, which is achievable sometimes by merely removing unnecessary regulatory barriers. There should be funding from development banks and government banks; there is no funding at the moment. There should be funding and more attractive subsidies for development from government banks and development bank with normal and attractive interest rates. Subsidy for developers has remained fixed since 2008. The subsidy mechanism for beneficiaries which remains a fixed amount per housing unit does not favour the development of affordable housing for better outcomes and should be reviewed and significantly improved upon. Economic zone should also be created in the City for affordable housing.

In this study, most developers aimed for minimal profit with non-monetary objectives but highly interested in quality delivery of affordable houses that reduces risk. This should be encouraged by incentivising in any way possible, to enhance better outcomes. So policies on entry to address affordability and creditworthiness should be formulated as well in a way that that they improve affordability on the demand side. Government should revisit the maximum that people need to qualify, for instance, the 0-3.5k which has already been there for years should be reviewed. Thus, provision of government incentives, subsidies, rebates etcetera that would impact positively on reducing the transaction and production cost of affordable housing for the developer are essential to influence cost, affordability and location in a positive direction.

The barrier to addressing cost challenges may be the cost impacts inherent in conventional planning and building regulation which make construction relatively too expensive for affordability. This is worsened by all these technical, political and bureaucratic challenges enumerated earlier, in undertaking development, and the economies of scale that are realised only on large tracts of Greenfield land on the periphery. It is evident that cost is experienced in almost everything. Again, building regulation that indirectly places restrictions on alternative building materials deter construction. Prefabricated/alternative materials use are acknowledged to provide better options in terms of cost efficiency, timeous delivery, productivity, construction quality, onsite safety, environmental outcomes, and etcetera. However, the

resistance due to societal perception and associated complicated approval processes, can be frustrating, the reluctance in exploring or the lack of innovation and awareness among builders and designers in adopting new processes are also identified as some of the very significant constraints to use of alternative materials/methods that could save cost. So appropriate policies and frameworks that can aid in delivering high performance, sustainable, and innovative affordable housing are recommended.

The financial regulatory institutions that exist do not give loans on short term lease but prefer long term land leases which are what is obtainable in Cape Town currently. This in a way is advantageous to the developer as it provides a bargaining situation for developers where they can save cost and maintain public ownership too. This study has shown that the total cost to develop land is relatively higher than the total land cost (around 20%), so for this strategy to be viable, the leasehold period should be greater than 50 years to allow sufficient time to recover costs and create value, and cumbersome lease processes and conditions should be improved upon too. As, construction costs continue to increase there should be a corresponding increase in the capital subsidy and incentives, and relaxing relevant building standards for affordable housing developments in South Africa is very vital as well as governments' organising workshops for financial literacy.

**Location:** The researchers could not find a direct relationship between regulation and location other than the fact that regulations contribute to the bad location of developments. Four of the developments were located in agricultural lands that were in the our skirts of the City of Cape Town this bad locations affect a private developer as it is more expensive to develop in a greenfield land at the periphery. The people in these developments are happy and satisfied with their location. Therefore, provided transportation inefficiencies are addressed to give end-users the required leverage, people should be given a chance to make their choices on where to live and not impose. Beneficiaries should not be coerced to accepting just any location but be given free will to make their location choices as some will prefer a quiet life to a hectic city life; especially considering the fact that most dwellers were previously living in rural shacks and other informal houses and may not be comfortable with the complicated city life. Unfortunately, the transport System is rife with problems at the moment, and it appears dwellers have learned to cope with.

However, the difference that can be made to draw people closer to the city centre is what is already started in Cape Town' s inner core Adderley Street where developers are incentivised

and persuaded to integrate mix-use development into developments. Although these developments show very good mixed use in these locations thus any identified land or building at the city core, should go this route in usage. This can be achieved through an adequate provision of incentives, subsidies and tax rebates enough to motivate the developer to go higher densities when national bylaws are eventually reformed. The Department of Human Settlements also encourages markets' involvement in a more sustainable way. Their strategy is to give the developer their option to have a mix of typologies, from the upper market end to the lower end with a minimum requirement and recommendation that at least fifty percent of the development is for their target market (affordable market). So "mix" must be included in development to cater for the affordable low-income class. But how viable this becomes remains a challenge as long as developers do not feel obliged to it because it is not enshrined in bylaws. Policy reform to address all these irregularities is of utmost importance.

#### **5.4. Contribution of this study**

This study makes a theoretical knowledge contribution, an empirical knowledge contribution and contributions to policy-making decisions. The theoretical contributed to knowledge is through the development of a conceptual framework that can help in analysing the impact of planning and building regulations on affordable housing development by the private sector. This theory has been used in various studies except for the building regulatory study and housing study. This theory provides a framework that guides a developer on a decision making path on what to expect in the affordable market space. The study also makes an empirical contribution by identifying five case studies of affordable housing around Cape Town, whose validated data has been useful in the analysis of the impact of planning and building regulations on affordable housing by the private sector in South Africa. Through a comprehensive literature review too, the researcher was able to identify the gaps that exist in building, construction and housing regulatory literature. Whereas much studies have been done on regulatory noncompliance, less research attention has been paid to this current topic in South Africa. This work contributes to the gap in literature. This research work also makes a policy contribution by identifying the main planning and building regulations that impact most on the cost of affordable housing that affects their affordability and location that the private developer worry about and possibly where policy decisions and reforms should be targeted for better outcomes.

## **5.5. Evaluation of Hypothesis**

The study proves the hypothesis very correctly; that planning and building institutional, regulatory requirement affect affordable housing supply by adding significant cost to the private developer. While land use and building regulatory regimes should improve access to safe and affordable housing, they have often contributed to achieving quite the opposite by instigating cost increases, affordability and location challenges. This creates increases in housing price, reduces construction and supply that worsens affordability and location challenges and further deepens the inequality gap, evident in informal dwellings around Cape Town that increases exposure to risks too. The factors that have led to this outcome as seen in this study include ineffective land use systems, stringent and huge requirements in building codes, policy discrepancies, fragile funding and incentives institutional and implementation structures. The recommendations from the various respondents from this study confirm the second hypothesis that relaxing relevant regulations (like parking, energy, development contributions, and red-tapes etcetera) will make transaction and construction less expensive and enhance affordability and supply of affordable housing.

## **5.6. Conclusion**

Policy and legislation which are intended to improve market outcomes, whether directed at affordable housing or other issues, often creates additional cost and barriers to the delivery of affordable housing by the private sector. Therefore the City must apply prudence and be very clear and tactical about what, where, when, and how to make policy interventions that would improve sustainable housing outcomes regarding cost, affordability, and location and the implementation should be done in short to long term basis. It is therefore paramount for the City of Cape Town to understand the challenges, opportunities, and the dynamism of the market operations and proffer possible results as key to unlatching the potentials concealed in the proposed interventions in this study that can encourage private sector active involvement in the provision of affordable housing in South Africa. Cities have been given the responsibility to plan and administer housing programs, but their most significant contribution should include effective and efficient red-tape-reduction and cost- reducing strategies and other development-related regulatory processes. It is also clear that the government have a lot of land parcels but for other intentions other than affordable housing purposes. As much as other needs have to be met by the government, priority should be given to making land available as incentives to the private for affordability issues to be addressed. Government land should be freed for affordable

housing purposes. The suggested task team should help in addressing issues to solve inefficiencies in development and funding as well as freeing public and private land too through proper negotiations.

Private sector participation should thus be encouraged through a conscious policy and processes review and should be done with active speed and aggressive interventions. The government should provide infrastructure to leverage bulk services provision by the private and that can help in lowering transaction costs and find strategies to reduce restrictive regulation. The regulatory interventions should be enabling rather than restrictive, especially regarding alternative methods and their approval processes. While some regulations may entail realistic propagation of affordable housing concepts, many should involve the removal of unnecessary barriers, particularly regarding reducing red tapes, time frames, development costs and parking regulations for affordable housing. The private sector wants to be incentivised, they want to make a profit, however small because that is why they are in business, so the government needs to find a way to provide more attractive incentives and make available those kinds of machinery that will make affordable housing market appealing and profitable to the private sector.

There appear to be no developer's engagements in consultations and decision making processes of code reforms to ascertain what challenges they face. Building code development process or policy decision making should bring together all interested parties to participate and decide what is needed and feasible for the affordable housing development. The building codes and standards should greatly be strengthened through the exacting process of reaching informed decisions only after considering each suggestion and criticism from all stakeholders. The developer who ultimately bears the burden should be involved in the process of policymaking. The private developer should also consider the long term cost savings in building maintenance more than the immediate capital expense. The government should look at it from the affordability perspective too that benefits the end-user in the long run and thus incentivise/subsidise the developer in a more motivating way. The researchers could not find a direct relationship between regulation and location other than the fact that regulations contribute to the bad location of developments. Four of the developments were located in agricultural lands that were in the our skirts of the City of Cape Town this bad locations affect a private developer as it is more expensive to develop in a greenfield land at the periphery. Though the dwellers seemed to be satisfied with location but they could be happier with better locations.

### **5.7. Limitation of this study**

There is a cost to pay in any regulatory institutional arrangement and that is what institutional economics have argued in many studies. In trying to acquire development rights uncertainties abound in the different interactions in a formal systems where process and procedures are clearly stated; this is what institutional economics try to reduce, the transaction costs attached to these processes. It is therefore difficult to ascertain the exact cost of transaction and uncertainties in the red tapes and bureaucratic processes in collecting empirical data. Even though formal time frames exist in timelines of these processes the empirical data proof differently; showing that approvals take far more time frames, which presents the reality in the processes.

This study focused on planning and building regulations, defining the development rights that private developers are confronted with and understanding the mechanism and processes involved in the production of affordable housing. The researcher subsequently hopes to understand the full cost implications involved in uncertainties in such affordable housing mechanisms and processes. The main weakness of the study is a failure to capture more qualitative information on transaction costs and on the uncertainties that arise in planning and building regulatory processes. This study is limited strictly to planning and building regulations and therefore lacks validated data on the financial institutional regulations and their institutions that deal with affordable housing.

### **5.7. Areas for Further Research:**

The advocacy for private involvement without a policy framework from the national to guide to implementation processes is a fundamental challenge that should be addressed urgently. So further studies should examine why national bylaws policy framework to oversee affordable housing implementation is missing. Secondly, explore how to synergise the concepts of integration and densification with the national bylaws. Thirdly, studies that mainly deal with transaction cost and uncertainties in building planning and building regulatory processes should particularly be investigated. And finally, how can both municipality and NHRBC synergise to have just one inspection body to reduce the cost for the developer?

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## Appendix A: Developers Interview Questionnaire

<p style="text-align: center;"><b>INTERVIEW SCHEDULE</b></p> <p style="text-align: center;"><b>AFFORDABLE HOUSING DEVELOPERS</b></p>
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### **A: Background Information**

1. Name of the company
2. Size of the company
  - (a) How many employees do you have?
  - (b) What is the annual turnover?
3. What is your position in this company?
4. What type of housing developments is the company involved in?
5. Are there any reasons why you are focusing on these developments?
6. How long have you been involved in affordable housing developments?

### **B: Project Background**

1. Can you tell us about the project?
  - (a) What type of development is it?
  - (b) How many units are there?
  - (c) What were the project objectives?
  - (d) Who were the key role players and what roles did they play?
  - (e) How long did the project take?
2. What role did you play in this project?

### **C: Structure/ Institutions**

#### C1: Resources

##### Land

1. How did you acquire this land?
2. Why did you choose this site for this project?
3. Where there any other alternative sites available with similar development potential?
4. Where there any physical constraints on this land and how did you deal them?
5. What challenges did you experience during land acquisition and how did you resolve these challenges?
6. In terms of land rights, what was this land zoned for?
7. How did you acquire the land rights?
8. Did the available land rights limit the development potential of the land?
9. Where the any challenges faced in acquiring land rights?

##### Funding/ Capital

1. How was the project funded-land, construction, bulk services, acquiring planning approvals?
2. How much did the whole project cost?
3. What percentage was state funding and how much was private?
4. How did you access the subsidies/ state funding?
5. What challenges did you experience in accessing funding and how did you overcome these challenges?

##### Labour

1. How was this project carried out? Was there any work you subcontracted? (construction, planning and other specialist services)
2. How was the relationship between the developer and the contractors?

3. Did this arrangement had any implications on the total cost of the project and the affordability of the units?

#### C2: Rules and regulations

There are property development, planning and housing programme regulations that you had to comply with.

1. Which planning regulations did you have to comply with?
  - (a) How did you deal with EIA matters?
  - (b) How did you deal with the building regulations around density, parking and height restrictions; and how difficult was it to comply?
  - (c) How long did it take for the township establishment application to be approved?
2. In order to qualify for funding/ subsidies did you have to comply with any housing programme regulations?
3. Did you face any challenges in complying with any of these regulations and how did you overcome these challenges?

#### C3: Ideas

There has been a lot of discussion about integration, appropriate locations for housing the poor and at what density.

1. What do you think about integration in housing developments? Is it good/bad and is it achievable?
2. What do you think about the current location and densities of affordable housing in relation to the proposed location in the CBD and surroundings?
3. Why are you involved in affordable housing development?

#### **D: Agency**

##### Strategies

1. What makes it difficult to provide affordable housing?
2. What are the key issues that you faced in this project and how did you overcome them?
3. What planning issues hold you back in providing affordable housing?
4. Are the planners supportive/ not supportive throughout the development process?
5. What can be done differently to improve the affordable housing development process?

**Appendix B: Questionnaires for Developers/Consultants (continuation)**

**Cost associated with affordable housing building development**

**LAND USE DEVELOPMENT APPROVAL**

**1. How long does land use development approval take?**

- 1-3 months
- 4- 6 months
- 7months - 1yr
- 2- 5yrs
- 6-10yrs
- 11-15yrs

**2. Were there any objections to your land use development application for this particular project and what was the reason?**

- Environment Impact Assessment
- Land use regulations
- Community related

**3. How long did it take to resolve the objection in an appeal situation?**

- 1-3 months
- 4- 6 months
- 7months - 1yr
- 2- 5yrs
- 6-10yrs
- 11-15yrs

**4. Where do delays mostly occur in land use development approvals following the major approval phases?**

- Application Submission Process

Submission requirements assessment/Scrutiny

Objection & Comment (appeal) phase

Final Land Use Approval Phase

**5. To what degree does land use development approval processes increase cost?**

Very high

High

Average

Low

Very Low

**6. How much percentage do land use development approval processes increase cost?**

1- 10%

10%-20%

20%-30%

40%-50%

50% and above

**7. To what proportion does regulatory compliance reduce profitability?**

Very high

High

Average

Low

Very Low

**8. How much percentage is compliance with regulations such as high densities, height restrictions cost?**

1- 10%

10%-20%

20%-30%

40%-50%

50% and above

**9. Where do you experience these cost increases the most in building standards?**

Land use restrictions

Delays in land approval processes

**How much is the total cost of acquiring land with respect to this project by the need to comply with regulation?**

**BUILDING PLAN APPROVAL**

**1. How long does building plan approval take?**

1-3 months

4- 6 months

7months - 1yr

2- 5yrs

6-10yrs

11-15yrs

**2. Where do delays mostly occur in building development plan approvals following the major approval phases?**

Application Submission Process

Submission requirements assessment/Scrutiny

Objection & Comment (amendment) phase

Final Building Plan Approval Phase

**3. Why the delays?**

Human inefficiency

Lack of technology

Corruption

**4. To what degree does building development plan approval processes increase cost?**

Very high

High

Average

Low

Very Low

**5. How much percentage do building development approval processes increase cost?**

1- 10%

10%-20%

20%-30%

40%-50%

50% and above

**6. How much does building plan approval cost?**

Very high

High

Average

Low

Very Low

**7. How much is the total cost to comply with regulations in general?**

In order to comply with regulation and statutory requirements to obtain approval can cost as much as R90k per house. This could be up to 20% of the eventual selling price.

**8. Where do you experience these cost increases the most in building standards?**

High building regulatory standards

Delays in building Plan approval processes

**9. Are building standards too high?**

Very high

High

Average

Low

Very Low

**10. Where do you experience these cost increases the most in plan approval processes?**

Building regulations standards

Delays in building approval processes X

**10. Where do regulatory cost affect you the most in building development process?**

Foundation	<input type="checkbox"/>
Flooring	<input type="checkbox"/>
Walling	<input type="checkbox"/>
Roofing	<input type="checkbox"/>

**11. Is the DAM tool technological device working efficiently to save time and improve services technological devices us?**

Highly efficient	<input type="checkbox"/>
Efficient	<input type="checkbox"/>
Average	<input type="checkbox"/>
Inefficient	<input type="checkbox"/>
Very inefficient	<input type="checkbox"/>

**12. At what point of project construction phase are increases in regulatory cost occurring?**

Foundation	<input type="checkbox"/>
Flooring	<input type="checkbox"/>
Walling	<input type="checkbox"/>
Roofing	<input type="checkbox"/>
Finishes	<input type="checkbox"/>
Cladding	<input type="checkbox"/>

**13. Why are they occurring there?**

Regulatory cost relating to XA compliance adds the most cost to the building.

**14. Comment on what you think should be done differently to improve the supply of affordable housing development by the private sector regulatory system and services.**

## **Appendix C: Questionnaires for land use City Officials**

### **Introduction**

What is your position in the city of Cape Town?

What duties do you perform in this position?

### **Land**

What regulatory frameworks exist for affordable housing?

What regulatory frameworks do you follow to grant land approval to an applicant?

What processes are involved in land use approvals?

How long does land approval take to be granted to an applicant for affordable housing?

Why are there delays if any?

### **Regulation**

What legal framework do you generally follow as a regulatory official for affordable housing?

What are the main planning regulations that the developer must comply for land use approvals to be granted for affordable housing development?

How do you deal with non-compliant clients?

What penalties exist for non-compliance?

What processes are required in an appeal situation?

How long does it take to grant an appeal?

From your perspective as a regulatory officer, how appropriate are these regulation to the developer?

Is there a need for revision and to what scope of revision would you suggest to improve supply?

What challenges arise for you with developers as a regulator and how do you deal with them?

What challenges do you face during onsite inspections and how do you deal with them?

### **Resources**

Are there any technological tools to improve regulatory processes and what are they?

How adequate and efficient are they?

Are there any adequate and efficient human resources to improve regulatory processes?

What can be done differently to improve the affordable housing supply by the private?

## **Appendix D: Questionnaires for land use City Officials**

### **Introduction**

What is your position in the city of Cape Town?

What duties do you perform in this position?

### **Land**

What regulatory frameworks do you follow to allocate land for affordable housing?

What regulatory frameworks do you follow to grant land a development approval to an applicant?

What processes are involved in Building Plan approvals?

How long does Plan approval take to be granted to an applicant for affordable housing?

Why are there delays if any?

### **Regulation**

What legal framework do you generally follow as a regulatory official for affordable housing?

What are the main Building regulations that the developer must comply for land development approvals to be granted for affordable housing development?

How do you deal with non-compliant clients?

What penalties exist for non-compliance?

What processes are required in an appeal situation?

How long does it take to grant an appeal?

From your perspective as a regulatory officer, how appropriate are these regulations to the developer?

Is there a need for revision and to what scope of revision would you suggest to improve supply?

What challenges arise for you with developers as a regulator and how do you deal with them?

What challenges do you face during onsite inspections and how do you deal with them?

### **Resources**

Are there any technological tools to improve regulatory processes and what are they?

How adequate and efficient are they?

Are there any adequate and efficient human resources to improve regulatory processes?

What can be done differently to improve the affordable housing supply by the private.

## Appendix E: Surveys for Beneficiaries

<b>QUESTIONNAIRE</b> <b>AFFORDABLE HOUSING BENEFICIARIES</b>
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**1. Background Information**

3. 3

4. 4 and above

a. Name of the project: \_\_\_\_\_

**b. Sex**✓

1. Male
2. Female

**c. Race**✓

1. Black
2. White
3. Coloured
4. Chinese
5. Indian
6. Other

**d. Age (Years)**✓

1. Under 30
2. 30-39
3. 40-49
4. 50-59
5. 60-69
6. Over 70

**e. Number of dependants**✓

1. 1
2. 2

**f. What is your highest formal education?**✓

1. None
2. Primary education
3. Secondary education
4. College/ University
5. Other (Specify) \_\_\_\_\_

**g. What is your employment status?**✓

1. Unemployed
2. Self-employed (Specify) \_\_\_\_\_
3. Public sector (nurses, teacher, soldiers, police)
4. Private sector (Bank teller, mechanics, security guards, shop assistants)

**h. Income level (per month)**✓

1. R0-R1500
2. R1501-R3500
3. R3501-R7500
4. R7501-R10 000
5. R10001-R15000
6. R15000+

**2: Tenure, Location and Affordability**

**place of employment, neighbourhood and other social services?✓**

**a. Where did you live before you came to live here?✓**

1. Shack
2. Backroom/ Backyard shack
3. Rented a room
4. RDP house

1. Yes
2. No

Comment\_\_\_\_\_

Other\_\_\_\_\_

**b. What is your accommodation status?✓**

1. Owner
2. Renting from the developer
3. Renting from the owner
4. Other (Specify) \_\_\_\_\_

**c. Size of the house/ unit✓**

1. 1 bedroom
2. 2 bedrooms
3. 3 bedrooms
4. 4 bedrooms and above

**d. How much are you paying towards bond repayment/ rent?(Specify)\_\_\_\_\_**

**e. Where is your place of employment? (Location e.g. Cape Town CBD)**

\_\_\_\_\_

**f. What process did you follow to get this property?✓**

1. Social housing subsidy
2. FLISP subsidy
3. Bank financing
4. Other (Specify)\_\_\_\_\_

**g. Are you happy with the location of this housing development in relation to your**

## Appendix F: Consent Letter



Dear Sir/Madam,

We are conducting a survey as part of an ongoing MPhil research, and your input would be highly appreciated.

The questionnaire can be completed within approximately 15 minutes. You are welcome to add further comments that could assist the research. The information provided by you will be treated as strictly confidential.

The result of the survey will be made available to SAFMA in a report as a national survey on the use of cutting-edge technology in South Africa FM practice against which you can benchmark your usage of technology in FM.

Kindly follow the link below to access the survey:  
[https://www.surveymonkey.com/r/TI-FM\\_SC2017](https://www.surveymonkey.com/r/TI-FM_SC2017)

Should you have any question(s) or further information and clarification, please do not hesitate to contact us on 0780409179 or email [EKPCR001@myuct.ac.za](mailto:EKPCR001@myuct.ac.za)

We would appreciate your timely response to this questionnaire.

*Kind regards,*

*Mrs Christiana*

*(MPhilCandidate/Principal Researcher)*  
*A/Prof. Many Mooya*  
*(Supervisor)*

