

**THE EFFECTS OF INFORMAL SETTLEMENT UPGRADING PROGRAMME ON
SERVICE DELIVERY IN DISTENENG, POLOKWANE CITY**

Masters of Development (Planning and Management) Research Proposal

by

Malesele Rejoyce Ngoepe



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Supervisor: Prof J.P Tsheola

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Declaration

I Malesela Rejoyce Ngoepe declare that the thesis hereby submitted to the University of Limpopo, for the degree of Master of Development (Development Planning and Management) has not previously been submitted by me for a degree at this or any other university; that it is my own work in design and in execution, and that all material contained herein has been duly acknowledged.

Ngoepe, M.R. (Ms)

Date: May 23, 2017

A solid black rectangular box used to redact the signature of the author.

Signature: Ngoepe MR

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Dedication

A remarkable milestone dedicated to Noko Johannes and Koena Freddrica Ngoepe, my aunt Mmaphuti Sarah Moola who took very good care of me when I was young. My late grandmother Kate Roselina Tlhoka who taught me the importance of hard work. My late uncle Malesela Joseas Tlhoka, I will never forget the last words you told me when I last saw you “*O tsene sekolo ngwana wa ses!*”. Lastly, my late aunt Setati Ester Mmachaka.

Abstract

Informal settlements are known as areas that are established illegally and have the poorest access to basic services. ISU programme addresses the challenges related to illegal land occupancy and other poor living conditions in informal areas. Such settlements are associated with service provision distress around the world. Evidently, the increasing service delivery protest shows the inadequacy in access, availability and quality of basic amenities. Furthermore, the urban renewal programme intervenes to remedy severe circumstances that include environmental disruptions that threaten lives and forceful evictions. Moreover, proliferation of houses has a negative impact on the provision of infrastructure improvement. Informal settlements are usually characterised by exceedingly poor access to basic services. The poor occupy more centrally located pieces of land left over because they were not suitable for housing. As a result, vulnerable households experience harsh environmental conditions. Nevertheless, social conditions of informal settlements are noticeable and usually used to describe informal dwellings. The ISU programme plays number of roles in addressing poor living conditions. There are rationale and institutions that plays both major and minor roles in maximising the outcomes of the upgrading programme. The success of ISU programme may not be noticeable in other informal settlements because of different circumstances. The effects of ISU programme on service delivery have not being studied in Disteneng. Therefore, the study investigates the effects of the programme on service delivery in Disteneng to test different arguments revealed on both international and South African contexts. It is against this background that the study argues that the effects of ISU programme on service delivery in informal settlements are not automated but subject to circumstance.

Moreover, the formative evaluation research used both qualitative and quantitative to provide their opinions on the conditions of a typical informal area, the roles and the rational status of service delivery and the effects of the ISU programme. In addition, the Qualitative method gives the reader an in-depth understating of ISU programme and

service delivery. Disteneng is used as a study area to test the argument on the effects of the upgrading programme on service delivery. A non-probability sampling design was used in order to access household easily. Moreover, the study utilized the convenience sampling method. Literature survey was conducted through the use of books, government documents, journal articles and conference papers. The study used questionnaires and interview schedule to collect factual data.

Data collected through journal articles, government documents, conference papers, questionnaires, interview and observation on the effects on ISU programme on service delivery, the study revealed that theoretically, the ISU programmes has positively affected service provision in informal settlements. The thesis also established that there is a combination of success stories and failures in the context of South Africa. Lastly, ISU programme has positively affected service provision in the Disteneng. However, households in the area are not satisfied with most of the services provided. The study recommended adequate investment in basic service to ensure that household services such as water, sanitation and electricity could be provided in Disteneng. Furthermore, to improve social circumstances such as crime, a mobile police station should be put in place. The thesis concludes that the ISU programme have a positive effect on service delivery in Disteneng. The conclusion is influenced by the improvements that are now seen in the area. Those developments include legalization of the settlement, secure tenure and access to water and sanitation in the area.

Acronym

ANC:	African National Congress
BNG:	Breaking New Ground
CBD:	Central Business District
CoGHSTA:	Co-operative Governance, Human Settlements and Traditional Affairs
DEA:	Department of Environmental Affairs
DHS:	Department of Human Settlement
EPWP:	Extended Public Works Programme
GDP:	Gross Domestic Product
GHS:	Global Housing Strategy
GoRSA:	Government of the Republic of South Africa
GIS:	Geographical Information System
HDA:	Housing Development Agency
HIV/AIDS:	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
HPT:	Housing Profit Tool
HUD:	Housing and Urban Development
ISU:	Informal settlement Upgrading
IDP:	Integrated Development Programme
IRDP:	Integrated Reconstruction Development Programme
NDH:	National Department of Housing
NDHS:	National Department of Human Settlement

NDO:	National Deeds Office
NHC:	National Housing Code
NHFC:	National Housing Finance Corporation
NUSP:	National Upgrading Support Programme
MDGs:	Millennium Development Goals
RDP:	Reconstruction Development Programme
RSA:	Republic of South Africa
SA:	South Africa
SAPS:	South African Police Services
SONA:	State of the Nation Address
WHO:	World Health Organization
WoF:	Working on Fire
WSP:	Water and Sanitation Programme
UN:	United Nations
UN-Habitat:	United Nations-Habitat
UNICEF:	United Nations Children's Fund

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CHAPTER ONE

INTRODUCTION, BACKGROUND AND RESEARCH DESIGN AND METHODOLOGY FOR INFORMAL SETTLEMENT UPGRADING PROGRAMME ON SERVICE DELIVERY

1.1. Introduction and Background

Informal settlements are characterised by shoddily developed and overpopulated neighbourhoods in the inner city that evolved in response to the housing needs (Ward, 19976; Gilbert, 2007; Njoh, 2015). The continued illegal occupation of land in the inner city later resulted in uncontrollable and proliferation of informal households (Kombe, 2005; Achamyeleh, 2014). The unbearable characteristics in these areas provoked the emergence of ISU programme. The ISU programme is implemented to support and facilitate the in-situ upgrading without eviction. In other circumstances where it will be impossible to implement upgrading while the residents remain in the area, relocation becomes inevitable (Ashok, 2015). While this upgrading promotes in-situ upgrading in informal settlements, it also encourages the accessibility of basic service (Ashok, 2015). The ISU programme aligns with the attitude which focuses on addressing the dilemmas associated with inadequate housing, with its primary objective being to cater for the special development requirements of informal settlements (Mukhija, 2001; Achamyeleh, 2014). Even with the existence of ISU programme, poor service delivery remains problematic in most developing countries (Njoh, 2015). Njoh (2015) future maintained that addressing critical factors in informal settlements, there is a need to have in-depth understanding of the factors accounting for proliferation of such areas. Inadequate service delivery persists because there is no earth-worm understanding of dynamics of mushrooming of informal settlements.

ISU programme is implemented with a perception that it has positive effects on service provision. Unforeseen circumstances such as financial constrains might negatively affect ISU programme output. Within the urban renewal programme, there are funds allocated in order to provide basic services in vulnerable settlements within the inner cities (Achamyeleh, 2014). It is against this background that the study argues that the

effects of ISU programme on service delivery in informal settlements are not automated but subject to circumstance.

There is sufficient literature arguing that informal settlement upgrading positively affected service delivery (Boonyabanha, 2005; Dovey, 2015; Diwakar and Peter, 2016). The programme imposed a shift in upgrading approaches. Thus, instead of enforcing forceful eviction, the focus is drifted towards legitimizing informal settlements. Drawing evidence from Zimbabwe, an acre of land was allocated to households instead of forcefully evicting and permitted them to reside in the land so that local municipality can provide basic services in these settlements (Chitekwe-Biti, Mudimu, Nyama and Jera, 2012). ISU programme has put into practice the service-driven projects in Indonesia which had positively affected the delivery, accessibility and availability of services (Ashok, 2015). Extreme service delivery problems in Indonesia were tackled through the upgrading programme (Winayanti and Lang, 2004). However, such successes are not automatic because they are intricately dependent upon context. Therefore, the study examines the effects of informal settlement upgrading on service delivery in Disteneng in Polokwane City. The settlement is closer to a river bank and dumping site, exposing households to life threatening ill health. Residence area are exposed to limited access to basic service delivery, vulnerable to environmental problems, poor hygiene and inadequate housing (African Centre for Migration and Society, 2012).

1.2. Statement of the Research Problem

Informal settlements are universally known as urban areas characterised by a combination of shaky dwelling structures, congested and poor basic services such as water and sanitation facilities (Fox, 2014). Such areas are commonly acknowledged as illegally occupied, inappropriate location, facing social stress, experiencing poverty and vulnerability (Kumara, 2013). Informal settlements are areas with poor street patterns as a result of random allocation of households, with unbearable condition such as lack of water and sanitation and experiencing urban poverty and vulnerability. ISU programme became popular after the proliferation of such settlements around the world

(Achamyaleh, 2014). Its primary objectives are to focus on areas located in areas that pose threats to the health and safety of residents, spatial restructuring and integration and to prioritize on zones that are threatened with forceful evictions (Huchzermeyer, 2011; Zhu and Guo, 2015). The dweller's "illegal occupancy status has deprived households of citizenship rights and access to basic infrastructure and services" (Winayanti and Lang, 2004: 41). Thus, ISU programme was introduced as a solution to inadequate access to services in most vulnerable areas in cities (Menshawy, Aly and Salman, 2011).

In South Africa, informal settlements exploded after 1994 as people wanted to benefit from the services and economic opportunities in urban areas (Zhu and Guo, 2015). As a result, the mushrooming of such settlements became difficult to manage, created the need to implement the urban renewal programme (Dovey, 2015; McMicheal, 2015; Uzun and Simsek, 2015; Rigon, 2016). South Africa's implementation of the programme emphasis is on addressing the issues of land ownership (Huchzaermeyer, 2008). It is assumed that service delivery challenges in informal settlement could be resolved by first tackling problems related to land accessibility: hence land is prioritized (Olthuis, Benni, Eichwede and Zevenbergen, 2015). Thus, before the provision of services, urban renewal strives to ensure ownership of land (Menshawy *et al.*, 2011). Johannesburg's most popular informal settlement Alexandra is overpopulated with a projected 180 000 to 750 000 human population (Huchzaermeyer, 2008). As a result, high population rate led to many problems including sewage blockage and inadequate water accessibility. The effects of the programme on service delivery dependents on different circumstances faced in various countries. Moreover, there are numerous literatures arguing that informal settlement upgrading has positive effects on service delivery. The effects of ISU programme on service delivery are verified in Polokwane's largest informal settlement well known as Disteneng. Disteneng like most informal settlements in the world has the poorest access to basic services and extremely poor living conditions. Thus, this study investigates the effects of informal settlement upgrading on service delivery with data collected from Disteneng.

1.3. Research Questions

The general research question of this study is formulated as follows: How does informal settlement upgrading affects service delivery?

Specific Research Questions

- What are the conditions of a typical informal settlement?
- What are the roles and rationale of informal settlement upgrading?
- What is the status of service delivery in urban areas?
- What are the effects of informal settlement upgrading on service delivery?

1.4. Research Aim and Objectives

The aim of this study is to investigate the effects of informal settlement upgrading on service delivery. Research objectives are formulated as follows:

- To examine conditions of a typical informal settlement.
- To assess the role and rationale of informal settlement upgrading.
- To discover the status of service delivery in urban areas.
- To investigate the effects of informal settlement upgrading on service delivery.
- To recommend measures to enhance the effects of ISU programme on service delivery.

1.5. Definition of Terms

This section is designed to define specialised terms that could be conceptualized differently. The rational of this section is to give clarity of the important terms in the study.

Informal settlements: Informal settlements are commonly defined as poor dwelling structures with households vulnerable to disasters, economic instability and ill-health

(Fox, 2014; Njoh, 2015). Akinboade and Mokowena (2012) defined informal dwellings as a settlement that has no formal town planning structure, inadequate access to basic services such as sewerage system, water, electricity and other basic services. Informal settlements are residential areas that are illegally established (Winayanti and Lang, 2004). Moreover, this study defines informal settlements as an area occupied without authority and deprived from basic services.

ISU programme: ISU programme is a component of housing policy used in most of developing countries to address problems related to service delivery in vulnerable areas in the inner cities (Bastia, 2014; Combe, 2016; Dhabhalabutr, 2016). The ISU programme is also defined as a process of providing housing, electricity, water and sanitation and other basic services in informal settlements (Achamyelah, 2014). The programme is also defined as a programme that intend on improving the lives of vulnerable households in informal settlements by proving services and creating new economic opportunities.

Service delivery: service delivery is defined as a deed of granting an agreed resource or product (O'Brien, 2012; Chamberlain and Hipp, 2015; Koen, 2016). Barbee and Antle (2011) said that the government defines service delivery through the constitution of the provision when systems provide something that the public needs. The study reported in this dissertation adopts a combination of aspects of both definitions.

1.6. Research Design and Methodology

Research design and methodology gives details on the type of study conducted. It provides details on the description of the study area, the kinds of data required to complete the study, the elements that the researcher is interested in, sampling design of the study, how the study collected relevant data and how data was manipulated (Bless and Higson-Smith, 2003). Furthermore, research design and methodology explains the validity and reliability of the study.

1.6.1. Research Design

Burns and Grove (2003: 195) define a research design as “a blueprint for conducting a study with maximum control over factors that may interfere with the validity of the findings”. Thus, this study is considered as an evaluation research. Evaluation research is a most appropriate research design for the study as it gives the platform to evaluate the effects of ISU programme on service delivery. Within the evaluation research, the study has adopted a formative evaluation research design. Formative evaluation research design was chosen to judge the effects of ISU programme on service delivery in informal settlements. Thus, a formative evaluation study allows the study to check the effects ISU programme has on service delivery.

The study used both the qualitative and quantitative methods within the evaluation research design. Qualitative method was adopted in order to allow households to provide their opinions on the conditions of a typical informal settlement, the roles and rational of informal settlement upgrading, the status of service delivery and the effects of informal settlement upgrading. Qualitative method was used to describe the historical, social and economic context of the study, the government’s and Disteneng resident’s intentions. In addition, the Qualitative method gives the reader a deeper understanding of the situation. Quantitative method supports the qualitative or discussions by providing statistics and frequencies to draw meaning. Quantitative method was used to manipulate and analyse the survey results through numerical statements tool and that includes the use of graphs to demonstrate patterns. The method was adopted in order to provide the role and rational of informal settlement upgrading, the status of service delivery and the effects of informal settlement upgrading on service delivery. It is anticipated that qualitative method is inaccurate because it is based on number (Burns and Grove, 2003). Thus, the study has used the qualitative and quantitative method to create a balance between numbers and discussions. Both qualitative and quantitative methods are used to avoid misinterpretation of statistics and frequencies.

1.6.2. Description of the Study Area

Disteneng is an informal settlement in Polokwane Local Municipality, Capricorn District within Limpopo Province in South Africa. The area is located between the Polokwane and Seshego Township. The settlement is located halfway between the Central Business District (CBD) and Seshego Township (African Centre for Migration and Society, 2012). The settlement is 10 minutes' drive from the Polokwane CBD, using public transport. Initially, the settlement was located on one side of the Mandela Road, close to the river bank and dumping site. Currently, Disteneng covers both sides of the Mandela Road. After re-settlement, roughly 42 households relocated to extension 78 and the number of households has increased overtime. Disteneng Section C and D has an estimated 5733 households with an estimated population of 27 000 dwellers. Residence in Section C and D are exposed to challenges of limited access to service delivery, vulnerable to environmental problems, poor hygiene and inadequate housing (African Centre for Migration and Society, 2012).

1.6.3. Kinds of Data Required

The study used the textual, factual and observational data. Textual data was used to acquire facts on conditions of a typical informal settlement, the role and rationale of informal settlement upgrading, the status of service delivery and the effects of informal settlement upgrading on service delivery. Factual data was also used in relation to the conditions of a typical informal settlement, the role and rationale of the upgrading implemented South Africa. Furthermore, empirical data was used to gather facts on the status of service delivery in South African urban areas and also the effects of informal settlement upgrading on service delivery. Lastly, the study used observational data. Such data is collected by carefully looking at a particular situation and making conclusions. Observational data was used to obtain information on the conditions of a typical informal settlement, status of service delivery in urban areas and on the effects of informal settlement upgrading on service delivery.

1.6.4. Target Population

Target population is defined as a set of elements that the study is more interested in (De Vos, 2002). Disteneng has an estimated population of 27 000 people and 5733 households. Thus, the target population of the study include households in Disteneng and key informants within the Polokwane Local Municipality who are within the division of service delivery. The comparison allowed the study to determine whether or not there is difference in terms of service delivery after the implementation of the upgrading programme in Disteneng. Dwellers in Disteneng have the experience that is needed for the study and two key informants within the Polokwane Local Municipality as they are more informed on issues of service delivery and the upgrading programme.

1.6.5. Sampling Design

The study area was adopted because it has the necessary elements to answer research questions. Target population is too large for the study; hence there is a need to carefully select a manageable sample that can represent the whole target population (Bless and Higson-Smith, 2003). The study used a non-probability sampling design to narrow down the population. A non-probability sampling design that selects elements of the target population based on certain circumstances and all elements do not have equal opportunity to form part of the study. This type of sampling design is assumed to be more subjective than objective (Battaglia, 2011). Furthermore, non-probability sampling design was used in order to have easy access to household. Non-probability sampling design has number of methods and this study adopted the convenience sampling method. This method is a process of sampling that focus on elements based on their availability and easy access. Informal settlements such as Disteneng are hostile; hence convenience sampling method was applied. Moreover, the study used 44 households in initial Disteneng and the remaining 44 households were from the new resettlement currently known as Extension 78. Furthermore, two key informants from the Polokwane Local Municipality were used to provide data on service delivery in Disteneng, especially on the role and rational of ISU programme.

1.6.6. Data Collection Techniques

The study used literature survey to collect textual data on the conditions of a typical informal settlement, role and rationale of informal settlement upgrading and status of service delivery in urban areas. Literature survey was used to collect data on the effects of informal settlement upgrading on service delivery. This literature survey was conducted using books, government documents and journal articles. Moreover, the study used questionnaires and interview schedule to collect factual data. Questionnaires were used to collect data on the conditions of a typical vulnerable settlement, status of service delivery in urban areas and also on the effects of ISU programme on service delivery. An interview schedule was used to collect data on the conditions of typical informal areas, status of service delivery in urban areas, role and rationale of the upgrading programme and its effects on service delivery. Additionally, observational data was also used to gather data on the conditions of typical informal settlement and the effects of ISU programme on service delivery in Disteneng.

1.6.7. Data Analysis Tools

Data analysis is a process of bringing about meaning in the data collected. The study used both qualitative and quantitative data analysis technique. Qualitative method is a description and discussion technique that creates in-depth understanding of the data collected (De Vos, 2002). This method uses words to describe and discuss textual data on the conditions of a typical vulnerable settlement, role and rationale of ISU programme, the status of service delivery in urban areas and the effects of ISU programme on service delivery. Moreover, the study also utilized quantitative method to analyze the collected data. Quantitative data analysis technique is the use of statistics to analyze the status of service delivery in urban areas and the effects of informal settlement upgrading on service delivery in Disteneng. Furthermore, the study used the Microsoft Excel to capture the collected data from questionnaires and also create graphs. Microsoft Excel is a computer software that captures, store data, create charts, frequencies and graphs to present the collected data.

1.6.8. Validity and Reliability

Validity is defined as a tool that ensures that the process implemented to collect data, has been utilized to collect all the necessary data to complete the study (Welman and Kruger, 2001). Validity can also be defined as extend of which the concepts and data of the study are legitimate. In order to ensure the validity of the collected data, there was literature reviewed. Reliability refers to the consistency of the collected data. In reliability, the same results have to be achieved whenever using the same technique or method on a similar study. Furthermore, the study used reliable sources to collect data. Validity and Reliability of the study was drawn from data collection and analysis methods. The techniques that were adopted in the research design of the study are reliable because it was applied in other studies such as Fieum (2011). The concepts used in the study are informal settlement upgrading and service delivery. Literature on ISU programme and service delivery and the effects between the two concepts have indicated positive outcomes.

1.7. Significance of the Study

There have been theoretical arguments of the effects of informal settlement upgrading on service delivery in informal settlements. Thus, the study provides both theoretical and empirical data that create an understanding on the effects of ISU programme on service delivery.

1.8. Ethical Considerations

The study took into account a number of ethics. Honesty, objectivity, integrity, respect for intellectual property, confidentiality, responsible publication, non-discrimination and legality was taken into consideration. Honesty was applied in this study in terms of communication, results, methods and procedures. The study was objective at all times and there was no biasness and personalised decisions taken. Respect for intellectual property was taken into account. Confidentiality was practiced and names were never disclosed name.

1.9. Structure of the Dissertation

Chapter 1: In this chapter, the introduction and background of the study was discussed. This chapter clarifies the purpose of the study, the problem statement, the research questions, aim and objectives, literature review, and the significance of the study. The research methodology and ethical considerations are also being discussed. This chapter provides the background of the study informal settlement upgrading and service delivery. The reader learns about the effects of the upgrading programme on service delivery. This chapter also presents the research design and methodology. The study used both a qualitative and quantitative research approach. They targeted the households in Disteneng and the Polokwane Local Municipality official.

Chapter 2: In this chapter, international experiences discussed as part of the literature review.

Chapter 3: This chapter also formed part of the literature review. National, provincial and local experiences on the ISU programme and its effect of service delivery were adopted in this chapter. The most crucial lessons on this chapter are also captured on chapter 2 but tightened down to South African perspective.

Chapter 4: This chapter analyze and interpret data collected. The responses drawn from the questionnaire, interview, documentary and observational data were analyzed and interpreted.

Chapter 5: This chapter discusses the conclusions drawn from the research findings. The recommendations and suggestions were also highlighted. Key lessons should be learned from this chapter as it has all the answers and the measures in which can be adopted to enhance the effects of the urban renewal on services provision.

CHAPTER TWO

INTERNATIONAL EXPERIENCES ON INFORMAL SETTLEMENT UPGRADING AND SERVICE DELIVERY

2.1. Introduction

Informal settlements signify a universal phenomenon associated with accelerated urbanization process that many developing countries suffer from (Khalifa, 2015). There are informal settlements that are constantly established at the periphery of cities (Nakamura, 2014; Thunqvist, Ilskog and Mvungi, 2012). Continuous informal settlements enhancing deprivation and inequality initiated by limited access to productive land and poor distribution of such resources (McMichael, 2015). Proliferations of such settlements are provoked as more people continue to migrate to urban areas for diverse reasons (Khalifa, 2015). The informal settlement dwellers settle in areas of harsh conditions and poor services as a result of failure to secure employment (Kumara, 2013). Access to services that are considered to be basic necessity has been government's priority for decades (Zaki and Amin, 2009; Khalifa, 2015).

The states' reaction towards informal dwelling is eradication and rehousing informal households to public houses (Khalifa, 2015). In the 1980s, a plodding shift began taking place to endorse upgrading approaches that minimizes the detrimental social, economic and environmental implications derived from eviction policies (Strauss and Liebenberg, 2014; Islam and Mungai, 2016). Currently, the state is shifting away from informal settlement eradication to policies that focus on the provision, enabling and more participatory policies (Khalifa, 2015). Additionally, the government adopted policies that concentrate on land acquisition and conventional housing projects (Strauss and Liebenberg, 2014). The emphasis is on offering policies and integration into housing policies, projects and programs focusing on ensuring tenure legalization, infrastructure improvements, facilitating credit to encourage self-help and improving housing, social and economic development (Khalifa, 2015). Furthermore, the shift is motivated by the recognition that informal settlements are not a problem, rather a solution enthused by

society when formal housing market is unable to fulfil their demands (Khalifa, 2015). However, informal settlements signify key challenges around the globe (Patel, 2016; Rigon, 2016). As a result, urban renewal programme known as ISU programme is implemented with the intention of delivering services and improving the informal settlement dwellers's standard of living (Kumara, 2013; McMichael, 2015). ISU programme is not a new concept in countries such as Turkey, India, Indonesia and Peru adopted the programme in the 1950s to address the issues of informal urbanization (Acioly, 2002). In this regard, ISU programme is implemented to create a platform for social and economic development of the poor people living in informal dwellings. Thus, this chapter provides international experiences on conditions of informal settlement based on its physical characteristics, limited access to basic services and environmental hazards. Furthermore, the section puts emphases on the roles and rationale of ISU programme, the status of service delivery in urban areas and the effects of ISU programme on service delivery.

2.2. Conditions of a Typical Informal Settlement

Informal settlements are commonly established as a result of urban poverty and inadequate access to land (Marx, Stoker and Suri, 2013; Khalifa, 2015). There are perceptions that such settlements are seen as areas that allow people to be near regions of economic potential without paying rent or municipal rates (Kumara, 2013). Thus, the informal settlements are growing faster than the formal residential areas (Van Horen, 2000; Adegun, 2015). There are numerous conditions that normally distinguish informal settlements from other residential areas (Mukiira and Ibisomi, 2015). The zone is commonly known to be vulnerable to urban poverty, disasters and diseases (Wekesa, Stayn and Otieno, 2011; Mukiira and Ibisomi, 2015). Informal settlements are located in areas of harsh conditions such as next rivers, rail-ways and dumping sites resulting in vulnerability to water borne diseases and other ill-health conditions (Murat *et al.*, 2013). Furthermore, these conditions encompass environmental conditions such as floods and drought together with starvation and poor access to amenities (Kumara, 2013). Dwellers are exposed to life threatening ill-health such as water borne diseases as a result of uncontrollable drains that are overflowing with sewage, some parts of the settlement

exposed to wetlands, flood prone areas after heavy rainfall (Murtaza and Madhav, 2010; Hunter and Posel, 2012). Furthermore, environmental cleanliness is one of the major concerns because dwellers are exposed to air pollution that resulted from the use of nearby light industries, coals and paraffin, no sewage system and poor waste management. This section discusses the conditions of a typical informal settlement.

2.2.1. Physical Circumstances

Informal settlements are known to have the poorest physical conditions amongst all areas in cities (Mohamed, 2016). Such conditions include poor street patterns as a result of overnight proliferation of houses at random locations. Overcrowding of informal households has an effect on physical underdevelopment of informal areas (Mohamed, 2016). Such settlements are characterised by physical conditions such as inadequate roads, poor street patterns and underdevelopment of proper housing (Pino and Hormazabal, 2016; Islam and Mungai, 2016). Sadhu and Tiwari (2016) argued that the informal settlement dwellers have inadequate housing as the outcomes of the random establishment of household and poor street plans. Moreover, informal settlements are known to have no form of settlement plan and because of illegal land occupancy, houses are established randomly (Sadhu and Tiwari, 2016). Unauthorised allocation of stands may result in miscellaneous street patterns (Pino and Hormazabal, 2016). With such street patterns, commuting between households and neighbourhoods become problematic, causing disjoint neighbourhood development (Gret-Regamey, 2013; Islam and Mungai, 2016). It was further argued that roads create a platform for network and proper connection of neighbouring communities (Wekesa, Steyn and Otieno, 2011).

Moreover, development of quality roads creates proper corridor within a particular city and other areas (Huchzermeyer, 2003; Wekesa *at el.*, 2011). Moreover, such amenities improve market accessibility for dwellers who are engaged in business. In contrary, such physical developments are not accessible in most informal settlements and that could potentially affect household's income generation (Zhu and Guo, 2015; Islam and Mungai, 2016). Inadequate road development in informal settlements is not only informed by the idea that the land was occupied illegally, but influenced by the fact that

there are no street patterns as a result of random allocation of shacks (Pino and Hormazabal, 2016; Mohamed, 2016). Financial constraints are also included in most cases. In comparison, most townships in urban areas have extremely poor maintenance roads infrastructure (Huchzermeyer, 2003; Islam and Mungai, 2016).

2.2.2. Inadequate Basic Service

Basic services are all the essential amenities that every individual need to improve and maintain adequate living conditions (Khalifa, 2011). Illegal settlements are known to have exceedingly poor access to basic services (Uzun, Cete and Palancioglu, 2010). Informal settlements around the world are known to have the poorest access to basic services than any other settlement in urban areas (Uzun *et al.*, 2010). These services comprise of safe water and toilets, energy connection, health care and housing amongst other things (Abbott, 2002; Khalifa, 2011). However, with the current pace in which informal settlements proliferates in most developing countries, a significant pressure is on local and national authorities to deal with influx of migrants whilst ensuring that the informal settlement dwellers have access to basic services (UN-Habitat, 2004). Furthermore, some authors indicated that the provision of services in informal settlements are inadequate not because local municipalities are incapable, but because of the uncontrollable population continually migrating to urban areas (Abubakar, 2016). This sub-section discusses services that are considered to be inaccessible and inadequate in informal settlements.

Majority of informal settlements have limited access to clean and safe water as the informal settlement dwellers depend on rivers as their source of water (Roy, 2009). Water scarcity is a challenge in most developing countries (Rijsberman, 2006). Like any other informal settlement, majority of informal settlements in Tanzania have extremely poor access to water which affects the dwellers livelihoods (Thunqvist *et al.*, 2012). Thus, some households depend on the nearest river to access water. Tanzania's informal settlements are exposed to extreme water shortage during dry seasons (Roy, 2009; Thunqvist *et al.*, 2012). Furthermore, countries such Botswana has large river filled with water but access to water remains a challenge in that regard (Mogotsi and

Mannathoko, 2001; Mmereki, Li and Meng, 2014). The Okavango Delta River is well known for its attractions and tourism, but the river is not used as a source of water in most areas (Thakadu and Tau, 2012; Mmereki, Li and Meng, 2014). Although few households utilize water from the river, the process of cleaning the water tend to be expensive and some households cannot afford to use the river as their source of water (Mmereki, Li and Meng, 2014).

Inadequate and poor qualities of water in Thailand are the key challenges with regard to water distribution (Zaki and Amin, 2009). Moreover, the poor supply of water in urban areas of Thailand affects the distribution and access of such services in informal settlements (Zaki and Amin, 2009). In addition, lack of reliability, low water pressure, inefficient billing systems, inadequate facility maintenance and lack of public involvement are found to be the barriers of quality water provision in Abuja City (Nigeria) (Abubakar, 2016). In this regard, water shortage in urban areas has a negatively impact on the accessibility of water in informal settlements. The shortage of water is due to the priorities given to the legal settlement in urban areas. Hence, the informal settlement dwellers reside next to rivers but the quality and cleanliness of water from such sources becomes one of the crucial challenges faced in informal settlements (Abubakar, 2016). Some authors have debated that the reason the informal settlement dwellers have inadequate access to water even after the government has provided these services is due to the overnight proliferation of houses in informal settlements (Abbott, 2002; Almansi, 2009; Roy, 2009). Access to public water services does not guarantee clean or reliable water accessibility at all times (Abubakar, 2016).

Inadequate access to sanitation facilities in informal settlements has become the key issue around the world (Roy, 2005; Thunqvist *et al.*, 2012). The informal settlement dwellers are faced with poor hygiene as a result of poor sanitation facilities (Tsinda, Abbott and Chenoweth, 2015). Sanitation is essential for human health, hence it is crucial for informal households to have access to such facilities (Almansi, 2009). It was argued that majority of the informal settlement dwellers utilises rivers as their sanitation facilities, while others use the same river as their source for water (Karanja, 2010). However, other informal dwellers utilises long drops and bucket systems (Almansi,

2009; Roy, 2009; Zaki and Amin, 2009). However, all these facilities are inadequate to maintain a healthy living environment. Furthermore, some dwellers earn too little to afford long drop sanitation facilities and only depend on the government to provide such services. However, not all informal areas are without sanitation facilities because some settlements have minimum access to these services (Sadhu and Tiwari, 2016).

A case study conducted in Rwanda, Uganda and Kenya indicated that although these settlements have access to sanitation facilities, the accessibility and quality of these facilities need to be improved (Tsinda, Abbott and Chenoweth, 2015). In this regard, the informal settlement dwellers in other developing countries have access to sanitation facilities but the quality of these services needs to be improved. With overcrowded conditions of informal settlements in East Africa, improving sanitation requires the development of sanitation markets (Tsinda *et al.*, 2015). In this regard, the other methodology for providing sanitation facilities is by commercialising the service subsidizes on the informal settlement dwellers. In some cases, toilets are provided in informal settlements but the challenge emerges with the uncontrollable population flocking into urban areas. Services needed in informal settlements after construction and installation includes maintenance of facilities and safe disposal of waste to ensure good hygiene (Curtis, Garbrat-aidoo and Scott, 2007). Maintaining sanitation facilities ensures that all facilities provided in urban areas are maintained and sustainable for people to use in future.

Energy is not only important for daily healthy living but can also play a significant role in sustaining livelihoods and reduce environmental implications such as pollution (Almansi, 2009). Most informal settlements do not have minimum access to electricity (Roy, 2005). In other informal settlements, access to electricity is seen as a luxury rather than a need (Wekesa *et al.*, 2015). Due to the poor access of services such as water and sanitation, In this regard electricity is also a demand in informal settlements but that is not as essential as water and sanitation facilities. Karanja (2010) stipulated that the proportion of informal households with electricity connections is those with secured tenure. Other scholars have indicated that electricity is available in other informal settlements but most households have no connections (Patel, Aputham, Burra, and

Savchuk, 2009; Roy, 2009). Thus, majority of the informal settlement dwellers utilises fire, paraffin stoves and candles as their source of energy (Lemanski and Oldfield, 2009; Claire, Hajat, Armstrong and Wilkinson, 2006). The poor access to electricity in informal areas resulted in illegal electricity consumption (Figueroa, 2016). Such connections are referred to by the informal settlement dwellers as electricity borrowing (Figueroa, 2016). Thus, energy connection is crucial because “electricity borrowing” is at the governments’ expense.

Informal residential areas have extremely poor access to health care facilities (Sadhu and Tiwari, 2016). The informal settlement dwellers access their health care facilities through mobile clinics and facilities in the neighbouring residential areas (Goudet, Faiz, Bogin and Griffiths, 2011). In contrast, the accessibility of these mobile clinics is insufficient because they visit informal settlements after a long time (Claire *et al.*, 2006). Thus, the informal settlement dweller’s accessibility to health facilities remains deprived even in the presence of numerous health care improvement programmes (Goudet *et al.*, 2011). Moreover, considering the harsh conditions the informal settlement dwellers are exposed to, informal dwellers are more vulnerable to ill-health whilst they have the poorest access to health care (Claire *et al.*, 2006). Without proper infrastructure development, it becomes difficult for paramedics to get a clear direction in case of emergency (Mohamed, 2016). Thus, the provision of services in urban areas is recognised to be inadequate (UN-Habitat, 2004).

2.2.3. Environmental Threats

Informal settlements are often located on land that is not appropriate for residential purpose; hence the informal settlement dwellers are exposed to unrestrained environmental threats. The location includes flood plains, steep slopes and near hazardous industrial areas (Murat, Nilufer, Selen, and Atanur, 2013; Nakamura, 2014). All these areas create ill-health for people living in informal settlements (UN-Habitat, 2004). As a result, the land occupied by the informal settlement dwellers is not evaluated and did not go through all the necessary procedures before the area was occupied (Uzun and Simsek, 2015). Thus, informal settlements become vulnerable to

floods and water is prone to contamination by waste and sewage during rainy seasons (Goudet, Faiz, Bogin and Griffiths, 2011; Thunqvist *et al.*, 2012). Moreover, hush environmental conditions in informal dwellings are also influenced by their vulnerability to problems associated with climate change (Dobson, Nyamweru and Dodman, 2015). Although strategies to adapt to climate change are increasingly recognised as a priority in Asia, Africa and Latin America's urban areas, informal settlements have the poorest access to those strategies (Dobson *et al.*, 2015). The change in rainfall patterns and intensity increase the chances of experiencing floods or drought (Adelekan, 2010; Dobson *et al.*, 2015). In this regard, the informal settlement dwellers are exposed to severe environmental conditions and climate change because they have insufficient support from the government and other programmes implemented in the formal dwellings (UN-Habitat, 2004; Nakamura, 2014). Furthermore, Adelekan (2010) argued that the reason why most informal households in Nigeria are extremely vulnerable to disaster is because they built shacks on flood prone.

However, the location of most informal settlements is not the only component that put their lives and health at risk. With the informal settlement dweller's inadequate access to electricity connections, the dwellers utilise coals, paraffin, candles, woods and in some cases generator as their source of energy (Castro, Ibarra, Lukas, Ortiz and Sarmiento, 2015). Thus, sources of energy such as solid fuel and paraffin have a negative impact on the cleanliness of the atmosphere (Lombard, 2014). Air is polluted by burning these elements. In the absence of electricity, the informal settlement dwellers have no choice but to use such methods to cook, heat and light. Although lowest proportion households have access to electricity, affordability is still a challenge because of limited employment opportunities in urban areas (Okurut and Charles, 2014). Thus, some households that have access to electricity are still using wood to cook and heat (Castro *et al.*, 2015). Provision of electricity connection might not be the solution to the air pollution in informal settlements. The issue goes beyond having access to electricity. Corporatization of services has an influence on the household's access amenities such as electricity (Mohamed, 2016). Thus, not every household that has electricity can afford to pay for their consumption.

In addition, environmental ill-health in informal settlements is caused by littering and poor waste management by local municipalities (Castro *et al.*, 2015). Poor provision of service in informal settlements includes insufficient waste management (Aguilar and Santos, 2011). It is stated that some informal settlements are located next to dumping sites and with the poor management of waste, the informal settlement dwellers become vulnerable to infectious diseases (Castro *et al.*, 2015). Refuse collection in such settlements is not common, dwellers end up dumping their waste at the dumping site next to their residential area (Aguilar and Santos, 2011). Thus, the informal households also contribute to poor environmental conditions in their settlement (Usamah, Handmer, Mitchell, and Ahmed, 2014). In this regard, there is continuous dumping of waste material by both the informal settlement dwellers living in informal settlements and neighbouring communities.

2.2.4. Social Condition

Urban areas are growing speedily as they are seen as areas of income potential and seen as the only way to take advantage of the inadequate economic development in the urban areas (Marcuse, 2009; Jordhus-Lier, 2015; Chakrabarty, 2016). In 2006/2007, world population according to UN-Habitat (2007) was 6.6 billion and also stated that more than 50 percent of the population reside in cities and that 1.06 billion of the population reside in informal settlements. In this regard, cities around the world account for 32 percent of the informal settlement dwellers (UN-Habitat, 2007). The UN-Habitat (2007) further argued that the number is bound to double in the next 30 years. The population in the developed countries increases gradually and in some cases increases from 10 percent to 52 percent over a period of two centuries (UN-Habitat, 2007). Furthermore, between 1985 and 2003, the urban population in developing countries increased from 1.2 billion to 2.1 billion (Tannerfeldt and Ljung, 2007). It was also said that African cities accounts for the population of 400 million and will exceed 750 million by the year 2030 and also reach 1.2 billion by 2050, resulting in overcrowding (Pieterse, 2009).

Housing conditions is a major challenge as most households are unable to access adequate shelter (Seeliger and Turok, 2014; Rigon, 2016). As a result, shack houses are built and used as shelter. Informal settlements are sometimes called shack settlements because such areas are dominated by shacks (Rigon, 2016). Informal settlements are well known to have poor housing conditions as a result of urban poverty and poor service provision (Almansi, 2009). Poor housing in such settlements are recognized by materials used to construct houses (Lemanski and Oldfield, 2009). Arguments are made in relation to the reason why people living in informal households use certain materials to provide shelter for their families. Having a well-built house on a piece of land that is illegal is seen as pointless because the informal settlement dwellers live with the fear of forceful ejection (Chakrabarty, 2016; Rigon, 2016). Thus, the use of poor material to provide shelter becomes the best solution while waiting for the local government to provide land (Bradlow, Bolnick and Shearing, 2011; Patel, 2016). Thus, it is important for the informal settlement dwellers to have ownership of land before building adequate houses. Furthermore, inadequate informal household shelter in developed countries built from plywood, plastics, cut boards and corrugated metal (Roy, 2009). In addition, the issue of poor construction of household shelter in most informal settlements is beyond income poverty. Informal settlements are over crowded, as well as the households in the area. Therefore, the available shelter, with limited rooms has to accommodate all the members of the household (Sadhu and Tiwari, 2016). In most cases, other household members have no choice but to utilize living room or kitchen as bedrooms. The practice is common in households that have many members (Roy, 2009; Bradlow, *et al.*, 2011).

However, there are households that experience high density as a result of a larger family. Households in informal settlements have the poorest form of housing and usually have insufficient rooms to accommodate all the members of the households. Many people living within a single household than there are space results in privacy secluded, restricted movement, difficulties in resting, sleeping and impossible hygiene practices (World Health Organization (WHO), 1962; Wu, 2015). As a result, the crowding in one household result in children sharing a bed or bedroom and using other rooms in the

household for resting purpose (WHO, 1962). According to WHO (1962), room standard is contravened when the number of persons sleeping in a dwelling and the number of rooms available as sleeping accommodation is such that two people of different sexes who are not living together as husband and wife sleep in the same room. However, the argument excludes children under the age of 10 (WHO, 1962; Wu, 2015).

In addition, safety and security is problematic in informal settlements since majority of studies disclosed that crime rate is extremely high in these dwellings (Karanja, 2010; Gilling, Hughes, Bowden, Edwards, Henery and Topping, 2013). Moreover, some studies argued that majority of people living in the areas near informal settlements complain about house breakings and robberies and usually concludes that informal dwellers are responsible for such activities (Gilling *et al.*, 2013). However, security measures in informal settlements are extremely poor that ensure the protection of household member and their properties (Scambary, 2013). In contrast, some informal communities have created forums that are aimed at preventing crime in their dwellings (Sverdlik, 2011). In addition, informal household are also vulnerable to floods and fire breaks (Jordhus-Lier, 2015; Chakrabarty, 2016; Scambary, 2013). Majority of local municipalities have no contingency plan for such circumstances (Karanja, 2010; Scambary, 2013). Some studies showed that informal household members have slight awareness about who to contact to report cases of fire breaks (Gilling *et al.*, 2013). The outcomes of such studies illustrate the level of inadequate safety and security in informal settlements around the world.

2.3. Roles and Rationale of Informal Settlement Upgrading

Improving the living conditions of the informal settlement dwellers, basic services need to be provided. Hence, ISU programme is implemented after the realization that basic services are mostly provided to well-established urban households and there was a need to prioritise informal dwellings as well (Thorn and Oldfield, 2011; Scambary, 2013; Lombard, 2014; Castro *et al.*, 2015). The programme is employed to play several roles in relation to improving the living conditions of the vulnerable living in informal settlements (Uzun and Simsek, 2015). They are attached to the upgrading programme which includes providing land security, empowering the poor people living in informal settlements and ensuring health and security (Claire *et al.*, 2006; Tsinda *et al.*, 2015). Furthermore, there are institutions that play different roles and have one common objective (Marcuse, 2009; Castro *et al.*, 2015; Chakrabarty, 2016). Given this background, the theme below discusses the roles and rationale of ISU programme.

2.3.1. Roles of Informal Settlement Upgrading

The informal household's vulnerability and inadequate access to basic services is a major concern around the globe (Claire *et al.*, 2006; Kumara, 2013). With basic services prioritised to the formal settlements in urban areas, there was a need to implement a programme that will enhance service availability and accessibility in informal settlements (Tsinda *et al.*, 2015). Thus, ISU programme was implemented to play different roles in relation to improving the standard of living of people residing in informal settlements through the provision of services. These roles include facilitating service delivery and integrating social and economic development (Almansi, 2009; Claire *et al.*, 2006). This subsection below focuses on different roles of ISU programme.

2.3.1.1. Facilitating service delivery

Well-constructed urban settlements with access to basic services are continuously been provided with more service (Okurut and Charles, 2014). Occupants of formal settlements have community representatives who act as the middle man between local communities and the local government. Furthermore, the residents utilises protests as a methodology to communicate with their local municipalities in relation to their service delivery dissatisfaction (Sadhu and Tiwari, 2016). However, illegal land occupiers have substandard, in most cases no representatives to express the development problems and needs of the informal settlement dwellers (Thorn and Oldfield, 2011; Van Gelder, Cravino, Ostuni, 2016). As a result, ISU programme was implemented to prioritise the needs of the informal settlement dwellers by providing basic service (McFarline and Desai, 2015). With the existing gap of service delivery in urban areas, informal settlement upgrading puts more emphases on closing the service delivery gap between the legal and the illegal parts of urban residential areas (Neutens, Delafontaine, Scott and Maeyer, 2012). Majority of the formal residential areas in urban dwellings have access to health care facilities, roads, quality housing, water and electricity but informal dwellings have the poorest access to most of these services (Neutens *et al.*, 2012).

Literature argued that urban areas have access to basic services; hence people migrate from rural to urban areas. In reality, there is proportion of urban households that have access to most of the basic services (Sadhu and Tiwari, 2016). In addition, some households have access to services but the quality of these services is of poor standard, hence there is an increasing rate of protests annually (Thorn and Oldfield, 2011; Lombard, 2014; Castro *et al.*, 2015). However, the urban renewal programme plays an important role which is to renew informal settlements and provide basic amenities that are accessible to informal households (Chitekwe-Biti, 2009). Facilitating service delivery could also address hidden social problems such as inequality that exist in urban areas.

The urban renewal programme facilitates services that are considered to be basic in settlements known to be illegal (Uzun and Simsek, 2015). In this regard, the upgrading programme is implemented to enable the provision and ensure sustainability of services in informal settlements. This programme evaluates the needs of the informal settlement dwellers, assists in prioritizing and ensures that basic services are provided. The role of informal settlement upgrading is to enhance community's basic service availability and accessibility in informal residential areas (McFarline and Desai, 2015). Additionally, the programme's role is to ensure sustainability and maintenance of amenities provided.

Globally, the provision of municipal services is a challenge in all urban areas while the informal parts of cities become more deprived (Gutberlet, Kain, Nyakinda, Ochieng, Ocheiambo, Oloko, Omolo, Omondi, Otieno, Zapata and Campos, 2016). Problems associated with service delivery in urban areas are demonstrated by the increasing rate of service delivery related protests annually (Schwarz *et al.*, 2016). On the other hand, insufficient service provision in formal parts of cities can determine the quality of service provision in informal dwellings (Scambary, 2013; Lombard, 2014). Thus, the voicelessness and powerlessness of the vulnerable contribute to their marginalization in terms of service delivery. In order to address the challenges of inadequate service delivery and accessibility in informal settlements, urban renewal programme predominantly focus on improving the informal settlement dwellers' standard of living by providing municipal basic services (Dhabhalabutr, 2016). These municipal basic

services include the provision of water, energy connections, sanitation facilities, basic education, secured tenure and housing. However, informal settlements in other countries need to provide more than municipal services to improve the informal settlement dweller's standard of living (Gutberlet *et al.*, 2016). Conditions in other informal settlements are tremendously unbearable that through the programme, relocation has to be taken into consideration (Lombard, 2014; Dhabhalabutr, 2016). In contrast, other informal settlements might only require in situ upgrading and basic service provision (Gutberlet, 2012).

A study conducted in Pacific Island Countries which referred to basic municipal services as WaSH (Water, Sanitation and Hygiene), indicated that providing services has been highly complex due to the geographical isolation of the informal settlements (Saunders, Barriington, Sridharan, Meo, Hadwen, Shields, Souter and Bartram, 2016). Thus, the WaSH services in such countries are described as self-managed (Water and Sanitation Programme (WSP), 2015), where the urban vulnerable provide their own basic services.

2.3.1.2. Integration of social and economic development

The other crucial role played by ISU programme is to ensure services that will enable dwellers to improve their social and economic status (Chitekwe-Biti, 2009). Integration of socio-economic development can be achieved through improvement in the dweller's literacy, life expectation, and employment opportunities (Ndugwa and Zulu, 2008; Kornienko, 2017). Furthermore, those services stimulate dwellers economic capacity through training and improved living conditions (Uzun and Simsek, 2015). In this regard, dwellers will be able to increase productivity and enable livelihoods in informal settlements (Lemanski and Oldfield, 2009; Kumara, 2013). Market accessibility becomes easier and there is enhancement in human capacity for the informal settlement dwellers engaged in small business (Uzun and Simsek, 2015; Sadhu and Tiwari, 2016). Some small businesses are established because people have knowledge, and experience from employment opportunities created through the informal settlement upgrading (Sadhu and Tiwari, 2016).

There are instruments used to measure the social and economic development of a country. These indicators entail Gross Domestic Product (GDP), life expectancy, level of literacy and employment (Lemanski and Oldfield, 2009; Seeliger and Turok, 2014; Rigon, 2016). GDP is commonly used to measure the socio-economic development of a particular country. Thus the instrument cannot be used to monitor the social and economic development of a residential area such as informal settlement. However, ISU programme is put in place to improve the social and economic development of the poor rather than the economic growth. By providing educational facilities, employment creation and addressing the unbearable conditions those informal households face daily, Social and economic development can be achieved (Uzun and Simsek, 2015; Rigon, 2016).

Additionally, informal settlements are hostile, at risk of virus outbreaks and have poor access to health care facilities. Lives of the informal settlement dwellers are vulnerable to countless disasters which could be a threat to their health and wellbeing (Kjellstrom and Mercado, 2008). Furthermore, the extremely hush environmental and social conditions faced by the informal households has an impact on the life expectancy of the dwellers. The fact that they have the poorest access to health care facilities, their wellbeing is compromised. The informal settlement dwellers' life expectancy may be determined by their access to health care and their life style in informal settlements (Chitekwe-Biti, 2009; Neutens *et al.*, 2012). However, informal settlement upgrading places its focus on providing services that will enhance the availability and accessibility of amenities that will have an impact on improving the informal settlement dwellers' life expectancy (Kjellstrom and Mercado, 2008). Kjellstrom and Mercado (2008) also stated that life expectancy can be determined by the city's governance. They further argued that with the best governance, the life expectancy of the informal settlement dwellers can be 75 years and above. In contrary, people may live for less than 35 years if they have poor governance. Such conclusions may be made based on how the local authorities provide essential services such as health care.

In addition, the level of literacy can be used to measure the social and economic development of the informal settlement dwellers. Informal dwellers are deprived from access to facilities that offer quality education (Sheuya, 2007; Figueroa, 2016). It has been said that informal dwellers have slightest access to facilities of learning, which includes primary education. Goal number two of the Millennium Development Goals (MDGs) seeks to achieve universal primary education ensure that everyone has access to primary education and that children should be able to read and write (Simiyu, 2016). With alignment to the MDGs, ISU programme's role is to ensure easy access to educational facilities in order to improve the level of knowledge and skills in informal dwellings (Sheuya, 2007; Figueroa, 2016). With improved access to quality education, minors living in informal settlements will be able to change their circumstance and break the circle of inherited poverty in their households (Simiyu, 2016). Furthermore, the upgrading programme's investment in education is a sustainable plan that does not only focus on the current living conditions but also on the future of the upcoming generations. Though education for all, dwellers may enhance their knowledge and skills, they will be able to secure employment in formal sector and improve the socio-economic development of their households and the area (Thunqvist *et al.*, 2012; Ashok, 2015; Makiira, 2015). Furthermore, employment is essential for socio-economic development of households in Informal dwellings. The upgrading programme creates employment opportunities for the informal settlement dwellers through projects implemented to deliver services in their area (Thunqvist *et al.*, 2012; Makiira, 2015). Employment is one of the instruments used to measure socio-economic improvements. Thus, jobs created through the upgrading create an opportunity to gain work experience. Although there is no sustainability in these jobs, the informal settlement dwellers appreciate the opportunities because majority of household bread winners depend on temporary employment.

2.3.1.3 Decent living conditions

With the harsh conditions faced by the informal households on a daily basis, the need to address those challenges gained momentum at the global level. With the Habitat putting more emphasis on creating a better living for all residents in urban areas, there was a

need to also improve the living conditions of the poor households in urban areas (UN-Habitat, 2004; Muller, 2008). The upgrading programme was then implemented to create a decent living for the poor. Halving of poverty in urban areas and creation of economic opportunities are fundamental in promoting a decent living environment (UN-Habitat, 2004; Sanchez-Rodriguez, 2009; Roy, 2009). Decent living condition also entails promoting quality of life, creating suitable improvements and sustainable development.

2.3.2. Rationale of Informal Settlement Upgrading

Informal settlements around the world are characterised by their extremely harsh and unbearable condition which includes poor physical development, harsh environment and lack of services amongst other things (Makiira, 2015). With the need to change the circumstances faced by millions of informal households, urban renewal programme was implemented with number of objectives that guides the execution of projects in informal dwellings (Huchzaermeryer, 2006). The upgrading programme ensures equal provision of municipal services, empowering of the informal settlement dwellers and creating a platform for social and economic services (Almansi, 2009).

2.3.2.1. Objectives of informal settlement upgrading

Informal settlement upgrading as a programme to reinforce the delivery of basic services and improving the standard of living in informal settlements has set a number of objectives (Gutberlet, 2009). These objectives serve as a guideline so that all the projects implemented align with the intended objectives (Dhabhalabutr, 2016). Thus, the objectives of the urban renewal strategy are indicated as tenure security, provision of municipal services and empowering of the poor living in informal settlements (Gutberlet, 2012; Schwarz, Flacke, and Sliuzas, 2016). This sub-section discusses the initial objectives of informal settlement upgrading and their actual results of the programme.

2.3.2.1.1. *Tenure security*

It is believed that most informal households will gradually improve their living conditions when they have secure tenure (Khalifa, 2015). There is ample literature stipulating the

outcomes of tenure security. Findings of most studies revealed that land legalization is an expensive and time consuming process which precluded the achievement of projects (Van Gelder and Luciano, 2015; Rigon, 2016). Renewing informal parts of the urban areas entails the provision of infrastructure, housing and other essential services (Dhabhalabutr, 2016). Thus, tenure security becomes crucial as all these services have to be provided in the presence of a formalised settlement (Schwarz *et al.*, 2016). Furthermore, the informal settlement dwellers need land in order to practice livelihoods and to sustain their living (Neutens *et al.*, 2012). This also assists in prevention of forceful evictions that could cause social stress (Dhabhalabutr, 2016). In some cases, the provision of secured land includes re-location or in-situ upgrading approach. Re-settlement is one of the strategies used to ensure improvements in the living conditions of the informal settlement dwellers living in informal settlements (Wekesa *et al.*, 2011). In Zimbabwe, rather than evicting families from their current location in informal settlements, dwellers are allocated up to an acre of land to settle, however the provision of land is based on permitting them to dwell in the area rather than to provide a legal entitlement to the land (Chitekwe-Biti *et al.*, 2012).

Moreover, the relocation approach focus on shifting the urban vulnerable from the initial settlement to an area that could potentially improve the lives of the informal settlement dwellers (Almansi, 2009; Chitekwe-Biti *et al.*, 2012). Furthermore, the informal settlement dwellers are relocated to settlements that would make it easy for the local municipalities to provide basic services. Furthermore, re-settlement also assists in rearranging households, creating street patterns and ensuring sustainable human settlement (Van Horen 2000; Rigon, 2016). Furthermore, relocation approach also helps to avoid possible forceful evictions in the near future. However, other scholars would dispute that relocation can have social and economic impact on many households. 'The government of Kenya has increasingly recognised that, in cooperation with their residents, informal settlements can be upgraded in situ' (Rigon, 2015:2764). However, Huchzermeyer (2008) maintained that Nairobi's distorted urban housing market targeted upgrading objectives are not achieved. In this regard, countries vary hence the same approach used in different areas has not given the same outcomes. Moreover, the focus

behind in-situ upgrading approach is to ensure improvement of the living conditions of households at the initial location of the settlement (Boonyabancha, 2009; Chitekwe-Biti *et al.*, 2012). In this regard, in-situ upgrading entails the provision of basic services and ensures community empowerment without attempting to relocate households to other areas. Furthermore, the approach takes into consideration the circumstances such as economic impacts that are associated with relocation (Laura, Atuesta and Soares, 2016). The main focus of in-situ upgrading is to provide land and legitimise land that was occupied illegally.

2.3.2.1.2. Empowering of the informal settlement dwellers

Majority of developing countries that encounter the problems of unemployment are issues related to poverty (Schwarz *et al.*, 2016). The residents of informal settlements are considered to be poor and unemployed hence they settle in areas of harsh environmental conditions (Gutberlet, 2010; Gutberlet *et al.*, 2016). ISU programme aims at empowering the poor residents of informal settlements (Gutberlet, 2012). The programme empowers the informal settlement dwellers through creation of temporary employment and skills development during the implementation of development projects (Dhabhalabutr, 2016). The idea of temporary employment could be problematic because at the project hand-over stage, the poor people will become unemployed (Schwarz *et al.*, 2016). In contrast, other scholars have argued that temporary jobs are better and much appreciated because that is how the poor people earn a living (Gutberlet, 2009). Furthermore, the issues of illegal immigrants living in informal settlements could be a challenge when empowering the dwellers (Dhabhalabutr, 2016). In other countries, the focus of empowering the poor has shifted from just providing jobs to community participation and delegation of leadership (Gutberlet, 2010; Gutberlet, 2012). Thus, some informal settlements have councillors and community representatives.

Furthermore, empowering the poor entails systems information that encourages participation at the local level (Saunders *et al.*, 2016). However, the most common challenge with programmes such as informal settlement upgrading is that they are

planned and designed by experts based on what they think is the root cause of proliferation of informal settlements and urban poverty (Opoko and Aluwatayo, 2016). Informal dwellers mostly participate during the implementation phase (Karanja, 2010). Some scholars stated that the reason why most development projects fail is because there was no consultation and communication between the informal dwellers and municipal officials (Blanco, 2011). Furthermore, the concept of community empowerment is sound on paper but not practical in reality.

2.3.2.1.3. Health and security

Informal households around the world are vulnerable to both environmental and social shocks. Such tremors lead to poor living conditions, life threatening ill-health and social instability; hence informal households are referred to as the vulnerable (Barten, Mitlin, Mulholland, Hardoy and Stern, 2007; Karanja, 2010; Sverdlik, 2011). Notwithstanding, ISU programme is put in place to ensure that the informal settlement dwellers live in an environment that is free from harm. The programme ensures health and security in informal settlements by delivering infrastructure that is sustainable and affordable (Dobson *et al.*, 2015; Alfer, Xulu and Dobson, 2016). However, delivering amenities that enables the informal settlement dwellers to live in a health and secured areas means solving most of the problems such as noise, air and soil pollution created by the surrounding factories, and floods from river near the settlement.

The programme's rationale is to deliver services that are affordable and can be used by the present and the future generation. However, some scholars argue that the definition of affordability according to local authorities could contradict with the understanding of the concept by people at the local level (O'keefe, Luthi, Tumwebaze and Tobias, 2015). As a result, the informal settlement dwellers may not be able to afford to pay for amenities provided. The local government may need to look deeper into such issues before the implementation of the programme. Moreover, commercialized service has an impact on service affordability because the public has to pay for amenities rendered (Heath, Parker and Weatherhead, 2012).

2.3.2.1.4. Formalization of informal settlements

Over the past years, the dynamics of urban growth, instability and the need for housing and the seeming intricacies of political decisions and policies have made the issue of informality to gain momentum. Formalization of informal settlements is recognised as a crucial rationale behind the implementation of ISU programme around the globe (Nakamura, 2014; Opoko and Aluwatayo, 2016). The reason formalization of informal settlements is vital is to ensure that settlements are formally recognised as township rather than informal settlements (Blanco, 2012). The informal settlements upgrading programme has created a shift of thinking from demolishing of informal settlements to recognizing them as a way to address poor access to land and housing. The upgrading programme is implemented with the intention of recognizing and acknowledging the existence of informal settlements. Although policy makers and researchers have different views on the process of formalization with the urban space, they have a shared principle that the process should be viewed with a social-spatial context for the quality of urban space (Blanco, 2012; Nakamura, 2014). In this regard, although policy makers and researcher have different perspectives on the process of formalizing informal settlements, they both have one common goal which is to take into consideration the aspects that will help maintain the quality on urban areas. A study conducted by Guevara (2014) analysed different approaches of formalizing informality in Europe, Africa and Latin America. The findings of the study revealed that continents vary in relation to social-spatial systems, thus isolated approaches failed to recognize the wider issues around informality (Blanco, 2012; Guevara, 2014). However, the study also revealed that the cases share the same principle that formalization is a working progress and it is responsive and convenient (Guevara, 2014). Furthermore, the study also suggested that there is a need to for a new perspective that consider sustainable finding to address the issue of formalization, measures to prevent emergence of informal settlements, promote community participation and partnership for economic and social development (Guevara, 2014).

Furthermore, there are numerous conditions such as environmental, economic and social glitches in informal settlements that need to be addressed before the formalization of such settlement. Thus, formalization entails continued provision and maintenance of services, tenure security and sustainable human settlements within urban areas (Zaki and Amin, 2009; Regan, 2014). Although literature states that the rationale behind the implementation of informal settlements upgrading programme is to ensure that informal settlements are recognised as townships, the progress in this case does not keep up with the speedy establishment of new informal settlements in many cities around the world (Marcuse, 2009; Grajeda and Ward, 2012). Uncontrollable proliferation of informal settlements is the main cause of slow formalization of informal settlements in most countries (Zaki and Amin, 2009; Opoko and Aluwatayo, 2016). Moreover, some scholars stipulated that the main cause of overnight proliferation on informal settlements is the fact that such settlements are formalized at some point, affordable basic services and land security will be provided (Strauss and Liebenberg, 2014; Patel, 2016). In this regard, the ISU programme as a panacea to harsh living conditions, provision of housing and other basic services also has an effect on the establishment of informal settlements around the globe. However, the social economic and environmental issues faced by the urban vulnerable cannot be ignored because the panacea is considered as one of the causes of more informal settlement around cities.

2.3.2.2. Institutions involved in informal settlement upgrading

Informal settlement upgrading is not a standalone programme as it is supported by number of institutions in order to maximise the outputs. These institutions play different roles in enhancing availability, accessibility and quality of service delivery (Chitekwe-Biti, 2009; Chitekwe-Biti *et al.*, 2012). The emphasis of these institutions is to provide a package of infrastructure improvements, social services and the physical restructuring of the settlements followed by legalization of land and regulation of property (Chitekwe-Biti *et al.*, 2012; Olthuis *et al.*, 2015). However, informal settlement upgrading in different countries, have diverse institutions supporting the programme to ensure that it achieves its intended objectives. On an international level, institutions that play a role in enhancing the outcomes of the ISU programmes includes Local Government, Un-

Habitat and Department of Housing and Urban Development (HUD). Thus, this section discusses the institutions that play important role in supporting the ISU programme.

2.3.2.2.1. Local Government

Services in informal settlements are provided through the local municipalities and metropolitan municipalities. Municipalities as the closest sphere of government to the public, the institution's greater role is to gather data on the needs of the local communities (Hasan, 2006; Chakraborty, 2016). Other countries use Geographic Information System (GIS) to gather data on the backlog of services in informal settlements (Bishop, 2010). Because local government alone cannot address the backlog of services, there are number of institutions that work closely with municipalities so that the upgrading programme could achieve its objectives (McMichael, 2016). With the assistance of different state institutions, the local municipalities implement development projects based on the outcomes of the data collected from informal settlements (McMichael, 2016). Thus, the local government play crucial roles such as collection of data, facilitating participation and implementation of projects that will enhance availability, accessibility and quality of service in informal settlements (Hasan, 2006; Chakraborty, 2016; Rigon, 2016). Furthermore, the role of local municipalities is to manage and direct urban development processes, hence this institution does the same in supporting the ISU programme. In addition, the institution assists in prioritising service delivery needs before the implementation of ISU programme (McMichael, 2016; Rigon, 2016).

Moreover, the role of local government in ISU programme is to plan for the upgrading according to the outcomes of the data gathered. During implementation of the upgrading programme, the role of the local government is to implement strategies that were planned. With funds from various institutions and organizations, the local municipality's role is to ensure that all the informal settlement upgrading principles are put in place (Almansi, 2009; Chakraborty, 2016). With service delivery being the fundamental existence of the programme, the local government ensures effective implementation of projects that are intended on providing services (Hasan, 2006;

Dobson *et al.*, 2015). In addition, the local government as the closest sphere of government to the local communities, it ensures the provision of services that are affordable to the low income households and sustenance of the provided services (McMichael, 2016). In this regard, local municipalities ensure that the commercialised services such as water and electricity do not have a large impact of the household income of the urban vulnerable.

2.3.2.2.2. *UN-Habitat*

Un-Habitat is an international, non-governmental and non-profit organization founded in 1976 that is keen to ensure decent and affordable housing and to address problems associated with poverty (Van Horen, 2000; Almansi, 2009). Its' main focus is placed within urban land-use and development, and challenges associated with poor housing in most informal parts of cities. The institution helps the government to develop policies and strategies designed to exploit the role of lodging in national economic development and employment generation (Hunchzermeyer, 2008; Boonyabancha, 2009; Simiyu, 2016). Furthermore, it assists with in-depth local diagnosis of the state of a housing sector, and it also provides technical support to the formulation of a national housing policy, inclusive of the implementation techniques (Hunchzermeyer, 2008; Rigon, 2016). Un-Habitat provides capacity development for all housing sector stakeholders to specially fit for specific conditions. In addition, Housing Profit Tool (HPT) has been successfully applied since 2008 in at least 10 countries. These are inclusive of Africa, Asia and Latin America (Dobson *et al.*, 2015). The tool allows the government and their national and local partner to have a better understanding of constrains hindering access to adequate housing by various segments of society. The HPT also facilitates the design of policy responses to boot housing delivery, improve land and infrastructure supply and mobilize both private and public finance for housing and other measures specific to each country's reality (Dobson *et al.*, 2015).

Moreover, the UN-Habitat offers technical aid comprising a review and analysis of current local, regional and national legislation related to housing that covers law, decrees, standards and building codes (Dobson *et al.*, 2015). The institution also offers

an analysis and review of policy implications needed to achieve the right to adequate housing for all dwellers (Marcuse, 2009; Koen, 2016). It further assembles the national and local stakeholders to international meetings to discuss national and local analysis related to the right to adequate housing (Boonyabacha and Mitlin, 2012). At present, the UN-Habitat is creating a Global Housing Strategy (GHS) that needs to achieve its objectives by the 2025, taking into consideration the challenges of delivering acceptable and sustainable housing and basic infrastructure (Dobson *et al.*, 2015; Koen, 2016). In addition, the strategy will take into account the integration of housing policies into broader urban planning strategies and governmental actions, aligning them with other social, economic and environmental policies (Marcuse, 2009; Koen, 2016). The UN-Habitat also designed the GHS with an aim of assisting member States to work towards the realization of the right to adequate housing regardless of income group and to develop national housing development strategies to address poor housing in informal settlements (Boonyabacha and Mitlin, 2012). The national housing strategy will guide policies, planning and programming of investment, managing and maintaining activities in the areas of informal settlement upgrading and slum prevention (Dobson *et al.*, 2015; Simiyu, 2016).

Furthermore, UN-Habitat is developing the GHS to ensure that the national and local levels are inseparable from land-use and infrastructure strategies, participation, and urban planning and management process within a supportive legal framework (Sheuya, 2007). The anticipated results of the UN-Habitat GHS will (re)position housing within the global contemporary debate on economically viable, environmentally and culturally sustainable and socially inclusive cities (Dobson *et al.*, 2015). In addition, the strategy will also bring about outcomes such as a paradigm shift in thinking and practical housing policies, a contribution to the post-2015 sustainable development goals (Chakraborty, 2016; Rigon, 2016; Koen, 2016). Additionally, the strategy will promote systematic reforms to permit broader access to adequate housing within a variety of housing solutions matching effective demands, especially in informal settlements.

2.3.2.2.3. Department of Housing and Urban Development (HUD)

Department of Housing and Urban Development (HUD) is a United State (U.S) Government agency established in mid-1960 in order to provide community development and home ownership (Hasan, 2015). It is stated that the HUD can support community development and home ownership by improving affordable home ownership opportunities, increasing safe and affordable rental options, reducing chronic homelessness, fight against housing discrimination by ensuring equal opportunity in both rental and purchase markets and supporting the vulnerable populations in urban areas (Pino and Hormazabal, 2016; Diwakar and Peter, 2016). Furthermore, the institution enforces the Fair Housing Act that prohibits discrimination in buying, selling, rental or financing of housing based on race, skin colour, sex, nationality, religion or any other protected class characteristics (Hasan, 2015). Also, the protections for persons with disabilities and/or children were added to the Fair Housing Act in 1988 (D'cruz et al., 2009; Hasan, 2015; Diwakar and Peter, 2016; Pino and Hormazabal, 2016). The Fair Housing Act was introduced to the citizens of U.S shortly after the Civil Rights Act of 1964, which is an important legislative milestone in a decade defined by profound, dramatic and controversial changes in the racial and social structure and mores of the U.S (D'cruz et al., 2009; Diwakar and Peter, 2016). Lastly, the Act states that everyone deserves fair housing regardless of familial status or handicap (Hasan, 2015). In this regard, in the U.S all citizens have the equal right to adequate housing regardless of ones' income-group, race, religion, family status and disability. The role of the HUD on the upgrading programme is to also oversee the community development block grant, the housing choice voucher programme and other programs to support low-income and disadvantaged Americans to meet their housing needs (D'cruz et al., 2009). With informal settlements being vulnerable to disasters, the institution also assists in recovery after harsh events. Evidently, the HUD, together with other government agencies, private organization, community non-profit and faith-based groups became actively involved in disaster recovery following the Hurricane Katrina in the Gulf Coast region (Diwakar and Peter, 2016).

HUD creates a strong, sustainable, inclusive communities and quality affordable home for the public (Diwakar and Peter, 2016). The HUD's role is to strengthen the housing

market to bolster the economy and protect consumers, meet their need for quality affordable rental homes and also use the platform for improving quality of life (D'cruz et al., 2009). In addition, the HUD provides housing and ensures fair and equal housing opportunities for all (Diwakar and Peter, 2016). The institution built inclusive and sustainable communities free from discrimination regardless of the social status of a household (Pino and Hormazabal, 2016). The institution sees housing as a way of providing a wide array of positive social results for the vulnerable and the entire community (Thomson, 2008). Proper housing creates a platform to deliver social services through federal, state and local partners (Diwakar and Peter, 2016). These social services entail early learning programme and education, health programs, improved public safety, economic opportunities and supportive services for the vulnerable population within cities (Pino and Hormazabal, 2016; Diwakar and Peter, 2016).

2.4. Status of Service Delivery in Urban Areas

The status of service in urban areas may depend on the population size depending on the available resources (services). In 2007, the population living in urban areas was projected to be 6.6 billion; meaning more than 50 percent of the global population lived in towns and cities (UN Habitat, 2007). In addition, urban population is expected to have an estimated 70 percent of the world's population by the year 2015 (United Nations, 2007). It has been stipulated that an addition of 500 million people will urbanize in the coming five years and an estimated 60 percent of the world's population will be urbanized by the year 2030 (Kumara, 2013). United Nations predicts that the current population living in African urban areas is 400 million and will exceed 750 million by 2030 and will reach 1.2 billion by 2050 (Pieterse, 2009). With the increasing population growth in urban areas, there is a need for continued provision of municipal services. In the absence of more service provision, the quality of available services becomes questionable. This results in a larger population depending on limited resources.

Moreover, Cheru (2011) stated that lack of service delivery is largely experienced in rural settlements. However, the idea does not take into account the population rate in

urban settlements and how population growth affects the service delivery taking into account the existing gap. Even in the presence of agglomeration economics that offers a build-in advantage in providing public services, urban areas are continuously faced with poor access of amenities (Boonyabancha, 2005; Zaki and Amin; 2009). An estimated two billion people in the world remain without access to basic services (Zaki and Amin; 2009; Kurama, 2013). On the other hand, it is said that people living in cities have better access to services hence people migrate from rural to urban areas. In reality, the provision of services in urban areas is of poor quality. The poor provision of basic services is demonstrated by the increasing number of protests. Thus, lack of basic services such as fresh water, sanitation, electricity, health care, housing and waste management are used to characterize such settlements. In other countries, there has been water supply for informal settlements, which covered 100 percent of these settlements (Kumara, 2013).

The issues related to accelerated urbanization are a result of governments' failure to provide quality and affordable water, electricity and housing to the informal settlement dwellers (Khalifa, 2015). Evidently, it was stipulated that 748 people have poor access to drinking water; 2.5 billion people lack access to improved sanitation resulting in 1 billion people practicing open defecation in Pacific Countries (Global Analysis and Assessment on Sanitation and Drinking Water (GLASS), 2012; United Nations Children Funds (UNICEF), 2014). In this regard, the large gap of basic service provision in urban areas has an impact on the quality of amenities provided in informal settlements. In addition, Karanja (2010) argued that an estimated 85 percent of households in Kisumu, Kenya are faced with shortage of electricity connections and the other 15 percent with such connections have land ownership. Furthermore, limited access to basic amenities results in open defecation which may affect the environmental cleanliness to the residential area. There are 1.06 billion people living in informal settlements and the number is set to double in the next 30 years (Tannerfeldt and Ljung, 2007). This indicates that there are an increasing number of people living in informal settlements and the services provided in the area will never be enough to cater for the whole population.

2.5. Effects of Informal Settlement Upgrading on Service Delivery

With well-known uncertainties of informal households' narrow access to basic services, a need to develop a programme that will focus on addressing circumstances in these households became a priority (Zaki and Amin; 2009). As a result, ISU programme was put in place to ensure availability, accessibility and quality basic services for the informal settlement dwellers households in informal settlements. Thus, this theme puts more attention to the effects of ISU programme on services such as tenure security, water, electricity, sanitation, housing, health and security which are according to Law are recognized to be human rights (Abbott, 2002; Almansi, 2009; Gret-Regamey, 2013). The dweller's illegal status of land ownership has deprived the resident's right to such basic services (Roy and Alsayyd, 2004; Winayanti and Lang, 2004; Vollmer and Gret-Regamey, 2013). Therefore, urban renewal programme such as upgrading of informal settlements are implemented in order to address such challenges (Vollmer and Gret-Regamey, 2013). The informal settlement upgrading links service delivery with affordability of these services and to ensure sustainability (Abbott, 2002; Boonyabancha, 2005).

2.5.1. Land Tenure in South Africa

Informal settlement overpopulation is common in urban areas around the world. Illegal land occupancy in urban areas demonstrates countless issues related to overcrowding and poor access to adequate land (Karanje, 2010; Rigon, 2016). However, the unauthorized occupation of land should not deprive the informal settlement dwellers from having access to secured land amongst other things. Thus, ISU programme is implemented to ensure that all the urban vulnerable around the world have access to such services (Lombard, 2016). However, the provision of land security is not tranquil because it entails many components that cannot be ignored. The upgrading programme aim to effectively affect access to land security in informal settlements as a way of promoting sustainable human settlements and to avoid possible evictions (Abbott, 2002; Strauss and Liebenberg, 2014; Islam and Mungai, 2016).

Furthermore, tenure often involves a multifaceted rules and some of these rules includes having full access to the land and transfer rights, whilst, the other rules gives dwellers a limited use of these resources (Durand-Lasserve, 2006). Informal settlement upgrading in Argentina, seek to transform and grant land tenure to the population in informal settlements as part of the larger routine that offer good quality infrastructure and service whilst strengthening social inclusion in large cities (Almansi, 2009; Chitekwe-Biti, 2009). Thailand has a number of projects within the informal settlements upgrading which aim at providing secure tenure amongst other things (Boonyabanacha, 2005).

2.5.2. Housing in South Africa

Khalifa (2015) disputed that housing in informal settlements should not be perceived as part of the countries' housing crisis but a solution that was developed by the informal settlement dwellers under the existence of inadequate economic resources. Shelter is an essential human basic need to every individual regardless of the social class or the type of settlement which people live in (Van, Horen, 2000; Ashok, 2015). With that been said, Khalifa (2015) maintained that housing policies that adopted by the government agencies and institutions that are in charge of managing and controlling urban development and housing policies has been largely ineffective. With informal settlement's poor housing conditions, the upgrading programme provides low cost housing for the informal settlement dwellers living in these settlements (Makiira, 2015). Furthermore, the programme ensures better housing conditions in order to improve poor housing conditions in most informal settlements (Sadhu and Tiwari, 2016). As a result, the urban renewal programme seeks to ensure the provision of shelter in most vulnerable settlements in urban areas (Bastia, 2014; Uzun and Simsek, 2015). Low cost housing is provided to the informal settlement dwellers living in informal settlements (Boonyabanacha, 2005). However, not all residents of informal settlements qualify for the low-cost housing. Before the provision of housing, data is gathered in order to determine which household deserves low-cost, rental or subsidized housing. That is because some households in informal settlement have monthly incomes that classify them as the middle income group. Moreover, there are number of informal settlements

around the world that has achieved at least minimum provision of housing through the informal settlements upgrading programme (Adegun, 2015).

2.5.3. Sanitation in South Africa

Majority of informal settlements dwellers use the self-help model to address most of their service delivery needs (Winayanti and Lang, 2004, Bradlow *et al.*, 2011). It is said that through the informal settlement upgrading, sanitation facilities are provided in informal settlement but these facilities are inaccessible and in poor conditions. Some dwellers apply self-help models and construct toilet facilities (Winayanti and Lang, 2004; Aguilar and Santos, 2011). Nairobi's informal settlements use public latrines as the only possible sanitation solution (Chitekwe-Biti, 2009). Latrines are commonly found in informal settlement and mostly used as a way of addressing sanitation inadequacy (Tsinda *et al.*, 2015). These facilities are mostly convenient to the municipal funds but they are not conducive to the health of the poor people.

Furthermore, majority of residents on informal settlements in the third world countries have inadequate household sanitation facilities. Poor access to such facilities has led to open defecation in Kisumu, Kenya (Simiyu, 2016). The use of improper methods in the area necessitated the implementation of communal sanitation facilities. Although communal facilities are not sustainable, the upgrading programme provides temporary facilities while planning on providing household facilities. Simiya (2016) further argued that the effectiveness of communal sanitation facilities is fully known in African countries. There is a projected 2.5 billion of people living without sanitation facilities in the world and 784 million share such amenities (Heath *at el.*, 2012; Scott, 2014; Simiyu, 2016). Furthermore, the proportion of people using common sanitation facilities increased over the past years (Greenland, Huberts, Wright, Hawkes, Ekor and Biran, 2016). Such statistics looks poor because people's expectation is to have more household facilities than shared. On the other hand, the same statistic could be seen as an improvement considering the fact that informal settlement proliferates overnight and the upgrading programme has to keep up and ensure availability of basic services. Furthermore, the use of shared sanitation facilities is common in countries such as India, Ghana, Kenya and Uganda (McFarlane, 2008; Greenland *at el.*, 2016). ISU programme provides shared sanitation facilities as a solution to open defecation where facilities are lacking. In Kenya's informal settlements, there are caretaker of sanitation

facilities and operate on a pay-per-use basis (Simiyu, 2016). The charges are determined by the cost of contraction, inclusive of raw materials and labour, but often, these charges are subsidized (Kennedy-Walker, Amezaga and Paterson, 2015; Greenland *et al.*, 2016). With public services commercialized, the cost of living becomes very high even in informal dwellings.

2.5.4. Water provision in South Africa

Domestic water provision remains one of the top priorities of urban planners, policy makers and international development agencies because potable water is essential for life and public health (Jaglin, 2002; Abubakar, 2014). Such priorities are demonstrated through the volume of capital investments in water infrastructure by government and international donor agencies (Ababakar, 2016). Developing countries made progress in providing water. “By 2012 about 89% of households had access to safe drinking water, and by 2014 more than half the world’s population, almost 4 billion people enjoyed the highest level of water access” (Ababakar, 2016: 43). There are number of methods used by the informal settlement dwellers to access water but the cleanliness and safety of the source of water is inadequate (Karanja, 2010). Thus, programmes such as informal settlement upgrading is implemented in a number of informal settlements with a purpose of delivering water (Kurama, 2013; Bastia, 2014). According Lombard (2014), it is local municipality’s duty, through the upgrading to ensure that water is provided in informal settlements. Although some informal dwellers have access water provided by the municipality, that does not guarantee clean and safe water for human consumption (Makiira, 2015). There is ample literature arguing that the informal settlement dwellers’ access to water should be a priority so that they can sustain livelihoods such as urban agriculture or gardening (Lombard, 2014).

Moreover, the informal settlement dwellers’ access to clean and safe water can be the solution to one of the most eminent diseases such as water borne disease (Zaki and Amin, 2009). Through relocation of the informal settlement dwellers moved from their initial location to a better serviced settlement to ensure easy access to amenities such as clean, piped water (Boonyabanacha, 2005; Makiira, 2015). Through the urban renewal

programme, it became the government's priority to ensure that water related challenges are resolved in informal dwellings (Lombard, 2014). Thus, most informal settlement has access to water. Unplanned dwellings in India's capital city are faced with enormous backlog in provision of adequate water (Dutta, Chander and Srivastava, 2005). However, through the ISU programme, number of informal settlements in India has access to clean and safe water (McFarlane, 2008; Sverdlik, 2011). The accessibility of water in India is inadequate because taps are not provided in each household (Dutta *et al.*, 2005). Communal taps are used in most informal settlements around the world, as a temporary solution (Dutta *et al.*, 2005). Furthermore, the provided communal taps are unable to cater for the whole settlement because the quantity of the informal households does not match the taps (Das, 2015; Makiira, 2015). Every household has different total of household member, hence water consumption and usage will also vary.

Moreover, literature argues that informal settlements around the world are provided with communal taps which delivers clean water (Dobson *at el.*, 2015; Makiira, 2015). In contradictory, the quality, accessibility and availability of running water from the communal taps is questionable. Providing shared taps in informal settlements may not be sustainable but, however, having access to minimum basic services while the government is planning to provide such amenities could be acknowledged as an achievement compared to using water from rivers. Majority of informal dwellings around the globe have access to running water as a result of using communal taps as a temporary solution to water shortage. Although the supply of water in these dwellings may not reliable, there are less health risks contaminations (Dutta *et al.*, 2005).

2.5.5. Electricity provision in South Africa

Energy is essential for every household's daily activities. The informal settlement dwellers' methods to heat and light negatively affect their health and environmental cleanliness in informal settlements (Tsinda *et al.*, 2015). There are numerous effects of ISU programme on service delivery in terms of electricity connection. This upgrading aims at ensuring the provision of electricity connections and taking into consideration affordability of the energy (Satterthwaite, Miltin and Bartlett, 2015). Affordability of

energy is crucial especially because statistics indicated that majority of people living in informal settlements have poor access to employment opportunities and economically disadvantaged (Makiira, 2015; Elsayed, 2016). With service delivery being commercialised, accessing electricity connections might be difficult, not because of the poor provision rather the informal settlement dwellers might not afford to maintain such services (Tsinda *et al.*, 2015; Elsayed, 2016). Through the programme, informal settlements around the world have minimum electricity connections (Uzun and Simsek, 2015; Dhabhalabutr, 2016).

However, the issues around the effects of ISU programme on electricity are beyond just the provision, affordability and willingness to pay for the service should also be taken into consideration (Figueroa, 2016). With the high figures estimated to be the population that will live in informal settlements by 2022, it is above board that provision and access to electricity will continuously be a challenge (Figueroa, 2016). Although numerous informal households have legal electricity connection, the demand of such services is high because of the increasing number of informal settlements, especially in Africa and Asia (Figueroa, 2016).

2.5.6. Health care in South Africa

Low-income households in urban areas usually suffer an urban penalty rather than benefiting from the urban bias (Sverdlik, 2011). Sverdlik (2011) further stated that these households are more likely to be infected by diseases, premature death combined with poverty to entrench disadvantages overtime. Furthermore, informal dwellers health may deteriorate in the face of these profound environmental hazards and ingrained deprivations (Agarwal, 2011). Although such undesirable consequences appear inevitable, urban areas can improve health accessibility even for low-income households (Mukiira and Ibisomi, 2015; Chamberlain and Hipp, 2015). Although there is literature indicating the effectiveness of accessible pro-poor health care, some studies suggest that urban health inequalities normally begin at birth, reproduced over time and can also be recreated through vulnerabilities to climate alteration (Sverdlik, 2011).

In addition, addressing the issue of health care is beyond just providing clinics and hospitals. Thus, there is a need to escape malnutrition which is one of the major causes of ill-health in informal settlements. Furthermore, access to clean and safe water also play a role in ensuring a healthy living in informal households. Lastly, the provision of household sanitation facilities to promote good hygiene at all times. Diarrhoea amongst other problems is common in Kenyas' poorest communities (Mukiira and Ibisomi, 2015). Besides being easy to preclude and treat, the informal settlement dwellers households in Kenya fail to provide proper health care for children and in most cases resulting in child mortality (Mukiira and Ibisomi, 2015). Thus, causing an estimated 1.5 million deaths annually (Mukiira and Ibisomi, 2015). The cost and quality of health care in informal settlements has a huge impact on the life span of the informal settlement dwellers (Sverdlik, 2011). With poor access to proper health care facilities, the informal dwellers of Kenya are given a programme that teaches health care seekers on how to prevent and treat diarrhoea (Mukiira and Ibisomi, 2015). 'Great attention to the multi-faceted needs on low-income communities, governments can create interventions to ensure that urban centres fulfil their enormous potential for health' (Sverdlik, 2011: 123).

Health care service is one of the most inaccessible services in informal settlements. Regardless of the income group, the provision of health care services is vital. There are constrains in providing health care facilities which amongst other things includes financial issues (Kurama, 2013; Chamberlain and Hipp, 2015). Thus, there are number of alternative initiatives that the government use in order to promote a healthy living amongst informal settlements around the world. Informal settlement upgrading initiate an awareness that seeks to inform dwellers on life threatening disease such as water borne disease, HIV/AIDS and other chronic ill-health issues (Goudet *et al.*, 2011; Makiira, 2015). The upgrading also implemented the mobile clinics in order for residents in informal settlements to access health care facilities (Makiira, 2015; Sadhu and Tiwari, 2016). Although there are mobile clinics in these settlements, the provision of health care services are inadequate (Kurama, 2013). The programme does not only seek to provide temporary health care facilities. Mobile clinics are considered to be a short term goal of the programme hence it seeks to provide health facilities that are accessible and

sustainable (Sadhu and Tiwari, 2016). However, mobile clinics are not sustainable because such facilities are not always available to render health care services to the urban vulnerable.

2.5.7. Education in South Africa

Educational facilities are extremely rare in informal settlements around the world (Kumara, 2013). This is also supported by the Millennium Development Goals (MDGs) (Durand-Lasserve, 2006). Education is every human's right and should be provided, regardless of the type of settlement (Makiira, 2015). Illiteracy is common amongst children and adults living in informal settlements. Some studies indicated that majority of people living in informal household members are illiterate as the result of poor access to educational facilities (Chitekwe-Biti, 2009). Furthermore, with inadequate accesses to primary education, illiteracy persist, resulting in inherited illiteracy, brutal poverty and the informal settlement dwellers can only secure employment in the informal sector (Thunqvist *et al.*, 2012). At present, ISU programme have not, as yet, provided enough educational facilities in informal settlements (Sheuya, 2007; Mukiira and Ibisomi, 2015). That is demonstrated by the number of children who walk long distances to attend school at the neighbouring residential areas (Blanco, 2011; Figueroa, 2016). In addition, some studies stipulated that majority of learners tend to drop out of school because most of educational facilities in urban areas are more expensive (Blanco, 2011; Mukiira and Ibisomi, 2015). Moreover, constructing educational facilities in informal settlements is the governments' long term aim that is usually delivered after a long period. However, the informal settlement dwellers are not neglected.

However, achieving the MDG of ensuring primary education could be a challenge in other parts of towns and cities such as informal settlements. In this regard, providing education for children living in informal settlements could be difficult because majority of informal dwellings around the world have no access to educational facilities, the distance children have to walk to get to the nearest school and ill-treatment that they get from other children (Sheuya, 2007; Blanco, 2011; Mukiira and Ibisomi, 2015; Figueroa, 2016). Some studies showed that the less advantaged learners are bullied by fellow

leaners because they are not from the same social class as the others (Gietz and McIntosh, 2014; Minkkinen, 2014). Primary education for children living in informal settlements will not be achieved with discrimination and ill-treatment from both leaners and teachers.

2.5.8. Security

Security and security are important as any other basic service for every individual. The security in informal settlements is known to be extremely poor. Such settlements are hostile and the criminal activities are reported to be very high (Patel, 2016). This can also be influenced by the fact that people living in the area are not recognised by the local municipalities and there is no record of who lives where (Patel, 2016). Therefore, there is a need to improve security in informal settlements (Makiira, 2015). Through tenure security, dwellers are registered with their local municipality in order to have a record of who lives where (Durand-Lasserve, 2006; Huchzaermeyer, 2006). Well organised households, with every house allocated its own piece of land can positively affect the level of security (Boonyabantha, 2005). As a result, the allocation of those households is done through the ISU programme. Through the upgrading programme, stands are allocated by streets and dwellers are given tenure titles so the local municipality would have a record of each household and the land owners (Makiira, 2015).

Furthermore, mobile police stations are utilized to ensure security in informal settlements (Makiira, 2015). The ISU programme also ensures security by providing a temporary police service stations for better security. The informal settlement dwellers highly depend on such services as their only form of security (Zaki and Amin, 2009). In dissimilarity, mobile police stations are not sustainable considering the level of criminal activities and that the stations are not permanent (Patel; 2015). The upgrading programme's long term security objectives entail a build in police station near informal settlements (Zaki and Amin, 2009). Moreover, communities with poor crime prevention measures usually create community forums (Gilling, Hughes, Bowden, Edwards, Henry and Topping, 2013). Because informal settlements are known to be hostile, security

measures to keep all the dwellers safe are required. Crime prevention forums are used in many communities in developing countries as a way of reducing crime activities. Thus, informal communities also engage in such forums as the government fail to provide such services in informal settlements. However, having such forums in a community does not guarantee safety for dwellers (O'Brien, 2012; Chamberlain and Hipp, 2015). In this regard, some measures of crime prevention need to be blended to ensure maximum safety and security because community forums on their own are not effective.

2.6. Conclusion

Informal settlements around the world are faced with poor access to services that are considered to be basic. Such settlements are characterised by having no land title, flooding, water supply contamination, unhealthy living conditions, and extreme poverty (UNICEF, 2013; Saunders *et al.*, 2016). With the huge gap in service provision between the legal and illegal settlements in urban areas, informal settlement upgrading was implemented to bridge the gap (Ashok, 2015). Having access to affordable infrastructure amenities is vital for poverty reduction and sustainability (Thunqvist *et al.*, 2012). Furthermore, land security, housing, sanitation, water, electricity, health care, education and security are fundamental service that the informal settlement dwellers need (Thunqvist *et al.*, 2012; Ashok, 2015). With the existing ample debate on the effects of informal settlements upgrading, one may conclude that through the urban renewal programme, numerous households in informal settlements have access to basic service such as clean and safe water and sanitation facilities (Ashok, 2015; Makiira, 2015). However, not all informal households have access to basic services such as water and sanitation facilities, rather communal facilities are provided as contemporary solution to inadequate service provision. With the assistance of number of institutions, it was reported that ISU programme has made progress in delivering services to the vulnerable living in informal dwellings. However, it is relatively impossible to notice such improvements because of uncontrollable urbanization.

CHAPTER THREE

NATIONAL, PROVINCIAL AND LOCAL CONTEXT ON INFORMAL SETTLEMENT UPGRADING AND SERVICE DELIVERY

3.1. Introduction

The legacy of apartheid continues in South African cities through residential segregation and high level of inequality in relation to access to land and services delivery (Sutherland, Hordijk, Lewis, Meyer and Buthelezi, 2014). Informal settlements multiplied after South Africa gained its democratic in the year 1994 (Smith and Hanson, 2003; Department of Human Settlements (DHS), 2009). The uncontrollable sprawl of informal settlements placed pressure on local municipality (Koen, Jiya, Kristin and Chris, 2015). As a result, the informal households become deprived from enjoying public services. However, the National Upgrading Support Programme (NUSP) was designed to support the National Department of Human Settlement (NDHS), which is known as the formerly National Department of Housing (NDH) in its implementation of ISU programme. The upgrading programme was introduced to focus on improving the living conditions in informal dwellings through the provision of services (Ash and Liza, 2017). However, ISU programme was later incorporated into a policy and was published with minor changes, mostly emphasising on in situ upgrading. It became a significant shift which includes policies that are more flexible, integrative and participative (Patel, 2016; Ash and Liza, 2017). ISU programme applies to number of development and empowerment approach such as participation in order to achieve sustainable provision of services in informal settlements (Patel, 2016).

The concept of public participation was introduced years after South Africa gained its democracy to redress issues of the white government. Huchzermeyer (2011) said that an incremental approach to informal settlement upgrading should include permanent securing of tenure and rehabilitation of unsuitable land based of meaningful community participation. However, the upgrading programme options and plans are meticulously defined by various experts rather than the informal settlement dwellers themselves (Huchzermeyer, 2011; Patel, 2016). However, informal settlements upgrading

programme was put in place to focus on improving the living conditions of the urban vulnerable living in illegal settlements (Balbo, 2001; Kumara, 2013; Dovey, 2015; McMichael, 2015). Furthermore, the programme plays different role and there are objectives attached to the upgrading (Patel, 2016). Moreover, there are many institutions that are directly and indirectly involved in the upgrading programme, giving support, designing and developing policies to ensure sustainable provision of services in informal settlements (Housing Development Agency (HDA), 2012; Patel, 2016 Ash and Liza, 2017). This chapter focus on the conditions of informal settlements and the status of service delivery in a South African context. The chapter further emphasize on the roles and rationale of informal settlement upgrading and the effects of the upgrading on service delivery in South African informal settlements.

3.2. Conditions of a typical informal settlement in South Africa

The conditions of informal settlement in South Africa are described by their undesirable characteristics. The informal settlement dwellers living in informal settlements become vulnerable to life threatening ill-health and outbreaks such as cholera and water borne diseases as a result of overcrowding, uncontrollable, limited resources and overflowing sewage systems amongst other things (Balbo, 2001; Adegun, 2015; Scovronick, Lloyd and Kovats, 2015). There are few conditions that are commonly used to describe the conditions of informal dwellings, which are poor or lack of infrastructure improvement, poor basic services and harmful environmental conditions. Poor infrastructure development such as roads and housing are also common in South African informal settlements (Brandlow, Bolnick and Shearing, 2011; McMichael, 2015). Conditions of South Africa's informal settlements are known to have poor physical development, inadequate access to services and hazardous environmental conditions. As a result, this section emphasizes more on the typical conditions found in most South African informal settlements.

3.2.1. Infrastructure Underdevelopment

Investing and maintaining of physical development is extremely expensive, especially in areas that are overcrowded such as informal settlement (Karanja, 2010; Adegun, 2015). Infrastructure development is crucial for improving the living conditions of the poor people living in informal settlements. Such physical development entails roads construction. These amenities are necessary for informal settlements economic and social functions and enhancement. Furthermore, those amenities are also essential to ensure sustainable human settlements in South African informal settlements (Karanja, 2010; Adegun, 2015). Road infrastructure plays a key role in developing road network and connecting informal settlements with neighbouring areas. However, such facilities are inaccessible in informal settlement. Preponderance of South African informal settlements has no access to amenities that support households to improve their living condition and change their circumstances (Adegun, 2015). The informal settlement dwellers construct their houses at the periphery of the city without following all the required procedures to attain land. As a result, the local government find it difficult to provide infrastructural development in informal settlements because of random construction of households (Skuse and Cousins, 2007).

3.2.2. Insufficient Basic Services

Informal settlements are known to have poor access to basic services that are considered to be a right in countries such as South Africa (Sutherland *et al.*, 2014). These services include access to clean and safe water, electricity connection, sanitation and health care facilities, education, security and housing (Balbo, 2001; Hordijk, Sara and Sutherland, 2014). It was argued that although there are informal settlements with a number of basic amenities, the quality and accessibility of those services is inadequate (DHS, 2009; Sutherland *et al.*, 2014). This section emphasizes more on basic services that are inadequate in majority of South African informal settlements.

South Africa has been affected by drought known as El Nino in the year 2015. The condition affected access to water in both rural and urban areas. Thus, with informal settlement dweller's extremely poor access to water made their circumstances worse (Dugard, 2010). In this regard, water shortage in South Africa has negatively affected the informal settlement dwellers' access to water (Ilhan, 2015). The informal settlement dwellers living in informal settlements rely on rivers to access water and with the current drought in South Africa, dweller only depend on the government to provide water (Ilhan, 2015; Muchara, Ortmann, Mudhara and Wale, 2016). Access to clean water is a strain in informal settlements and thousands of South African dwellers have the list access to this basic need (Hordijk *et al.*, 2014). Discussions on the issue of accessible water in informal settlements are ample as different scholars argue that informal settlements have access to water as they have settled next to cities, whilst others maintain that because the settlements are not planned, providing water will be problematic (Hordijk *et al.*, 2014; Koen *et al.*, 2015).

Furthermore, majority of South African informal settlement dwellers experience the worst water shortage during dry seasons (Bakker, 2007; Heath *et al.*, 2012). Thus, the dwellers are forced to make other means of accessing water, which could be buying water from those who have boreholes. However, it is mostly unlikely for informal dwellers to have boreholes, especially considering their economic status and poor access to land ownership (Smith and Hanson, 2003; Dugard, 2010). Poor access to water through factors such as climate change influences people's livelihoods (Lemanski and Oldfield, 2009; Heath *et al.*, 2012; Muchara *et al.*, 2016). In this regard, inadequate access to water does not only affect the household consumption but it also has an influence on their household productivity. Heath *et al.*, (2012) further argued that poor people living in fragile zones of the South African cities heavily depend on natural resources to sustain their everyday living. Few households in informal settlements has access to water through kiosks but that also compromises household water provision (Barrett and Jaichand, 2007; Koen *et al.*, 2015).

In addition, the Constitution of Republic of South Africa (RSA) states that every citizen is entitled to a healthy living environment (Republic of South Africa, 1996), hence it is important to ensure that all residential areas, inclusive of informal settlements have access to facilities that will assist in keeping the environment clean. Poor hygiene is problematic in the country's informal settlements as a result of poor access to sanitation facilities (Muller, 2008; Heath *et al.*, 2012). In the absence of sanitation facilities, the informal settlement dwellers tend to utilise rivers and bushes for sanitary purpose (Barrett *et al.*, 2007; Naster and Ramasar, 2012). However, the same river is also used as the main source of water (Lemanski and Oldfield, 2009). There are numerous sanitation facility methods used as alternatives in the absence of adequate facilities. These include long drop and bucket systems (DHS, 2009). Since the year 1990, the urban population has doubled and the proportion of people without access to adequate sanitation facilities remained constant (Danilenko, Dickson and Jacobsen, 2010; Heath *et al.*, 2012). Moreover, sewage systems and piped water are essential for ensuring sustainable human settlements in South African (DHS, 2009). The increasing rate of population in informal settlements results in high demand of installation of such facilities. Majority of South African settlements are provided with communal amenities but the services are never enough to cater for the whole settlement because of uncontrollable population increase.

South Africa has the poorest electricity connections in fragile zones of its city (Sinwell, 2011). Millions of informal settlement households live without such connections and depend on other source of energy (Naster and Ramasar, 2012). Number of informal settlements in South Africa has minimum access to electricity (Durand-Lasserve, 2006). Other scholars have debated that it is not important for informal settlements to have electricity connections because there are more crucial basic services that can be delivered to the informal settlement dwellers (Balbo, 2001). Like any typical informal settlement households around the world, South Africa's informal dwellers use paraffin stoves, woods and candles as their source of energy (DHS, 2009; Sinwell, 2011). Such source of energy may have a negative impact on the environment and the health of

household members. Such circumstances become more problematic considering informal dweller's extremely poor access to health care facilities.

In addition, access to health care facilities is considered to be a human right to all citizens of South Africa (DHS, 2009; Scovronick et al., 2015). The informal settlement dwellers' extremely poor access to such services means their rights are violated (Gasparrini and Armstrong, 2010). There are laws and regulations that encourage and supports execution of such development so that South African's rights may be fulfilled at all time (Gasparrini and Armstrong, 2010; Scovronick et al., 2015). The informal settlement dwellers have to travel very long distance to access health care facilities such as clinics and hospitals. Furthermore, over populated areas put pressure on the resources available at health care facility because the demand for medication health care equipment becomes high (Miraftab, 2009).

3.2.3. Ecological Disruption

Climate change is expected to affect the poor living in informal parts of urban areas (Heath et al., 2012). Informal settlements in low-middle income countries such as South Africa are defenceless of climate change (Heath et al., 2012; Adegun, 2015). Shocks related to climate change expose the informal settlement dwellers to disasters through floods, drought and diseases (Hope, 2009). A river is seen as a source of water for the informal settlement dwellers, hence most informal settlements are established near the river mouth. As a result, the informal settlement dwellers become vulnerable to floods and water borne diseases especially during rainy seasons (Nath and Behera, 2010). The Johannesburg's Diepkloof River runs across the north-western side into the Orlando Dam, making Elias Motsoaledi Settlement prone to floods (Adegun, 2015). Elias Motsoaledi's residents struggle to live with the uncontrolled storm water near their settlement (Adegun, 2015).

Furthermore, Johannesburg's informal settlement dwellers struggle to survive with the uncontrollable storm water because of climate change (Nath and Behera, 2010; Adegun, 2015). With continued heavy-rain, informal settlements are destroyed by the overflowing river near the area (Nath and Behera, 2010). Thus, leaving thousands

informal settlement dwellers homeless (Hope, 2009). Due to unclean water collected from the river, informal dwellers become vulnerable to water borne diseases (Hope, 2009). The informal settlement dwellers become more vulnerable during drought seasons (Nath and Behera, 2010). Water is a crucial source of life and is considered to be a human right in South Africa. In the absence of water provision in informal settlements, the informal settlement dwellers utilize rivers as a source of water provision (Scovronick *et al.*, 2015; Adegun, 2015). Furthermore, some dwellers depend on the water from the nearby river to earn a living, which entails farming and gardening. As a result, their production and livelihoods become insufficient and unsustainable to meet their daily needs (Hope, 2009; Nath and Behera, 2010). Furthermore, the residents of Joe Slovo had faced years of devastation due to floods and fires as a result of households very close to each other and the area is flood prone (Baptist and Bolnick, 2012).

3.2.4. Social Conditions

There is countless literature with a shared conclusion on the overcrowding of towns and cities which at the end results in the over population in informal settlements (Hansen, 2006; Weiss, 2014; Scovronick *et al.*, 2015). Over population in urban areas is a mutual problem in developing countries. Most South African Cities experience overcrowding as a result of population flocking into cities for different motives (Hunter and Posel, 2012; Scovronick *et al.*, 2015). Drawing evidence from Cape Towns' informal settlement known as Nkanini, in December 2002, Nkanini did not exist until after a few erections of households (Skuse and Cousins, 2007; Skuse and Cousins, 2008). Few months after having very few households, the settlements had more than 9 000 shacks that transformed the bush land to the edge of Khayelitsha (Skuse and Cousins, 2007). In absence of better economic opportunities, migrants tend to settle in areas of harsh conditions known as informal settlements. The annual national population growth rate is 1.1 with the average growth rate of cities being 3 percent (HDA, 2012a). Thus, the population growth has resulted in continued proliferation of informal settlements in South African towns and cities. Roughly 1.2 million households in South Africa are currently located in the informal settlement of extremely poor living conditions that

poses solemn danger to the health, security and safety of the people living in these settlements (HDA, 2012a). Furthermore, out of all the provinces in the country, Gauteng and Western Cape currently has the highest number of informal household (HDA, 2012a; Ziblim, 2013).

There is continued proliferation of informal dwelling in South Africa. Evidently, a number of informal households in the country have increased from 11 205 705 in the year 2001 to 14 450 161 in 2011 (Census, 2011). As a result, the total population has increased from 44 819 777 in 2001 to 51 770 560 in 2011 (Census, 2011). In this regard, there has been an additional 3 244 456 informal households in a difference of ten years which accounts for an increasing population of 6 950 783. However, the household size continues to decline. Evidence gathered from the year 1996 to 2011 reveals that in 1996 household members decreased from 4.0 to 3.8 in 2001, and 3.4 in 2011 (HDA, 2012a).

Additionally, at least 10 percent of South Africa's 44 million people live in urban informal settlements (Misselhorn, 2008). Therefore, there are more than 1.3 million households and informal settlement population of more than 4.4 million living in these dwellings (Misselhorn, 2008; Census, 2011). More than 50 percent of people who do not have access to adequate houses in South Africa are living in informal settlements (Misselhorn, 2008; Census, 2011). A projected 23 percent of these informal households have inadequate shelter and shacks extremely close to each other (Census, 2011; HDA, 2012a). Thus, exposing most of the households in solemn danger during fire breaks. Shack houses are small and primitive type of houses that dominate in informal settlements are a result of poor provision of shelter by the government (HDA, 2012a). Majority of informal dwellers live in shack houses that are scholarly regarded as inadequate. Furthermore, some households that are extremely under privileged utilises materials that are not suitable to provide adequate housing.

The glitches of poor housing conditions in informal dwellings in South Africa are beyond urban poverty and insufficient economic opportunities and status (Patel, 2016). Some informal dwellers live in poor housing conditions because of reasons that are related to

income poverty (Okurut *et al.*, 2014; Benjamin, 2008). However, not everyone living in informal settlement falls under the low income group. That is the reason why informal dwellers that have poor housing condition cannot be concluded on their economic status because issues of land insecurity are also included. In this regard, there are people living in informal dwellings with a perception that the local government will provide free land (Skuse and Cousins, 2007; Patel, 2016). The idea is derived from the precedent of providing land security and other services in informal settlements around South Africa. Thus, addressing the inequality amongst residential zones in urban area might result in the perpetuation of more informal dwellings in the country. Furthermore, majority of people living in South African informal settlements use material such as plastics, plywood, plastics, cut boards and corrugated metal to provide shelter for their families.

Literature also stipulated that the use of such materials is because of the fear of eviction from the land that was illegally occupied (Van Der Veen and Korthals, 2011; HDA, 2012a). Furthermore, the quality and adequacy of household shelter in informal settlements should also comprise of room density. The population in informal settlements raise as dwellers continue to accommodate their family members and relatives who, in most cases are migrating from rural to urban areas in search of economic enhancement (Skuse and Cousins, 2007; HDA, 2012a). Nevertheless, the available shelter in most households is not sufficient enough to accommodate some members of the households (Skuse and Cousins, 2007; HDA, 2012a; Patel, 2016). As a result, members usually have to share the bedroom and other available rooms in the house (Breaking New Ground (BNG), 2004). In this regard, available shelter with limited rooms has to accommodate all the members of the household. However, with such circumstances, household members have to use the kitchen or living room. Most people dwelling within a single household that has no space limit movement, compromises member's privacy, problems in sleeping, and unbearable hygiene practices (BNG, 2004; HDA, 2012a).

Moreover, safety is crucial considering the ample studies revealed that informal settlements have high crime rate (Lemanski, 2004). However, majority of informal

settlements in South Africa have extremely inadequate security to ensure the protection of each household member (Minkkinen, 2014; Koen, 2016). Majority of informal settlements in the country have no form of security measure to protect the vulnerable. As a result, informal households in South Africa depend on community forums that are formed to prevent crime for their safety and security (Chamberlain and Hipp, 2015; Koen, 2016). Informal household are not only exposed to crime but also to natural hazards and fire. Majority of informal settlements in the country have experienced fire breaks that resulted in burning of many households in the settlement. In addition, it takes longer for the urban vulnerable to be assisted during fire and in most case, most households in the settlement would have been destroyed. Despite the governments' best intentions such as Breaking New Ground (BNG), limited progress has been made in bringing development and improvement to the significant proportion of the informal settlement dwellers (BNG, 2004; Koen, 2016).

3.3. Roles and rationale of urban renewal programme

The infrastructure, environment, service delivery and social conditions in informal settlements are known to be tremendously poor (Scovronick *et al.*, 2015). Therefore, the upgrading programme improves the living conditions of the vulnerable households. Thus, the urban renewal programme focus on addressing extremely poor conditions and provide basic services in urban settlements that were established illegally (Adegun, 2015). The upgrading programme is also executed to ensure the availability and maintenance of social facilities and services available in informal settlements at all times. ISU programme plays a number of roles in relation to resolving problems related to informal settlements. Furthermore, the programme is implemented in South Africa in order to address most common challenges in informal settlements (Smith, and Hanson, 2003; BNG, 2004; HDA, 2012a; Marais and Ntema, 2013). This section discusses the roles and rationale of ISU programme.

3.3.1. Roles played by ISU Programme

With all challenges in South Africa's informal settlements, initiatives to address spatial difficulties relating to inadequate service delivery in these settlements are requisite.

Informal settlement's extremely hush conditions provoked the implementation of urban renewal programme to improve the living conditions of the poor households (Naster and Ramasar, 2012). The programme plays important roles in addressing the harsh and improving the living circumstances that informal households are living in (BNG, 2004; Marais and Ntema, 2013). The urban renewal programme play roles such as facilitating service provision in informal parts of urban areas and integration of social and economic aspects. Thus, this section elaborates more on the roles that are played by ISU programme.

3.3.1.1. Enabling service delivery

The provision of basic service is also crucial for improving the standard of the poor people living in informal settlements (Skuse and Cousins, 2007; Patel, 2016). Informal settlements do not have sufficient access to services that are known to be basic as compared to the other parts of urban areas. The persistence of poverty and inequality in urban areas are demonstrated through unequal provision of amenities amongst urban settlements (Boonyabacha, 2005). With that, interventions such as ISU programmes are implemented to address the spatial inequality that perseveres in urban areas. Furthermore, the upgrading programme is known to address those spatial inequalities by facilitating the provision of basic and infrastructure services (DHS, 2009). A large proportion of formal dwellers in urban areas have title deeds to the land they occupied, they have access to tap water, electricity, infrastructure and other basic services that the informal settlement dwellers have extremely poor access to (Dugard, 2010; Koen, 2016). Thus the upgrading enables the delivery and access to such services in informal settlements.

Amenities such as stands, clean water, sanitation facilities, low cost housing, electricity connection, and education and health care facilities are critical for every household's development (McMichael, 2015). Thus, the provision of basic services is one of the most important roles of the informal settlement upgrading. However, majority of the people living in informal settlements are suffering even in the presence of the urban renewal programme. Thus, informal settlement upgrading is established to ensure easy

access to quality services (Scovronick *et al.*, 2015). Through the urban renewal programme, the city of Cape Town has the most serviced informal settlements compared to other South African Metropolitans (Census, 2011). Although Cape Town's informal settlements are rated as better off, Skuse and Cousins (2007) argued that the struggle of urban land permanency in the fridges of Cape Town proliferates. The argument is based on the fact that dwellers are repeatedly faced with forceful evictions. Moreover, providing other basic services in informal settlements while the informal settlement dwellers have no access to secured tenure could be slightly impossible (Dovey, 2015).

Thus, the upgrading programme facilitated free water and sanitation to an estimated 144 000 informal households in Cape Town (Census, 2011). Furthermore, 46 000 sanitation facilities and 10 000 taps were facilitated by the urban renewal strategy in the informal settlements of Cape Town (Lemanski and Oldfield, 2009; Census, 2011). Although the City of Cape Town's informal settlements are considered to have better access to basic services as compared to any other informal settlement in South Africa, there is a huge gap in relation to quality and accessibility of those services. The city has 144 000 informal households and through the programme, only 46 000 sanitation facilities were provided. The gap between the households and facilities provided sums up to 98 000. In this regard, projected 98 000 households have no or inadequate access to sanitation facilities. Furthermore, Cape Town's informal settlements have 144 000 households and the upgrading programme delivered 10 000 taps, which makes a difference of 134 000. In this regard, 134 000 households have inadequate access to water. Households with no sanitation and taps depend on community taps and toilets. That indicates that even in the presence of the upgrading, informal settlements continue to have poor access to services. If Cape Town's informal settlements are considered to have the most access to basic services, then other South African informal settlements are more disadvantaged. Although the upgrading aim at enabling service delivery in informal settlements, the reality is that the implementation and outcomes may be different from what is expected from the programme.

3.3.1.2. Integration of social and economic development

South Africa is considered to be one of the wealthy countries as compared to other developing countries (Kornienko, 2017). However, poor people do not benefit from the country's economic growth. Informal households are known to have extremely poor economic development and poor social statuses. Therefore, there is a need to create a platform so that the informal settlement dwellers are able to engage in economic activities to sustain their lives (Huchzermeyer, 2006; O'Connell, 2011). Thus, informal settlement upgrading also play an essential role of integrating social and economic aspects to promote development (DHS, 2009). The integration allows the informal settlement dwellers to live in an environment that creates a platform for social and economic development (Miraftab, 2003; Miraftab, 2009). Furthermore, that will help the dwellers to overcome their circumstance and sustain their livelihoods. This could be done by providing infrastructural development such as roads that will allow dwellers to easily have movement to neighbouring communities and also engage in economic activities. Infrastructure opens a platform for road networks and encourages the use of areas with economic potential (Miraftab, 2009; O'Connell, 2011).

Moreover, measuring socio-economic development of a country is easier than of informal settlements. Indicators such as Gross Domestic Product (GDP), life expectancy, level of literacy and employment are used to quantify social and economic development (Huchzermeyer, 2006; O'Connell, 2011). The South African GDP is used to measure the socio-economic development of the country. The country is rated to have one of the fast growing GDP in developing countries (Huchzermeyer, 2006; Pithouse, 2008; Ray, 2011; Pithouse, 2012). Reality is that the GDP does not benefit the poor people. Thus, the indicator has its weaknesses as poor people, including those in informal settlements do not benefit from the country's growth (Huchzermeyer, 2006; Pithouse, 2012). However, ISU programme is put in place to promote and improve the socio-economic development of the poor rather than focusing on the country's growth. The programme focuses on providing economic opportunities through their development projects (O'Connell, 2011).

Furthermore, high criminal cases in informal settlements place people's lives in great danger. Life expectancy of the informal settlement dwellers is weakened as a result of

murder cases (Huchzermeyer, 2006; Ray, 2011; Pithouse, 2012). Furthermore, the living conditions of informal households also have an impact on the life expectancy of the dwellers. Literature states that informal dwellers are exposed to many harsh conditions which may include risks of virus outbreaks (Pithouse, 2008). Life expectancy may also be determined by their access to health care services such as hospitals and clinics, type of food they eat on a daily basis and their life style in informal settlements (Pithouse, 2012). Therefore, informal settlement upgrading plays a role of resolving and preventing further outbreaks and diseases through the provision of basic amenities. Moreover, the level of literacy is also used to determine the socio-economic development. Informal households have the poorest access to educational facilities, inclusive of primary education. Their level of literacy indicates that their socio-economic development is poor (Pithouse, 2012; O'Connell, 2011). As a result, the upgrading programme ensures easy access to basic education as supported in the MDGs (O'Connell, 2011; Ray, 2011). Through education, some dwellers may be able to change their circumstances and improve their socio-economic status. Moreover, the level of employment opportunities also has an impact of the socio-economic development. With that been said, the upgrading programme plays crucial role in addressing problems that are barriers towards social and economic development of people living in informal settlements. Encouraging economic development through creation of employment, providing health care and healthy living, and educational facilities in informal settlements creates a platform for social and economic development (Pithouse, 2008; O'Connell, 2011; Ray, 2011).

3.3.1.3 Decent living conditions

Informal settlement upgrading's role in the democratic South Africa is promote living environments that are acceptable (Lamanski, 2004; Bishop, 2010). The role of the programme is to ensure that the standard of living in informal households is of good quality (Patel, 2016). A blind eye cannot be turned on the hostile living conditions in informal settlements. However, even in the presents of human rights, the poor conditions of informal households continue to deteriorate (Blanco, 2011). Guided by policies and acts that protect human rights, informal households have the right to living

in environments that create a platform for household and personal development. As a result, the role of the ISU programme is to promote decent living conditions that allow development to occur (Lamanski, 2004; Bishop, 2010). In most cases, to promote a decent living condition, vulnerable households should have access to services that are considered to be basic needs and that every South African citizen has the right to.

3.3.2. Rationale of Urban Renewal Programme

The urban renewal programme also addresses the deprivation that exists in land. Majority of South African informal settlements are characterised by their extremely harsh and unbearable condition (Scovronick *et al.*, 2015). Thus, the informal settlement upgrading was implemented to address those circumstances (Lemanski and Oldfield, 2009). Informal settlement upgrading was introduced to address issues of land accessibility, empowering the poor, promote health and security and formalization of informal settlements (Department of Human Settlement (DHS), 2009). Furthermore, the programme also aims at empowering the informal settlement dwellers (DHS, 2009). Thus, this theme provides debates on the objectives and institutions within the ISU programme.

3.3.2.1. Objectives of urban renewal programme

The South African government has been trying to address the fact that a great number of people live in sub-standard conditions without clean running water, sanitation and electricity connections (Olthuis, Benni, Eichwede and Zevenbergen, 2015). The key objective of the informal settlement upgrading is to facilitate in situ upgrading of informal settlements as opposed to relocation in order to achieve tenure security, health and security, and empowerment (DHS, 2009). Such objectives were put in place before the implementation of the upgrading programme in order to address the social and economic challenges faced by the informal settlement dwellers in informal settlements (DHS, 2009; McMichael, 2015). The upgrading had to achieve its objectives by the year 2014 (DHS, 2009). One of the most crucial objectives was to ensure tenure security for dwellers to increase productivity and receive services without the fare of forceful eviction (Skuse and Cousins, 2007; McMichael, 2015). With secured land, the provision of services becomes easy for the local municipalities (Patel, 2016). Furthermore, the programme's objective is to empower the informal settlement dwellers through participation in development projects (Patel, 2016). Lastly, the urban renewal programme interned to ensure health and security in informal settlements at all times (DHS, 2009; Olthuis *et al.*, 2015).

3.3.2.1.1. *Tenure security*

‘To enhance the concept of citizenship, incorporating both rights and obligations, by recognising and formalising the tenure rights of residents within informal settlements’ (DHS, 2009: 13). It is a necessity to ensure that people living in informal settlements have their right to land taken into consideration in order to promote sense of citizenship and equal distribution of resources. Land security is considered to be one of the most crucial services in improving the living standard of the poor people. It is argued that this type of amenity could increase or decrease the informal settlement dwellers’ productivity (Olthuis *et al.*, 2015). Furthermore, ISU programme aim at providing secured land to the informal settlement dwellers because it opens a podium to provide low cost housing at a later stage (McMichael, 2015). The provision of tenure security can be done through the in-situ or the relocation approach (Olthuis *et al.*, 2015). Other scholars mentioned that there are reasons why the informal settlement dwellers established informal settlement on a particular area (Beall, Goodfellow and Rodgers, 2013). Beall *et al.*, (2013) further argues that the informal settlement dwellers occupy certain area because it has economic potential.

However, the relocation approach is based on moving the informal settlement dwellers from their location to another location under certain circumstances (DHS, 2009). Re-settlement occurs after conducting an assessment to check the extent of harsh conditions at the dwellers current location (Dovey, 2015). Re-location also takes place if the occupied land was planned for other development initiatives (Makiira, 2015). Thus, tenure insecurity was stipulated as one of the burning issues that need to be addressed through the ISU programme (McMichael, 2015). Furthermore, issues of land tenure in South Africa are complex as a result of apartheid. Tenure security then becomes an important part of service delivery and improving the lives of millions of poor South Africans living in informal settlements (Skuse and Cousins, 2007; McMichael, 2015). Furthermore, ‘in a case of relocation, the approval of the community must be secured and new location must be in an area designated in terms of an approval Integrated Development Plan (IDP) (DHS, 2009: 14).

Furthermore, the relocation tactic focuses on moving the informal settlement dwellers from their current location to a settlement that has basic services or an area that creates an opportunity for improvement and easy provision of services (Kumara, 2013; Dhabhalabutr, 2016). Furthermore, after evaluating the condition of the current informal settlement, the local government then decides to move the dwellers if the circumstances in the area are not conducive for people to live under (Aguilar, 2008; Kumara, 2013). In addition, re-settlement can also occur if the land occupied was planned for other activities that are not related to residential (Winayanti and Lang, 2004; Uzun and Simsek, 2015). Moreover, not withholding the issues of forceful evictions that are encountered by the informal settlement dwellers, Dovey and Tomlinson (2012) suggested that informal settlements dwellers are located where they are because they have access to jobs and public transport. Any strategy that suggests eviction to the urban fringes might fail because it exacerbates poverty and strips the city of its workforce (Dovey and Tomlinson, 2012). Thus, informal settlement upgrading is implemented to ensure the dismissal of forceful evictions (Wekesa, Steyn and Otieno *et al*, 2011; Kumara, 2013). Although the programme encourages re-settlement based on different circumstances, it also takes into account the effects the re-location has on the dwellers means of living (Uzun and Simsek, 2015).

Moreover, some informal settlements are established few kilometres from a dam/river as they earn a living by fishing and to also access water from the river (Beall *et al.*, 2013). However, removing the dwellers from their original location to another settlement could negatively affect their livelihoods and productivity (Boonyabacha, 2005). ISU programme was introduced with an aim of creating a better living for the informal settlement dwellers at their original settlement (Boonyabacha, 2005). This approach is known as in-situ upgrading. The approach improves informal settlements in relation to service delivery without moving the informal settlement dwellers to a new settlement (Boonyabacha, 2005; Beall *et al.*, 2013). Furthermore, the approach protects the interest of the dwellers by creating an enabling environment for better standard of living (DHS, 2009; Makiira, 2015).

However, in-situ upgrading as an approach to improving the lives of the informal settlement dwellers focus on ensuring the provision of services without attempting to move the dwellers from one area to the other (Ashok, 2015). The approach is applicable when the environmental conditions of the initial settlement are not life threatening. Thus, the focus of in-situ is to re-arrange the households. Furthermore, in-situ assists in avoiding complications of evicting the dwellers from their actual location to the other (Karanja, 2010; Ashok, 2015). Moreover, dwellers livelihoods also form an important part of in-situ approach. Scholars have argued that the informal settlement dwellers chose to settle on that particular area for diverse reasons which include securing livelihoods (Beall, Goodfellow and Rodgers, 2013). The main focus of this approach is to legalise the land that the informal settlement dwellers have occupied (Karanja, 2010; Uzun and Simsek, 2015).

3.3.2.1.2. Empowering of the informal settlement dwellers

‘To address social and economic exclusion by focusing on community empowerment and the promotion of social and economic integration, building social capacity through participative processes and addressing the broader social needs of communities’ (DHS, 2009: 13). When it comes to developing informal settlements, the focus has shifted to not only providing services but to also take into consideration socio-economic exclusion faced by the poor. It is also proposed that such exclusions can be addressed by focusing on community engagement, integration of social and economic aspects, building social capacity and addressing the social need of the informal settlement dwellers (DHS, 2009). Informal settlement dwellers are known to be poor, unemployed and having inadequate economic opportunities. Thus, during the planning stage of the ISU programme, community empowerment was highlighted as one of the components that need to be achieved (DHS, 2009). Projects implemented through the upgrading programme should be actively initiated by the informal settlement dwellers (Patel, 2016). This will provide the dwellers with skills development and also benefit them with temporary employment through the Extended Public Works Programmes (EPWP) (DHS, 2009). However, this becomes problematic at the end of the development project as the informal settlement dwellers become unemployed again (Beall *et al.*, 2013).

The city of Cape Town claims that their ISU programme is based on active participation and continual engagement with communities (Skuse and Cousins, 2007; Baptist and Bolnick, 2012; Seeliger and Turok, 2014). However, some authors opposed the argument and stated that the housing project in Joe Slovo was designed in a way that does not allow community participation (Baptist and Bolnick, 2012). Lack of consultation and public participation created an atmosphere of mistrust and aggression between the local government and the community (Seeliger and Turok, 2014). Empowering the poor also entails active participation in decision making and project implementation. However, putting participation into practice is more difficult. Participation is a key element in empowering people at the grass root level. It keeps the poor informed and they are also able to make decisions that affect their own development (Baptist and Bolnick, 2012). However, the planning and implementation of the upgrading is usually planned by government officials and allow the informal settlement dwellers to participate in the execution on projects.

3.3.2.1.3. Health and security

‘To promote the development of healthy and secure living environments by facilitating the provision of affordable and sustainable basic municipal engineering infrastructure to residents of informal settlement’ (DHS, 2009: 13). The upgrading programme is ought to ensure a healthy and secure residential areas for the informal dwellers. In this case, health and secure environments can be achieved by providing basic and infrastructure services that the informal settlement dwellers can afford and be utilised by the present and future generations. Although informal dwellers are deprived from access to quality services, the upgrading programme aim at ensuring living environments that are conducive and allows social and economic development (Sverdlik, 2011). By providing basic services, the informal settlement dwellers households will be able to practice economic activities and earn a living (Lawrence, 2004; Marais and Ntema, 2013).

Infrastructure services are provided on the basis that the informal settlement dwellers will be able to utilise these amenities to improve their socio-economic status (Marais and Ntema, 2013). These amenities should also be able to address most of the

insecurity challenges encountered in informal dwellings. Moreover, taking into consideration the sustainability and affordability of infrastructure and basic services promotes a secure living environment (Lawrence, 2004; Sverdlik, 2011). Sustainable basic and engineering services entail the provision of quality and maintenance of all amenities. Lawrence (2004) gave an example using shelter and said “Housing means to provide shelter and security and is considered as a fundamental development process, in which the built environment is created, used and maintained for the physical, social and economic well-being and quality of life of individuals and households. Furthermore, Marais and Ntema (2013) stated that lack of maintenance of infrastructure in Freedom Square, Bloemfontein, could potentially result in the loss of some of the health benefits that were gained through the upgrading.

3.3.2.1.4. Formalization of informal settlements in South Africa

Formalization in South African informal settlements entails the process of creating a formally recognised township with services and secured tenure. To achieve formalization of informal settlements, in-situ or relocation of dwellings has to take place and to also declare the settlement as a township (Gunter and Mauel, 2016). The rationale behind the implementation of informal settlements upgrading programme in South Africa is to ensure formalization of informal dwellings (HDA, 2014). With countless environmental, economic and social glitches in informal settlements, there need to formalize such areas are considered as a necessity. The process of formalizing settlements with such conditions is not an overnight project, but continued working process. However, South Africa has successfully formalised 206 informal settlements (South Africa (SA) Yearbook, 2011/201). The progress of formalising informal settlements in the country reduced from 2 700 in 2009 to 2 450 in 2011 (SA Yearbook, 2011/2012). The difference on 206 formalized settlements within a period of 2 years reveals the determination of the South African Government and other involved stakeholders towards the improvement of standard of living of the informal settlement dwellers. However, the issues of overnight proliferation of informal settlements are ignored. It is crucial that the uncontrollable increase in informal dwellings be addressed

in this case because it is one of the major elements that hinder the progress of the entire upgrading programme.

In Johannesburg, the formalization and regularization of informal settlements has gained momentum in the past few years (HDA, 2012a). The upgrading programme was launched with the intention of formalizing and regularization of 180 informal settlements within the city (DHS, 2014). Furthermore, the aim of formalizing informal settlements, among other things, is to give the informal settlement dwellers certainty, because once a settlement is formally recognised, infrastructure services are provided, the urban vulnerable are able to also invest in their dwellings (HDA, 2014). The Department of Housing in Johannesburg has declared three settlements as one township after relocating the dwellers to Lehae Mixed Income Development (DHS, 2014). The three settlements known as Dlamini, Mshenguville and Old Vista have been merged into one township with basic services. Furthermore, as part of the State National Address, the President of the Republic of South Africa, Jacob Zuma highlighted that sustainable human settlement and improved quality of lives in households are expected outcomes (State of the Nation Address (SONA), 2016). Thus, the city of Johannesburg had 180 informal settlements and during mid-year 2011, 66 settlements were formalized through the in-situ upgrading approach (SONA, 2016).

3.3.2.2. Institutions intricate in urban renewal programme

Multiple sectors and entities are involved in delivering services and improving the lives of the urban vulnerable. Objectives set by the ISU programme are supported by a number of institutions and play different roles in improving the living conditions of informal households. The programme alone would not achieve its intended objectives, thus there are institutions which guide, assist in designing, planning and implementation of projects and also with funds (BNG, 2004). There are many institutions that are directly and indirectly involved in the ISU programme. However, in South Africa, institutions such as local municipalities, the Co-operative Governance, Human Settlements and Traditional Affairs (COGSTA) and the DHS amongst others, play a crucial role in humanizing the circumstances of the poor households (BNG, 2004; HDA,

2014). These institutions assist in ensuring participation, delivery and accessibility of services and civilising the overall conditions of informal dwellers. This section discusses three major institutions that play a crucial role in ensuring that poor households in informal settlements have access to services.

3.3.2.2.1. Local Municipalities

The three spheres of government in South Africa play an important role in implementing a successful ISU programme. The National governments' role is to approve policies and regulations related to the national ISU programme. Furthermore, the Provincial Government Service provision at the grass root level is facilitated by the local municipalities. Thus, municipalities play an important role in ensuring basic services in informal settlements (Horen, 2000; Adegun, 2015). The institution is a developer and undertakes projects on the basis of a partnership of cooperation between the relevant municipality and other government institutions (Seeliger and Turok, 2013). The local government is identified as the institution responsible for creating regulations, municipal planning and public works, making capable local authorities the most appropriate sphere for delivering of houses (Patel, 2016). However, the Constitution of the Republic of South Africa does not specify housing provision as a local government function, it clearly provides a route for municipalities to take on this function through the principle of devolution (Patel, 2016).

Furthermore, the Housing Act of 1997 made clear provision for municipal engagement in the national housing programmes through their role in preparing the Integrated Development Plans (IDP) that specify housing needs in the vulnerable communities (Government of the Republic of South Africa (GoRSA, 1997). The institution work closely with the informal settlement dwellers by facilitating the IDP process, to gather data on their challenges, needs and suggested way forward (GoRSA, 1997; Seeliger and Turok, 2013). The IDP assists the ISU programme to be able to prioritise needs when providing services (Patel, 2016). Furthermore, the provision of services through the programme is also guided by a number of municipal policies and acts. It is argued that local municipalities are the not sole providers of services in informal settlements,

rather it is assisted by number of organisations and private sectors (Seeliger and Turok, 2013; Patel, 2016). Although other sectors supplement municipalities, other scholars said that it is the role of the local municipalities to provide services through the upgrading programme (Patel, 2016). Furthermore, there are policies and acts that guide and regulate the institution's role in service delivery. The Municipal Systems Act that regulates the provision of services in South Africa, states that the local government should be able to provide basic services to poor households at no charge (Adegun, 2015). In addition, basic services such as water and electricity are provided with minimum amount that is sufficient to cater for the household for a period of a month (Patel, 2016).

However, the minimum rate of water and electricity provided to the informal settlement dwellers may not be sufficient and sustainable (Sinwell, 2011; Sutherland *et al.*, 2014; Ilhan, 2015; Koen *et al.*, 2015). Other informal households have many members, hence the provided rate may not be enough for other households. Furthermore, the reason why countries such as South Africa experience abounded informal settlements is because free services are being provided with subsidized rates (Ilhan, 2015; Patel, 2016). However, the local municipalities within the Republic of South Africa are informed by the Municipal Systems Act and the regulations cannot be ignored (Patel, 2016). In addition, not providing services and subsidized rates will also not stop the establishment of informal households in the country (Ilhan, 2015; Koen *et al.*, 2015). Moreover, local municipalities also work hand in hand with other government institutions such as the Department of Education which is responsible for providing educational facilities within South African informal settlements, the Department of Health which deals with public health, the DHS which is responsible for ensuring sustainable human dwellings (DHS, 2009). Lastly, the department of Housing that deal with provision of shelter (Koen *et al.*, 2015; Patel, 2016). Such government institutions are responsible for providing different services; however, the local municipality is responsible for facilitating these services.

Furthermore, municipalities are responsible for initiating, planning and formulation of applications for development projects related to the upgrading programme (DHS, 2009;

HDA, 2012a; HDA, 2014). In a case where the municipality is accredited, the process of gathering data, planning, application, approval and implementation of projects under the ISU programme are facilitated by municipalities and in some cases, with minimum assistance from other institutions if necessary. However, in a case where the municipality is not accredited, there must be collaboration between the institution and the Provincial Department responsible for housing (DHS, 2009; Sinwell, 2011). Furthermore, the municipality will request support from the Provincial Department responsible for housing on any issues concerned if the local municipality have inadequate capacity, resource and experts such as spatial planners (BNG, 2004; HDA, 2012a). The institution is also responsible for submitting the application to the Provincial Department responsible for housing and implement approved development projects in accordance to the agreement between the two institutions (Dobson, Nyamweru and Dodman, 2015). Local municipalities also manage, operate, maintain and ensure the availability of bulk and connector engineering services delivered in informal settlements (Huchzermeyer, 2006; HDA, 2014). Municipalities also play a role of assisting with the transportation of the households that has agreed to the resettlement approach of upgrading (Dobson *at el.*, 2015; HDA, 2014). In addition, District municipalities also give inputs and assistance to the local municipalities and vice versa under certain circumstances (Seeliger and Turok, 2013; HDA, 2014).

3.3.2.2.2. Co-operative Governance, Human Settlements and Traditional Affairs (CoGHSTA)

CoGHSTA is one of the institutions that play a sound role in improving the living conditions of poor households in informal settlements. The institution is responsible for providing services within its jurisdiction of responsibilities created by the provincial government as informed by the Constitution of the Republic of South Africa (HDA, 2015). It is regulated that CoGHSTA is responsible for approving housing for different groups of beneficiaries (CoGHSTA, 2013). The institution provides approval for housing based on three different categories known as the low-cost, rental and subsidised housing (HDA, 2012a; HDA, 2014). Furthermore, after all the necessary data is gathered from informal settlements, CoGHSTA approves housing provision looking at

the monthly income of different households (HDA, 2015). It is argued that informal households are known to have low income hence they settle in informal dwellings. However, not all households located in informal settlements experience income poverty (CoGHSTA, 2013). Some studies showed that some households in informal dwellings fall under the middle income groups (CoGHSTA, 2013). Thus, not every household will receive low-cost housing. Moreover, households that are categorised as low income are provided with the low-cost housing while the middle category chooses to get subsidised housing or rent (HDA, 2015).

Furthermore, CoGHSTA is responsible for registering land or property for informal households (HDA, 2012a; CoGHSTA, 2013). Because of the illegal land occupancy, informal dwellers are exposed to eviction. As a result, the CoGHSTA aim at ensuring that every household in informal settlement has access to land security using either relocation approach or in situ upgrading approach (CoGHSTA, 2015). The institution is responsible for administering title deeds in South African informal settlements. In addition to the responsibilities of CoGHSTA, the institution provides disaster relief services to address floods and fire break outs in informal settlements (CoGHSTA, 2013; CoGHSTA, 2015). CoGHSTA prepare and report floods, veld fire and stampede (CoGHSTA, 2013; HDA, 2014). However, South African informal settlements are not benefiting from such services. The responsibilities are well constituted but they do not represent reality. There are many cases of fire outbreaks reported in Joe Slovo, Cape Town (HDA, 2012a). However, the case showed that there were not measures put in place to address such events before it proliferates (HDA, 2012a; CoGHSTA, 2013). Other scholars said that such cases demonstrate the inequality that persists in South African urban areas (HDA, 2012a). However, the fire fight approach is commonly used to address fire outbreaks. The sustainability of such services is questionable because dwellers households are destroyed and lives are lost during floods and fire out breaks.

3.3.2.2.3. Department of Human Settlement (DHS)

The DHS is the institution of the South African government that is responsible for urban development and housing (Bradlow *et al.*, 2011). DHS plays an important role by

providing low cost housing to these who cannot afford to provide their own shelter. The fundamental purpose for its existence is to ensure the implementation of the constitutional mandate that “everyone has the right to have access to adequate housing”. Every province has its own Human Settlement Department that work closely with provincial governments and municipalities (HDA, 2012b; DHS, 2014/2015). Evidently, 3 500 low income houses have been built by the Mpumalanga Department of Human Settlements during its 2014/2015 financial year as a way of upgrading in formal settlements within the province (HDA, 2012b). The Department’s commitment to build these houses was provoked by the informal household’s poor access to basic services and unsuitable environment (D’cruz *et al.*, 2009; Thorn and Oldfield, 2011; Bradlow *et al.*, 2011; Koen, 2016). The Mpumalanga’s DHS has a mandate to maximise the upgrading of informal settlement which would be achieved by reaching out to as many uninhabitable populations as possible which is in line with the national goal of the ISU programme (HDA, 2012b; DHS, 2014/2015). Moreover, equity principles are also applied by the DHS when providing houses for these who are considered to be poor (Bradlow *et al.*, 2011). Shelter can be provided to poor households for free based on their unique circumstances, whilst the department can deliver the same amenities and subsidize households that are regarded at middle income (Bradlow *et al.*, 2011; DHS, 2014/2015).

3.3.2.2.4. National Deeds Office (NDO)

The Deeds Office is responsible for registering, managing and maintaining property registry in South Africa (Horen, 2000). The institution is involved in ISU programme because it helps to ensure ownership security for informal households (Lemanski, 2014). Furthermore, to transfer land ownership to a particular household in informal settlements, the Deeds Office execute the new title deed through a signature by the conveyance and the registrar of Deeds (HDA, 2012a). The title deed then becomes an essential document because it provides proof of dwellers ownership (Horen, 2000; HDA, 2012a). Within Deeds Office, the Registrar of Deeds within the National Department of Rural Development and Land Reform together with about 115 supporting staff keep a public register of land, preserve the records and provide information to the

public (HDA, 2012a; Lemanski, 2014). However, the deeds office receives mandates from the Deeds Registrar Act, 47 of 1937 (Act 47, 1937). The institution ensures title deeds in order to protect the rights of the vulnerable and all parties' involved, record changes and to facilitate property transaction (Lemanski, 2014). Furthermore, the Deeds Office also keeps record of ante nuptial contracts. The institution also plays a vital role of certifying title deeds because they provide households and individuals with an address, recognition of the ownership and their family as being part of the municipality and also allow ownership of property to be passed on to members of the household in the event of death (Lemanski, 2014; Horen, 2000).

3.3.2.2.5. Department of Environmental Affairs (DEA)

Countless studies on South African studies on informal settlements unfolded that informal households are exposed to many environmental harm and most commonly, fire breaks and floods. As part of the informal settlement upgrading process, it is rationale that all environmental implications surrounding majority of South African informal settlements be addressed. To address events such as fire breaks in informal settlements, the DEA introduced an innovative set to help reduce spread of fire in informal settlements (DEA, 2010; DEA, 2014b; Seeliger and Turok, 2014). As part of the upgrading programme, the role of DEA is to ensure protection of lives and property in informal settlements. The department designed and tested material that can effectively reduce the damage of fire breaks in most South African informal settlements (DEA, 2010). The material is designed to reduce the fast spread of fire and limiting their devastating impact on people's lives and their property (DEA, 2010). Moreover, to test the effectiveness of the Working on Fire (WoF), structures were built from the new material and dwellings based on the material that is commonly used by the informal settlement dwellers and they were both set alight to compare the speed in which shacks will burn and the extent to which the fire will spread across the settlement (DEA, 2014a).

However, it is evident that the mitigations strategy introduced by the department is not effective. The DEA may not be able to provide the new building material to all the settlements in the country because of the uncountable proliferation of informal

dwellings. Furthermore, the mitigation strategy only focuses on the temporary solution which may cost the department more money to successfully implement the strategy (DEA, 2010; DEA, 2014a). However, regardless of the efforts made by the DEA, majority of informal settlements are still vulnerable to fire breaks and households are not allocated the material proposed by the 2015 Minister of Environmental Affairs, Mrs Edna Molewa as a way of addressing such events (DEA, 2015). Furthermore, with the recent event of floods in South Africa, the DEA has again failed to show its dedication on the mitigation strategies to ensure quality of live for the urban vulnerable even after harmful events such as floods (DEA, 2015).

3.4. Status of service delivery in urban areas

Service delivery destruction in South African urban areas rooted during the 60 years of apartheid (Smith and Hanson, 2003; DHS, 2009). The destruction is demonstrated by the re-occurrence of protests in townships (Adegun, 2015). Improving service delivery to all South African citizens is the government's key priority (Jordhus-Lier, 2015). The commencement of fairness in 1994 has created a dispensation in which access to housing, water and sanitation were recognised as a fundamental human right (Statistics South Africa (StatsSA), 2016). Although urban dwellers have access to service delivery, the quality, accessibility and availability of those services is inadequate (Van Horen, 2000). Not everyone living in urban areas have access to basic services. Inadequate amenities in informal settlements demonstrate the poor service provision and accessibility in urban areas. Most common and recent crisis in South Africa is water scarcity. As more people migrate from rural areas to cities, the pressure to meet water demand is tremendously increasing (StatsSA, 2016). It was reported that in 2008, 5 million people had poor access to water (StatsSA, 2016). Durban's dams are currently 20 percent lower than at the beginning of 2010 (StatsSA, 2016). The scarcity of water in the area imposes water restrictions on the community (StatsSA, 2016). With the more settlements emerging, 35 percent of the city's water is stolen or distributed through illegal connections (StatsSA, 2016). Although the number of households without water remains high, access to such amenity has improved since the end of apartheid in 1994.

According to StatsSA (2016) 70 percent of the South African population have access to running water. Evidently, three quarters (75 percent) of households in the Eastern Cape have access to piped water (StatsSA, 2016). Furthermore, 29 percent of households in Mpumalanga had access to piped water inside the dwelling, while 44.4 percent had access to piped water inside the yard and 5.4 percent depends on communal taps (StatsSA, 2016). It was also reported that 77.3 percent of households in the province have access to safe drinking water (StatsSA, 2016). In 2011, 83.6 percent of households in Limpopo had access to piped water, however, that had reduced to 80 percent (1 million) in 2016 (StatsSA, 2016).

Access to electricity has improved drastically in Eastern Cape over the past years. Evidently, only 36.2 percent of households in Eastern Cape had access to electricity during 1996 (StatsSA, 2016). In the year 2011, the survey uncovered massive improvement. An estimated 75 percent of households in Eastern Cape had access to electricity (StatsSA, 2016). Furthermore, it is revealed by the StatsSA conducted in 2016 that 85.4 percent of households have access to electricity, accounting for almost 50 percent of improved access to such services. In 2011, an estimated 87.3 percent of households in Limpopo had access to electricity (StatsSA, 2016). According to StatsSA (2016) 41.5 percent of households in Limpopo Province use solid fuels for cooking. Although some households in the province have access to electricity, the economic status of households' influences the use of other sources of energy. Moreover, since 1994 the South African Government has built 2.3 million houses but has failed to keep up with the scale of need (Housing Minister's budget speech, 2009). In addition, majority of houses in Cape Town's informal dwelling are of quality (Govender, Barnes and Pieper, 2011).

3.5. Effects of informal settlement upgrading on service delivery

Informal settlements display varying levels of regularity and legality, and are therefore usually defined according to their access to improved basic services such as water and sanitation, whether its inhabitants enjoy sufficient living area and, finally, their lack of security of tenure (O'Brien, 2012; Sutherland *et al.*, 2014). There are numerous

programmes executed in towns and cities to address the problematic access to land, specifically in informal dwellings. Amongst these includes self-help projects/community-based initiatives and state-led programmes such as informal settlements upgrading (Adegun, 2015). However, even in the presence of those initiatives, accessibility of basic services remains poor (Adegun, 2015). Other scholars have argued that urban renewal initiatives such the upgrading programme has effects on service delivery, which includes land tenure, housing, sanitation, water, electricity, health, education facilities and security (Lemanski and Oldfield, 2009). In contrast, others argued that informal settlement upgrading has not effectively reached the informal settlement dwellers (O'Brien, 2012; Adegun, 2015). Therefore, this section stipulates more on the effects of the renewal programme on service provision in informal settlements looking at a number of basic amenities.

3.5.1. Land Tenure

Partnership between informal settlement upgrading and the necessary stakeholders is created before the implementation of the programme and both create an understanding of the conditions of the settlement, the needs and priorities (Marais and Ntema, 2013; Combe, 2016). A survey of the settlement includes making a list of all residents, then land can be provided for those who deserve free land and sell to those who earn higher (Skuse and Cousins, 2007; Barry and Mhittal, 2016). Galuszka (2014) argued that South African informal settlements upgrading programmes provides a legal protection against forceful evictions and aim at providing tenure to the vulnerable living in the periphery of the country's cities. Even in the presence of the upgrading programme, urban land permanency continues to be a struggle in informal settlements of Cape Town (Skuse and Cousins, 2007). The informal settlement dwellers continue to suffer because of inadequate access to land security and forceful eviction (Skuse and Cousins, 2007). Thus, informal settlement upgrading was put in place to address the challenge related to inadequacy of land tenure. It was highlighted that urban renewal strategy could be effective if the main target was to ensure land security for the informal settlement dwellers (Lemanski and Oldfield, 2009).

With the informal settlement dwellers' lack of title deeds, dwellers become the subject of forceful demolishing of the settlement (Scovronick *et al.*, 2015). Informal settlements upgrading is executed to give South African illegal land occupants the legal right to land ownership (Adegun, 2015). There is ample literature on the importance of tenure security in areas such as informal settlements. The term illegal could be a barrier to the provision of basic services in such dwellings. Hence there is a need to address the challenges that are associated with illegal land occupancy. Tenure security as a long term objective is given priority above all other basic services facilitated by the informal settlements upgrading. There are numerous informal settlements granted land in South Africa (Adegun, 2015; Scovronick *et al.*, 2015). Gauteng's informal settlements such as Midvaal, Emfuleni and Lesedi have achieved the uppermost legalization of land (Akinboade, Kinfack, Mokwena, 2012). It is stipulated that there are few informal settlements in South Africa that achieved roughly 80 percent of formalizing illegally occupied settlements and residents have access to basic services (Lemanski and Oldfield, 2009; Akinboade, *et al.*, 2012). Evidently, informal settlements such as Midvaal, Emfuleni and Lesedi of Sedibeng have the highest access to services and are now legalised (Akinboade and Mokowena, 2012). Furthermore, Midvaal has attained 86.2 percent, followed by Emfuleni 82.9 percent and Lesedi at 82.1 percent (Akinboade, *et al.*, 2012). Furthermore, Cape Town's well recognised informal settlement, Joe Slovo was faced with the possibilities of relocation because the shacks were extremely clustered, resulting in fire breaks that affected many households (Baptist and Bolnick, 2012). Fire outbreaks were reported numerously since the establishment of the settlement. However, the combination of both in situ and relocation has to be employed in some cases (DEA, 2015). That will assist in creating more space that allows proper land allocation and street patterns.

3.5.2. Housing

The post-apartheid government inherited a housing backlog of an estimated 2 202 519 housing units (Government's National Census, 1996). Middle-low income countries such as South Africa consider housing as a human right for all citizens. According to Section 26 of the Constitution of the Republic of South Africa 1996, "everyone has the

right to have access to adequate housing, and the state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realisation of this right” (Housing Act, 1997). South Africa is no exception when discussing issues of urbanisation and its problems. The state attempts to provide low cost formal housing, address the persistence of wide spread informal settlements, urban inequality and poverty (Skuse and Cousins, 2007; Akinboade *et al.*, 2012). It is held that a person has a right to live in dignity, in habitable circumstances and that the government will vigorously promote an effective right to housing for all, within the resource and other limitations applicable to it (Section 4.4.2). Therefore, shelter is seen as one of the most crucial human right and basic services that every South African should have access to. It has been stated that the provincial government’s responsibility is to provide housing in informal settlements (Van, Horen, 2000; Balbo, 2001; D’cruz, Mc-Granahan and Sumithre, 2009). With assistance from the National Upgrading Support Programme (NUSP) which was designed to support the National Development of Human Settlements in implementation of informal settlement upgrading, with the objectives of upgrading all informal dwellings (Balbo, 2001; Skuse and Cousins, 2007; Akinboade *et al.*, 2012). The ISU programme has been a foundation of housing and human settlements delivery programme since the year 1997 (DHS, 2009). Access to adequate housing remains a great challenge in South Africa. However, there are continuous efforts to deliver affordable housing to the poor through number of national schemes since 1994 (Ziblim, 2013). Moreover, the delivery of housing to the low income groups within South Africa reveals the government’s realisation of citizens’ social rights to adequate housing (Patel, 2016). The citizens’ sense of belonging is strengthened through the provision of housing (Patel, 2016). The informal settlements upgrading programme delivers low cost housing to the informal settlement dwellers living in informal settlements (DHS, 2009; Dovey, 2015).

Furthermore, the right to housing has been enshrined in the constitution of the Republic of South Africa, which was adopted in 1996 and states that all South Africans have the right to have access to adequate housing (DHS, 2009; Ziblim, 2013; Patel, 2016). The constitution also takes into consideration the provision of housing regardless of the

formality or informality of the settlement. However, beyond the national eligibility criteria of providing houses, there are additional criteria used which requires informal communities to provide their identity and social relationships to both their eligibility and negotiate access (Patel, 2016). It is also argued that such criteria used at the local level can be sowing the seeds of conflict by propagating existing social tensions, particularly around ethno and xenophobia, and political party contests' (Patel, 2016:2738). However, in cases of proper implementation of the programme and procedure, the South African government has one of the best housing delivery records in developing countries. Evidently, Patel (2016) said that the housing allocation through ISU programme in South Africa entails re-planning and clearing of shacks and replacement of inadequate shelter by newly build subsidised houses complimented by basic services and legal tenure. In the process of upgrading informal settlements, the households tend to participate in the process of developing housing list and matching households to particular houses (Tomlinson, 2011). It is debated that one of the most crucial procedure in housing allocation in informal dwellings is to match each house with the number of members of each household in order to deliver adequate and sustainable shelter. As a result, the housing allocation process and its result is an important instrument through which households can claim membership to an inclusive community.

The tactic used to deliver housing to the low income households as stipulated in the 1994 Housing White Paper was through a one-off capital subsidy to individual households (GoRSA, 1995). However, Huchzermeyer (2004) and Tomlinson (2011) studied the mechanism and concluded that the approach paid no attention to the local municipalities and public participation. The mechanism is in contrast with participatory principles embedded in the Reconstruction Development Programme (RDP) introduced by the African National Congress (ANC) government after South Africa gained its democracy in 1994 (Goodlad, 1996; Patel, 2016). Miraftab (2003) said that the housing backlog stands at 2.8 million in South Africa and that for housing to be delivered there is a need for active participation of communities in decisions that affects their daily living. Patel (2016:2743) said that 'in a mass delivery model where housing units were hastily and poorly constructed on the urban periphery with minimal beneficiary participation, the

process of housing allocation was largely bureaucratic process of pairing eligible households with available houses'. Furthermore, those who qualify then can apply for housing subsidy through local or provincial government (Patel, 2016). In addition, the official national criteria for acquiring a subsidised housing are as follows: one need to be a South African citizen; married, cohabiting with a partner or single with dependents; have never owned property; have never received a government housing subsidy, be 21 years or older; and the joint household income should not exceed R3 500 per month (Patel, 2016).

However, after 10 years of insufficient delivery of adequate housing and countless complains about the houses and procedure (Goebel, 2007), the government has to re-assess some mechanisms to better support housing delivery programmes. The Breaking New Ground (BNG), also known as a Comprehensive Plan for the Development of Sustainable Human Settlement was then put in place to create South African Cities that are socially and spatially inclusive through in situ upgrading (BNG, 2004; GoRSA, 2004). With the study conducted in eThekweni, it is evident that supporting policies such as the BNG through the in situ upgrading, the municipality has achieved the greatest number of subsidised housing delivery (Patel, 2016). Housing programmes delivered 3.03 million subsidised housing units between 1994 and 2010 (Gordon, Bertoldi and Nell, 2011). Also, in all the nine provinces in South Africa, 226 000 housing units have been allocated during the financial year 2006 to 2010 (Human Settlement, 2010/2011). Additionally, the informal settlements upgrading programme builds an average of 160 000 houses annually since 1994 but the backlog has remained the same. Evidently, the present house backlog is estimated to be 2.2 million units (Patel, 2016). To respond to the backlog, the government launched Outcome 8 in 2010 with the objective of delivering 400 000 upgraded units in informal settlements by the year 2014 (Patel, 2016). The targeted units will be achieved by scaling up and reinvigorating existing upgrading programmes. Also, in the year 2013, the Deputy Minister of Human Settlements, Zou Kota-Fredericks emphasized that the nature of participation in informal settlement upgrading is to typify Outcome 8 projects. She also

said that it was agreed with the Presidency that 1 800 informal settlements are targeted in this regard.

There are number of informal households that are granted low-cost housing as part of the programme's goals. However, while such accomplishments are noticeable in other areas, the scale of demand and need remains far from the rate of services delivered (Patel, 2016). Cape Town's DHS has implemented the first housing initiative in Joe Slovo informal settlement which is referred to phase 1 in 2005 (DHS, 2015). The initiative comprised of 705 rental units ranging in size from 30 metre 2 squared to 48 metre 2 squared which is a typical size for stated-subsidised housing (DHS, 2015). Phase 2 comprised of 567 bonded (mortgaged) homes (DHS, 2015). Lastly, phase 3 which aim at contracting 2886 subsidised homes on the remaining 27 hectares of land (DHS, 2015). However, people living in informal settlements are known to be vulnerable and are ranked as the lower social class. With the provision of subsidised housing, the informal settlement dwellers may not be able to pay for the provided houses. Now Cape Town's DHS has initiated a new approach to sustainable housing delivery which is under the country's Integrated Reconstruction and Development Programme (IRDP) initiative (Sustainable Energy Africa, 2014). However, with the implementation of ISU programme, an estimated 5 300 government low cost housing have been built in Mpumalanga (DHS, 2014). The Mpumalanga Department of Housing had a mandate to maximise the upgrading of informal settlements by reaching out to as many uninhabitable as possible which is in line with the national goal of upgrading these settlements.

However, even in the presence of countless interventions aimed at proving adequate houses to the urban vulnerable, the delivery of shelter remains inadequate. Other scholars have questioned the impact of these interventions on sustainable housing. The South African housing subsidy programmes has had little effect on providing quality shelter and eradication of poverty in informal settlements (Bradlow *et al.*, 2011). The houses built for the informal settlement dwellers are usually too small, of poor quality and located far from the areas where they secure their livelihoods (Bradlow *et al.*, 2011). Such events provoked some authors to question the effects of programmes

intended to provide housing. At first, it was easy to recall that more than 200 000 free houses were built and given to the poor annually (Bradlow *et al.*, 2011). However, the demand in housing is increasing daily. Bradlow *et al.*, (2011) also suggest that one of the reason subsidy housing has not made any difference in providing houses is because it does not empower communities to implement their own solutions to their housing needs, rather, strict policies are imposed as a solution to their problems. Furthermore, the subsidy programme is also meant to provide housing to people living in informal settlement but the programme is mostly focused on the formal part of the urban areas. As a result, the poor have been the most efficient actors of housing provision (Bradlow *et al.*, 2011).

However, some policies and programmes that are implemented to address issues related to poor housing in line with the upgrading programme plays a limited role in informal settlements. The National Housing Finance Corporation (NHFC) has an important role in providing affordable housing finance solutions to the low-middle income housing markets (DHS, 2009). However, the informal settlement dwellers in informal settlements may not benefit from such financial schemes because of their inadequate access to land (Mills, 2007; Skuse and Cousins, 2007). In this regard, there are inequalities in the NHFC and they are demonstrated by the benefits that are granted to people living in the formal parts of the urban areas. However, the rational of such inequalities are based on concrete reasoning

3.5.3. Sanitation

Inadequate access to sanitation is well known in most informal settlements and it forms one of the common characteristics of such dwellings (DHS, 2009). The informal settlement dwellers are extremely deprived from sanitation facilities and tend to use methods such as bucket systems, long-drop facilities and open defecation (Dovey, 2015). However, households in informal settlement experiencing extreme urban poverty only rely on open defecation (Van Horen, 2000). However, such methods compromise hygiene for the poor households. There is ample literature debating on the effects of informal settlements upgrading programme on amenities such as sanitation (Winayanti

ad Lang, 2004; Huchzermeyer, 2006; Huchzermeyer, 2009; Marais and Ntema, 2013). Other scholars argued that sanitation facilities in informal settlements are given latrine rather than household sanitation facilities (Govender, Barner and Pieper, 2011; Dovey, 2015). In this regard, sanitation amenities in informal settlements are provided for the community to share while the local government is working towards providing these services for every household (Van Horen, 2000; Njoh and Akiwumi, 2011). Numerous informal settlements have access to sanitation facilities through the programme (DHS, 2009). Like any other informal settlement around the globe, majority of informal dwellings in South Africa are provided with community sanitation facilities as a temporary solution (Govender *at el.*, 2011). Although such facilities are not easily accessible and sustainable, the upgrading programme focuses on delivering temporary facilities as local municipality authorities as plan on providing each household with sanitation facilities (DHS, 2009; Govender *at el.*, 2011).

3.5.4. Water

South Africa encountered challenges with regard to accessibility of water during the year 2015 (Muchara *et al.*, 2016). With all South African citizens facing water scarcity, providing such amenity to the informal settlement dwellers could be problematic (Ilhan, Muchara *et al.*, 2016). Furthermore, poor rainfall also had an impact on the informal settlement dwellers' access to drinking water. Some informal households depend on rainfall for drinking water (Njoh and Akiwumi, 2011; Humphries, Green and Finch, 2016). South Africa's informal settlements were highly affected by the impact of El Nino on water availability (Humphries *et al.*, 2016). Some households depend on rainfall to supplement their other sources of water. With such challenges in informal settlements, the South African government had to put in place policies, Acts and measure to resolve such problems. Therefore, "The South African Constitution guarantees the right to water, which is reinforced by a National Free Basic Water Policy" (Dugard, 2010:175). This basic amenity is considered to be a human right, hence the South African government implemented informal settlement upgrading to focus on addressing inadequate access to clean and safe water in informal settlement (DHS, 2009; Kurama, 2013).

Durban's informal settlement such as Besters has a total of 41 water points, with roughly 170 sites sharing one water point as a result of the urban renewal programme (Van Horen, 2000; Gheru, 2011; Kurama, 2013). Although there is a large number of taps installed in Besters, these water points do not guarantee good quality, accessibility and availability of such services. According to the provided figures, one water point is shared amongst 4 sites. Even though Besters dwellers may have households' taps, such achievement indicates the effect that urban renewal strategy can potentially bear on the delivery of services such as water. Heath *et al.* (2012) debated that informal settlements access water through kiosks. These kiosks can be operated by local service provider but they are supported and regulated by through the city's main utility (Danilenko *et al.*, 2010; Heath *et al.*, 2012).

3.5.5. Electricity

Informal settlements are considered to be temporary residential area by the government and are not recognised as permanent features of urban land-scape (Dixon and Ramutsindela, 2006; Bastia, 2014). Thus, the needs of informal households tend to be ignored by urban policy makers. Currently, there are 181 informal settlements across the City of Johannesburg with a projected 180 000 households and a combined population of more than 500 000 (HDA, 2012a). It was also indicated that more than 10 000 people migrate to the city every month from different parts of the country and the rest of the continent (HDA, 2012a). Furthermore, there is exerting pressure on municipalities to provide basic services such as electricity and other infrastructure (Wekesa *et al.*, 2011). As a result, number of South African informal dwellings has illegal connections to electricity. However, after the end of apartheid government, South African municipal electricity distributors and the national utility Eskom developed innovative approaches to low-income households' electrification (Few, Gouveia, Mathee, Harpham, Cohn Swart and Coulson, 2004). The approach extended to informal settlements years later (Bastia, 2014). Cape Town Municipality was one of the beneficiaries of this approach (Few *at el.*, 2004; Wekesa *et al.*, 2011; Bastia, 2014).

Moreover, providing affordable electricity connection is one of the essential aims of the informal settlements upgrading programme (DHS, 2009). Contradicting arguments were debated with regard to the effects of urban renewal strategy on electricity provision in informal settlements (Gheru, 2011; Heath *et al.*, 2012). Electricity is seen as luxury rather than a need in informal settlements. Dovey (2015) further stated that there are number of critical services that can be provided to the informal settlement dwellers. In dissimilarity, electricity provides a sense of safety from fire and explosions as a result of petrol stoves, gas and candles (Dovey, 2015). The urban renewal strategy aims at providing all the necessary services regarded as basic need and electricity is considered to be one of these needs (DHS, 2009). One of the South African informal settlements in Durban had a successful implementation of informal settlement upgrading as it affected the access to energy connections (Bastia, 2014). Electricity

connections and affordability are important considering the socioeconomic status of the dwellers (Bastia, 2014; Satterthwaite *et al.*, 2015).

3.5.6. Health care

A proportion of South African urban population suffer disproportionately from poor health throughout their life time as a result of overcrowding, conflicts over available resources and factors related to malnutrition (Sverdlik, 2011). Daily living sustenance entails maintenance and other essential items such as food which can have a direct impact on health status of people (Chaudhuri, 2004). Informal settlements are crowded with households that have less income and with the little that they generate, they have to ensure that their health care needs are met (Chaudhuri, 2004). Providing their own health care is extremely difficult because the income should be shared amongst the household members. Furthermore, majority of South African informal settlements do not have health care facilities. The provision of health care facilities is crucial for dweller's well-being and productivity. However, the one common method used by South African informal settlement dwellers access health care services is by utilising clinics and hospitals at the neighbouring areas (Balbo, 2001). Furthermore, numerous awareness campaigns were launched in order to inform the informal settlement dwellers on aggressive disease such as water borne disease, cholera outbreaks, HIV/AIDS and other important health issues and how to prevent or address them (Bastia, 2014; Dovey, 2015).

Alternatively, the ISU programme came up with temporary solution to the inadequacy and inaccessible health care facilities. Mobile clinics are used in most South African informal dwellings to provide health care for the informal settlement dwellers (Balbo, 2001; Scovronic, Lloyd and Kovats, 2015). These services are only available to the dwellers once in a while. Thus, the sustainability and quality of the services and the upgrading programme itself is questionable (Sverdlik, 2011). Moreover, the provision of health care facilities such as clinics and hospitals are usually long term plans of the upgrading programme, thus provided after a long period (Sverdlik, 2011; Scovronic *et al.*, 2015).

3.5.7. Education

It is stated that informal settlements population with Many children living in households that experience extreme poverty are more likely to drop out of school. Education is one of the most crucial basic needs. This is also supported by the MDGs (Durand-Lasserve, 2006). Goal number one of the MDGs states that primary education should be achieved universally (Hardoy, Hardoy, Pandiella and Urquiza, 2005). Because informal settlements are exposed to limited access to basic services, learners in these settlements are forced to travel long distances to access educational facilities (Durand-Lasserve, 2006). As a result, this upgrading is implemented to ensure that people living in informal settlements have access to education like any other South African citizen. Furthermore, the relocation of the Harry Gwala informal settlement to Chief Albert Luthuli is predicted to have to have sufficient people for the municipality to apply to the Department of Education for the construction of schools on the designated site (Ekurhuleni Metropolitan Municipality, 2004).

Although many studies have demonstrated that majority of children in informal households attend school at the neighbouring area, there could be problems associated with such doing. A study conducted at Thembalihle and Hospital Hill informal settlements in Lenasia indicated that learners feel misunderstood by their educators and other learners and also experience discrimination (Hunter and Posel, 2012; Jordhus-Lier, 2015). Literature stated that informal settlements are known to be hostile, children living in the area are not been trusted and ill-treated. Social circumstances have become the result of discrimination, ill-treatment and bullying of the less disadvantaged learners. Thus, for minors in informal settlements to attend school at the neighbouring communities could not be as effective as it should be (Hunter and Posel, 2012; Jordhus-Lier, 2015). Thus, the rights of South African Citizens are neglected in this regard. Utilising facilities in the neighbouring communities is a temporary solution to resolve illiteracy in informal settlements. However, achieving primary education as stipulated by the MDGs could not be visible until informal dwellers have been provided with educational facilities.

3.5.8. Security

Every human settlement in South Africa should be safe and secured from all life threatening activities (Bastia, 2014; Dovey, 2015). Informal settlements are known to be inimical, with a high rate of criminal deeds (Smith and Hanson, 2003; Durand-Lasserve, 2006). As a result, human beings need to feel and live in areas that are safe from threats. Security is necessary like any other basic every South African civilian is entitled to. Thus, ISU programme provides safety and security in hostile settlements (DHS, 2009). Providing such services to all citizens is a challenge as South African safety and security is also poor (Bastia, 2014; Dovey, 2015). Furthermore, the settlements structure at the illegal residential areas also contributes to the barriers of providing safety and security (DHS, 2009; Bastia, 2014). Through the ISU programme, the informal settlement dwellers are now registered to live on a certain piece of land and the local municipalities have a record off all the households and how they are arranged (Smith and Hanson, 2003). Furthermore, South African Police Services (SAPS) can also assist in a case where criminal deeds are reported (Durand-Lasserve, 2006; DHS, 2009).

Furthermore, the closeness of shacks in informal settlements poses a solemn danger to the lives of the informal settlement dwellers. Unmonitored candle sticks have been reported as the common cause of fire breaks in informal settlements (Heath *et al.*, 2012; Seeliger and Turok, 2014). Thus, the cluster of houses exposes the entire settlement to fire. Cape Town's informal settlements have been reported to have the highest cases of fire breaks (Durand-Lasserve, 2006; DHS, 2009; Heath *et al.*, 2012). Furthermore, the urban vulnerable have little assistance during fire breaks because they are not well informed about emergency contacts in cases of fire. Additionally, the dwellers have no access to water in order to put off the fire or control it while waiting for assistance. Even the government have no form of contingency plan in cases of such event specifically implemented for informal households (Sverdlik, 2011; Seeliger and Turok, 2014).

3.6. Conclusion

When the South African government implemented their first informal settlement upgrading project in 1997, the country had 300 informal settlements (BNG, 2004). By the year 2012 there were 2700 informal dwellings. In a difference of 15 years, the country had an increase of 2400 informal settlements. Thus, literature does not only reveal the poor performance of the upgrading programme and the South African Government, rather the rate of urbanisation in the post-apartheid government (Goebel, 2007; Mills, 2007; Tomlinson, 2011; Gheru, 2011; Scovronic *at el.*, 2015; Bastia, 2014; Dovey, 2015; Patel, 2016). The failure to provide services in all the informal settlements in the country cannot be solely blamed on the governments' incompetence because the rate of urbanization over the past years has been extremely high. Thus, the process of upgrading informal settlements is unable to keep up with the pace of growing urban peripheries. With the declaration of the BNG in 2004 came the shift of thinking towards the development of sustainable human settlements (BNG, 2004). The movement of foreign and domestic migration upsurge gradually. However, the increasing number of urban dwellers does not only expend towns and cities, but it also complements the existing demand of water, housing, sanitation and other basic services (BNG, 2004; Durand-Lasserve, 2006; DHS, 2009).

Furthermore, challenges of service delivery in South Africa are rooted with inequalities inherited from decades of apartheid urban planning policies (Smith and Hanson, 2003; DHS, 2009). Moreover, after South Africa gained its democracy, public participation was put in place to ensure that programmes such as informal settlement upgrading could maximise its outcomes (BNG, 2004; Dovey, 2015; Patel, 2016). However, it is likely that projects managers, city officials, community leaders and ordinary residents have a different view of what participation means. Poor participation can also have a negative impact of service delivery because the dwellers are not given the opportunity to voice out their needs. It is only in the implementation phase that the informal settlement dwellers are allowed to actively participate (Piper, 2012). Inadequate public participation led to failure of innumerable of upgrading projects in the country. Some arguments stipulated that most informal settlement dwellers' access to services is extremely

inadequate (Hardoy *et al.*, 2005). On the other hand, some studies indicate that there are many projects implemented in informal settlements to ensure easy and sustainable access to basic services (DHS, 2009; Dovey, 2015).

Furthermore, formalization of some informal settlements in South Africa has indicated that there are numerous informal settlements with access to basic amenities (Durand-Lasserve, 2006). The urban renewal programme has made numerous effects in terms of providing water, electricity, land, sanitation facilities, amongst other things (Department of Human Settlement, 2009). This study concludes that there are complex elements that affect the progress of informal settlement upgrading on service delivery. However, to effectively provide adequate services in informal settlements, one needs to develop an understanding of informal dwellings, have a list of every settlement within the municipality and their precise location and accurate details of who own that land (Dovey, 2015; Patel, 2016). Furthermore, the history of the settlement needs to be understood before upgrading the area (Skuse and Cousins, 2007; Sverdlik, 2011; Dovey, 2015). As a result, data on when the settlement was created, who created it and why the location chosen was can be gathered so that social and economic aspects of the informal households could be taken into consideration during the upgrading process.

CHAPTER 4

INTERPRETATION AND ANALYSIS OF DATA ON INFORMAL SETTLEMENT UPGRADING PROGRAMME AND SERVICE DELIVERY

4.1. Introduction

Emergence of informal settlements is influenced by many factors that deserve consideration. Continued emergence of such areas imposes danger on the lives of the urban vulnerable. Households in Disteneng are subjected to severe living conditions that provoked the implementation of ISU programme. Thus, the programme is executed in the area with an aim of improving the harsh living conditions of the households and the community. The renewal of the Disteneng was also to improve the living conditions of the poor people living in the area. Implementation of ISU programme in Disteneng entails the provision of basic services amongst other things. Households in Disteneng have minimum basic services and facilities that can only sustain a bear level of survival. The accessibility of provided services are disclosed in this chapter. This chapter gives the analysis and interpretation of data collected from Disteneng. It uncovers the living conditions of the settlement, the roles and rationale of ISU programme, status of service delivery and the effects of the upgrading programme on service delivery in Disteneng. However, the results of the study should be read in the context that field work was conducted and data was collected a month or so prior to the local elections, which could have influenced the responses in the survey.

Disteneng emerged in 1980s during the apartheid regime and is formerly known as Pietersburg Settlement. The second key informant said that the white government wanted to use the land (Pietersburg Settlement) as a buffer and moved the black minority to remote areas. It was later occupied by black people after South Africa gained its democracy. Illegal occupants were not forcefully removed from the land because the post-apartheid government promotes integration and aim to bridge the gap between former white area and the black townships. The key informant further explained that the council decided to take into consideration the social and economic aspect of the urban vulnerable. Polokwane Local Municipality performed a screening to identify the needy

households and were categorised according to their economic status. The municipality's plan was to be able to distribute resources to each household based on what they need to improve their living condition. The implementation of ISU programme in Disteneng used the equity approach to fair service provision, specifically proper shelter which according to the municipality plan is still to be delivered. Moreover, Disteneng ISU programme is highlighted as one of the outstanding urban renewal because it demonstrates integration of different social classes. Evidently, the settlement is located between the high earning group (those living in city, Ivy Park) and the middle income group (those living in Seshego Township), said the second first key informant. The ISU programme was approved by the Polokwane Local Municipality Council during 2007/8 with the intention to provide basic services and formally recognising the area as a township. The first key informant further explained that at the first attempt to provide services, four communal taps were installed and latrines were put in place. 'Then Disteneng was latter approved as a township rather than an informal settlement. Currently, Disteneng is known as Polokwane Extension 78 Township' said the first key informant.

4.2. Living Conditions in Disteneng

The UN-Habitat mentioned that informal settlements are referred to any urban area suffering from one or more of conditions such as insufficient living space, weak structure, deficient access to water and sanitation facilities (UN-Habitat, 2008). Such circumstances are common conditions that characterise informal areas. Thus, the living conditions in Disteneng have resemblances with those in other countries as stated in the literature. Most common conditions in Disteneng are physical underdevelopment, deficiency of basic services, environmental and social disorders. However, some conditions have improved. This section focuses on the above mentioned living conditions of Disteneng.

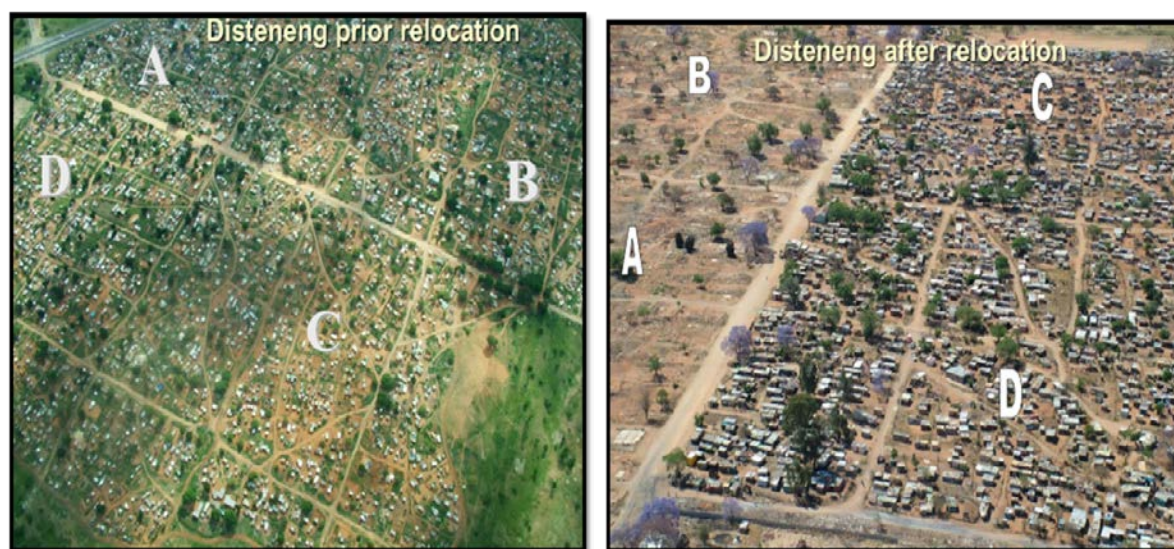
4.2.1. Physical Underdevelopment in Disteneng

Informal settlements have the poorest physical development and Disteneng is not an exception to the norm. Poorest street patterns are common in informal settlements

because of poor planning. The physical underdevelopment of Disteneng is influenced by random and illegal land occupancy amongst other things. As a result, improving the physical conditions of such areas become relatively impossible because of miscellaneous and unplanned allocation of households. On this subtheme, the data collected on physical underdevelopment in Disteneng is interpreted.

Figure 1: Street Patterns in Disteneng

Poor conditions in informal settlements include inadequate street patterns as a result of overnight proliferation of informal houses. Households in informal settlements are randomly allocated, creating different informal street patterns. Such street patterns negatively affect road development in informal settlements. Figure 1 uncovers the street patterns in Disteneng.

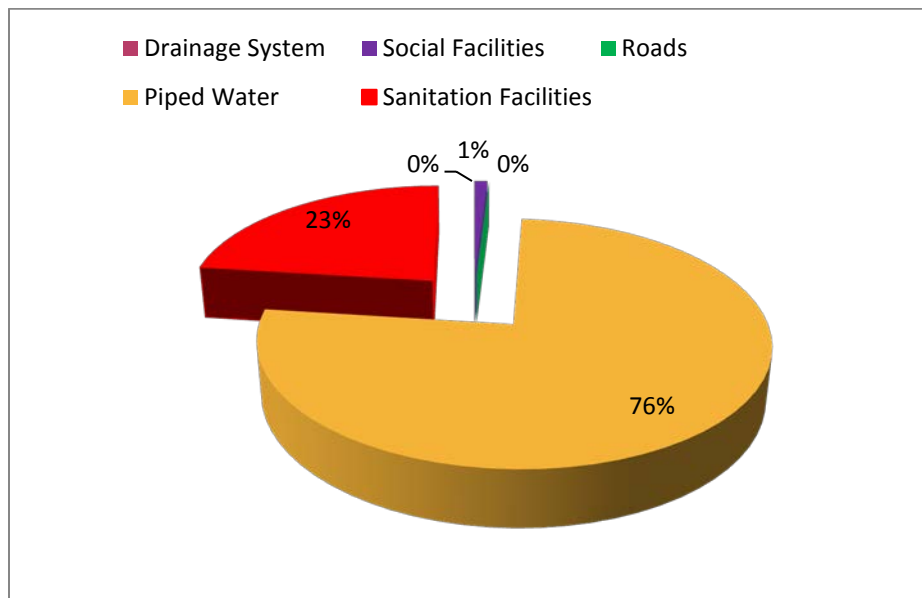


Literature argued that informal settlements have no form of proper street patterns because of unauthorised establishing of informal households. Inadequate street patterns have a negative influence on the overall physical development of all informal settlements. Figure 1 shows that street patterns in Disteneng are rectangular. Those rectangular street patterns are the main streets in the settlement. In addition, figure 1 reveals that not every street in Disteneng is rectangular but the area has a combination of different street patterns. The area has small streets that are known as warped parallel

and triangle patterns. In this case, the combination of such patterns is created by individuals as they create short paths to their households. The figure further demonstrates that ISU programme has made minimal improvements in street patterns in Disteneng.

Figure 2: Availability of types of Infrastructure in Disteneng

Majority of informal settlements have minimal infrastructure services such as drainage system, social facilities, roads, and piped water and sanitation facilities. Unavailability of these amenities contributes to the poor living conditions of informal households. Figure 2 presents the availability of types of infrastructure in Disteneng.



The above figure confirms with literature that dispute infrastructure development is extremely poor in informal settlements. In this case, Disteneng is not an exception in the norm as households indicated that they have limited access to infrastructure services. Respondents said that there are other infrastructure improvement and they further explained that they have piped water. Figure 2 demonstrates that 76 percent of the households said that they have piped water. Some respondents further explained that the taps are not provided to each household but provided to the whole community to share. From observation, the installation of pipes to each household was in progress water. In addition, 23 percent of the households said that the sanitation facilities are

available in Disteneng. One of the respondents further said ‘sanitation facilities in Disteneng are poorly maintained. Moreover, 1 percent of the households indicated that people have access to social facilities. From observation, social facilities are not provided in the settlement but the area is located very close to Polokwane City, dwellers use facilities available in the city but there are no social facilities provided specifically for Disteneng.

4.2.2. Inadequate Basic Service in Disteneng

Adequate basic services are still limited to the upper and middle class urban population (Zaki and Amin, 2009). Given the circumstances in the formal part of urban areas, deficiency of basic services is oath to be severe in informal settlements. Extreme lack of basic services is the most common conditions in informal areas. Inadequacy of basic services is also reflected in Disteneng.

Table 1: Inadequacy of Basic Services in Disteneng

Informal settlements are known to have inadequate basic services amongst other things. Table 1 presents the rate at which types of services are inadequate in Disteneng. Services such as water, sanitation, health care, education, electricity, land and shelter are selected because they are recognized as essential for every household.

Basic Services	Percentage
Water	34%
Sanitation Facilities	44%
Health Care Facilities	83%
Education	76%
Electricity	95%
Land Security	12%
Shelter	97%

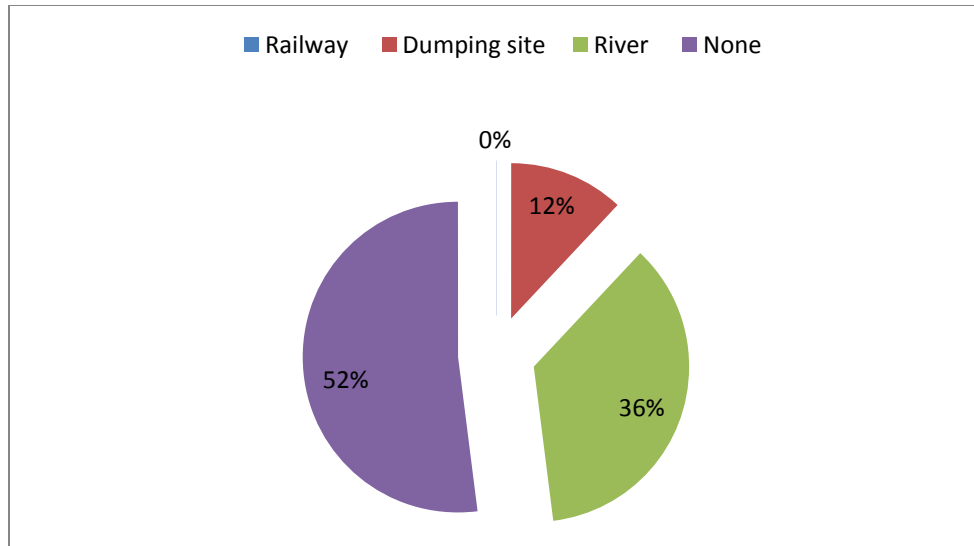
Table 1 demonstrates the deficiency of basic services such as water, sanitation and health care facilities, education, electricity, land security and shelter in Disteneng. It reveals that services rated above 50 percent are not delivered in the area. Hence the respondents have rated the inadequacy very high. The table discloses that the deficiency of water and sanitation facilities in Disteneng is at the average percentage. The outcomes are influenced by the services delivered in the area, even though those amenities are inadequate. The respondents further indicated that the land security is 12 percent inadequate because households were allocated land. However, some stands are rocky and problematic for other households in terms of plantation. Lastly, the table reveals that electricity, shelter, education and health care facilities are extremely inadequate as demonstrated by the respondent's high rating of their deficiency.

4.2.3. Environmental Conditions in Disteneng

Informal households are vulnerable to environmental disruption as a result of their location. Household's daily activities also contribute to the conditions that are faced in the area. That includes the method households use to cook and light. In most cases, methods used by households might result in fire breaks. On the other hand, other circumstances are associated with climate issues and environmental cleanliness.

Figure 3: Disteneng Location

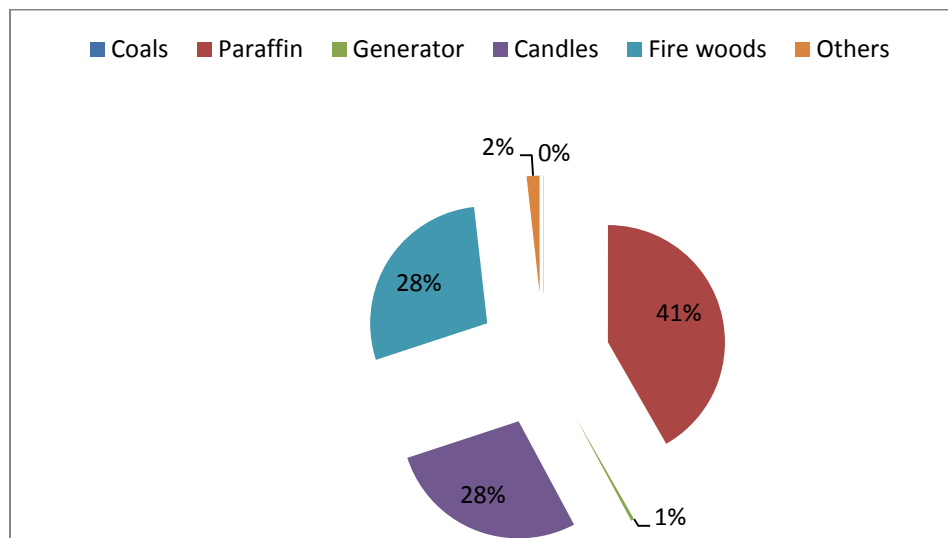
Majority of informal settlements are faced with environmental problems as a result of the location in which the dwellers have settled in. Commonly, informal areas are located next to railways, dumping sites and rivers. Figure 3 discloses harmful sites that could potentially harm households and the community of Disteneng.



Majority of informal settlements are faced with environmental problems as a result of the location in which the dwellers have settled in. Commonly, informal areas are located next to railways, dumping sites and rivers. Majority of households in Disteneng are located far from dangerous zones such as railway, river and dumping side. The results came into existence after the implementation of the ISU programme in the area. The programme relocated and rearranged households, creating a conducive environment for the informal settlement dwellers to live. Most dwellers stated that they live in harmony because they are free from the danger imposed by the river that their households were located next to. However, the figure indicates that 36 percent of the households are located next to the river. Other respondents said that although they live next to a river, they are not close enough to be affected by floods during rainy seasons. Moreover, 12 percent of the households are located next to the dumping side. The dumping site was created during relocation and rearrangement of households, where the Polokwane Local Municipality cleaned some part of the area and left the waste unattended. Evidently, one of the respondents said 'look around the area, there is waste at the end of most streets. The waste was left after the rearrangement of households'. From observation, households are now using those spots as their dumping area. Disteneng is not located next to the dumping site, however, the site was created after the implementation of the ISU programme.

Figure 4: Sources of Energy in Disteneng Households

Access to electricity in most informal settlements is extremely inadequate. The need for energy has influenced informal households to use indigenous methods to cook and light. Majority of informal households use coals, paraffin, generator, candles, solid fuel and wood for cooking and lighting. Thus, the figure below presents the sources of energy used by households in Disteneng.



In the existence of all environmental conditions, a blind eye cannot be turned against the fact that some of the circumstances are created by the households. Daily activities contribute negatively to the harsh environmental problems in Disteneng. With the informal dweller's inadequate access to basic services such as electricity, the informal settlement dwellers depend on paraffin, generator, candles and woods as household source of energy. Some households in the area use woods for cooking and candles for light. Nearly half of the households utilises paraffin as their main source of energy. Figure 4 demonstrates that 41 percent of households use paraffin for heating (paraffin stove) and lighting (paraffin lamp) in Disteneng. For households that are economically underprivileged, paraffin could be costly. As a result, woods are used to supplement paraffin. Some respondents said that majority of households utilises paraffin because it is convenient during rainy seasons. Hence paraffin is the most common source of energy used in Disteneng. The figure further reveals that 28 percent of households use

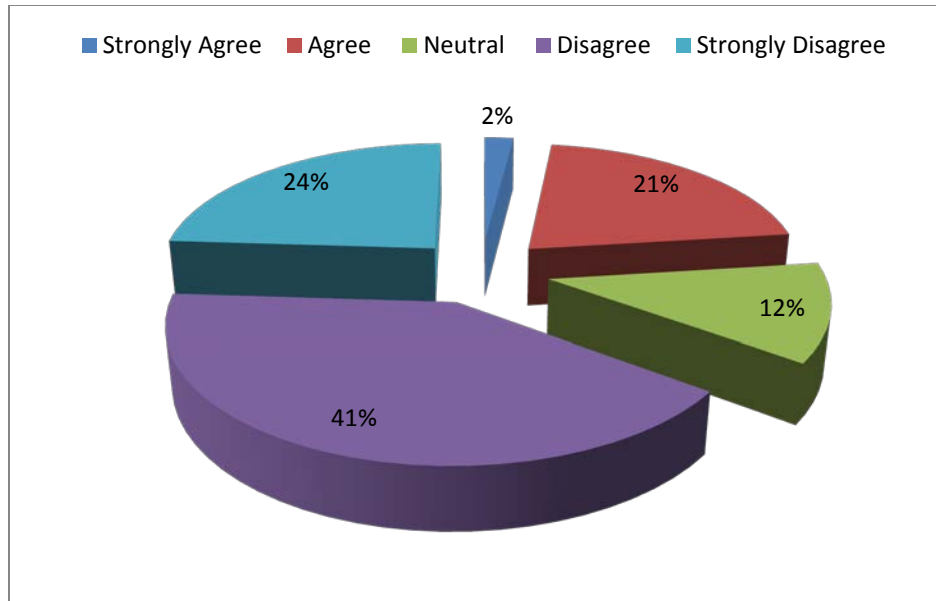
woods and candles as their household source of energy. Candles and woods are affordable hence the informal settlement dwellers also depend on the use of the two sources to light and heat. Furthermore, some respondents stated that they use fire woods because they are free. Economic conditions of households in Disteneng are extremely poor, thus woods and candles are seen as a better alternative. However, 1 percent of the respondents said that they are using electricity. Majority of households in Disteneng have no access to electricity connection. As a result, the issues of electricity borrowing are revealed.

4.2.4. Social Conditions

Informal settlements are well-known to be over crowded, poor housing conditions, built out of poor material and the area has high crime rate. High population rate in Disteneng might have been influenced by the idea that people need to live closer to the city to reduce traveling expenses from their place of origin amongst other reasons. However, majority of households' experience urban poverty and end up contracting houses using poor material. Moreover, crime is one of the well-known to be a characteristic of informal dwellings. This subtheme puts more emphasis on the social conditions that exists in Disteneng.

Figure 5: Overcrowding in Disteneng

Informal settlements are highly populated because there is limited control of stand allocation. There more people migrate into the city, the demand of housing raises and without any assistance from the local government; migrants tend to settle in informal areas that are contributing to overcrowding. Respondents were asked to rate the overcrowding in Disteneng using strongly agree, agree, neutral, disagree and strongly disagree ranks.



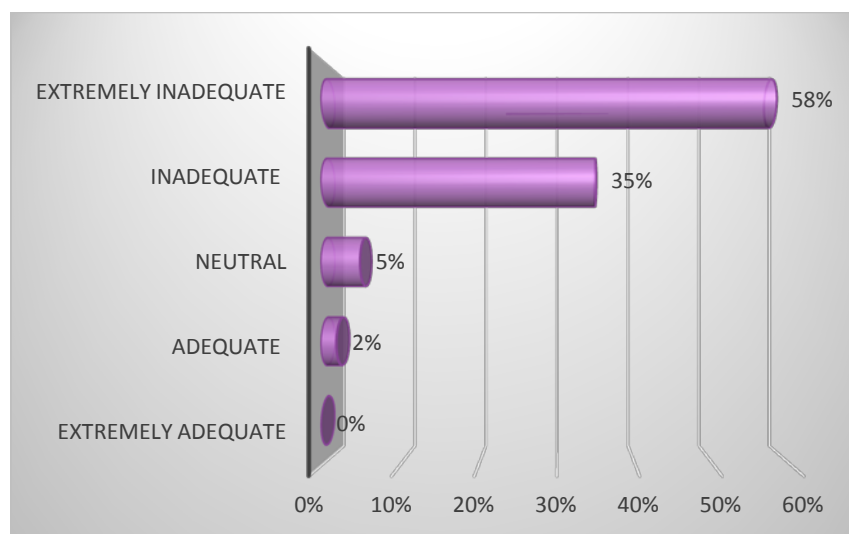
Informal settlements around the globe are known to be over populated because there is no control over how many people should be located on a particular piece of land (Horen, 2000; Bradlow *et al.*, 2011). Figure 6 reveals that majority (41 percent) of the respondents stated that Disteneng is not over populated. The results are influenced by the relocation and rearranging the informal households. Thus, the division decreased the number of households and population in the area. Such respond may be influenced by the dwellers past experience. Before implementation of ISU programme in Disteneng, the area had an extremely high population rate with households very close to each other and the proliferation of households that occurred overnight. Additionally, such discovery is not a discrepancy but it defines a true reflection of what goes on in a culture practiced by Africans in South Africa especially in informal settlements. Africans have no problem with living in a space that is overcrowded and they believe in not such. Africans usually use a phrase that says '*motho ke motho ka batho*', meaning the dweller's understanding of humanity is to have more human beings in one space. To the extent that this adage is strong to these people, they don't worry much about the overcrowding that leads to criminality.

Furthermore, 24 percent of the respondents who strongly disagreed that Disteneng is over populated are the ones who were not moved from their initial settlement. From

observation, the initial settlement has fewer households. In contrast, a group of respondents (21 percent) of the respondents agreed that Disteneng is over populated. People have different views when discussing social issues. The 21 percent of respondents may have used their personal definition of what is meant by over populated and the components entailed. Moreover, 12 percent indicated that Disteneng cannot be considered to be over populated or under populated but the populated rate of the area is neutral. Furthermore, the area might have fewer households but the members of other households have an effect on the rate of population in Disteneng. Lastly, figure 5 shows that only 2 percent of the respondents strongly agreed that Disteneng is over populated. Politics and expectations might have influenced some households to argue that Disteneng is extremely overpopulated. The data was collected towards the local election; thus, it is assumed that some respondents maintained such arguments so that people could be given more land to address the issue of overcrowding in Disteneng.

Figure 6: Adequacy of Shelter in Disteneng

Access to adequate shelter in most informal settlements is problematic. Shelter is a crucial basic service that every South African must have access to, but informal households have the poorest access.

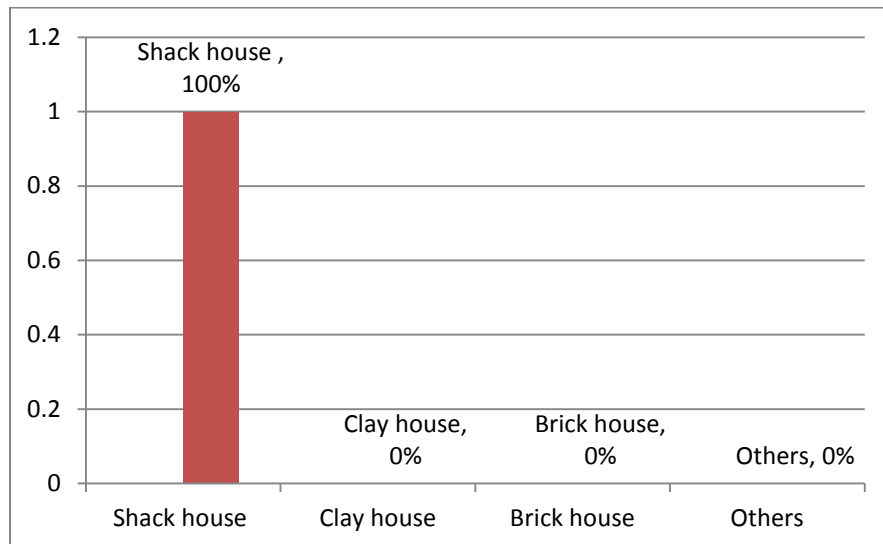


Adequate housing is a serious challenge in Disteneng. The figure above indicates that majority (58 percent) of households in Disteneng are exposed to extremely inadequate

shelter. One of the respondent explained that the reason behind the inadequacy of shelter is related to the issues of cost. However, some respondent stipulated that their stay in Disteneng is only temporary hence they will not invest more on housing. Others expressed their extreme inadequate housing by relating to different weather conditions. They further explained that they suffer more during rainy seasons because the material used to provide shelter is of poor quality. The figure also reveals that 35 percent of housing is inadequate rather than extremely inadequate. Figure 6 uncovers that shelter in Disteneng is inadequate and that majority of the household shelter is extremely inadequate. On the other hand, a small (5 percent) proportion of the respondents indicated that their household shelter is neutral. Furthermore, the remaining 2 percent of the households indicated that their household shelter is adequate. It was emphasised by the key informant that not every household in Disteneng falls under the low income group. Thus, other households are able to buy new corrugated metal material to provide better shelter for their household members.

Figure 7: Type of Houses in Disteneng

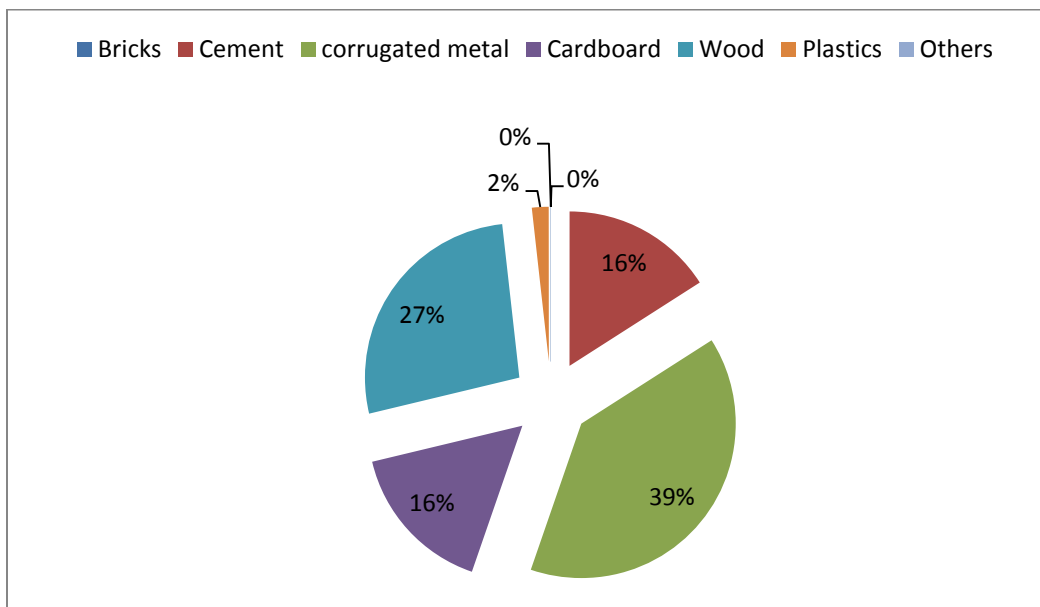
The most common types of houses in informal settlements around the globe are shack houses. Disteneng has the same housing type that is found in informal settlements around the world. Figure 7 presents the types of houses found in Disteneng.



It is revealed by figure 7 that all households in Disteneng confirmed the assumption that informal settlements are dominated by shacks; hence the dwelling is sometimes referred to as shack settlement. All the respondents said that their families live in shacks which are made of corrugated metal, plastics and wood. Furthermore, the reason behind such housing type may be influenced by limited benefits provided by housing finance. Moreover, the economic status of the dwellers and affordability also influences their type of housing. It was indicated that dwellers live in shacks because they had fear of eviction before the implementation of ISU programme. One of the respondents said that ‘before we were rearranged, quarter of my house was made of bricks and cement. I did not have enough money to finish building so I had to use corrugated metal so that my family could have a place to sleep’. The responded further said that ‘now that we have stands, we are looking forward to having low cost houses’. The economic statuses of some households have influence on their provision of adequate housing.

Figure 8: Material Used to Build Shelter in Disteneng

Majority of informal households in developing countries built their shelter using poor material. Access to adequate shelter is considered as a right in South Africa. Figure 8 demonstrates materials used to build houses in Disteneng.



Houses in Disteneng are built from corrugated metal, wood, cardboard, plastics and cement. However, the settlement is dominated by houses built from corrugated metal. The above figure demonstrates that majority of households were able to provide shelter using corrugated metal. Furthermore, the use of different material is also one of the strategies used by household. In this regard, corrugated metal, wood, plastics and cement are combined to provide shelter. Such outcomes may be the result of poor economic status of dwellers in Disteneng. From observation, some households used a combination of wood and plastic as the wall and corrugated metal as the roof. Such a strategy is implemented to avoid water infiltration through the roof during rainy seasons. However, because South African Government provides low cost housing to the poor, some households in the area are waiting for the government to do the same for them. Figure 8 reveals that 39 percent of houses in Disteneng are built from corrugated metal, whilst 27 percent of households used wood. In addition, the figure demonstrates that 16 percent of the households used cardboard. One of the responds said that they use cardboards to cover corrugated metal to create warmth in the house. The figure also discloses that 2 percent of the households in the area used plastic and it was indicated that the material is used for the same purpose as the cardboards. Lastly, 16 percent of the households used cement for the floor.

Figure 9: Household Room Density in Disteneng

Informal households are known to be overcrowded due to inadequate housing. Room density looks deeper into how serve inadequacy of housing in Disteneng. With informal households perceived as overcrowded, the objective of figure 9 is to measure the number of people per household.

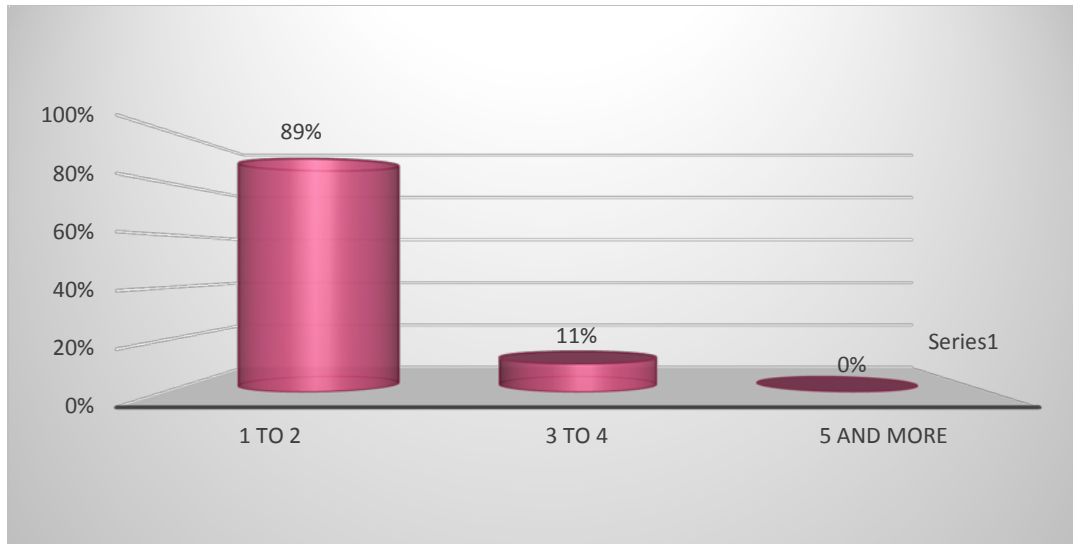
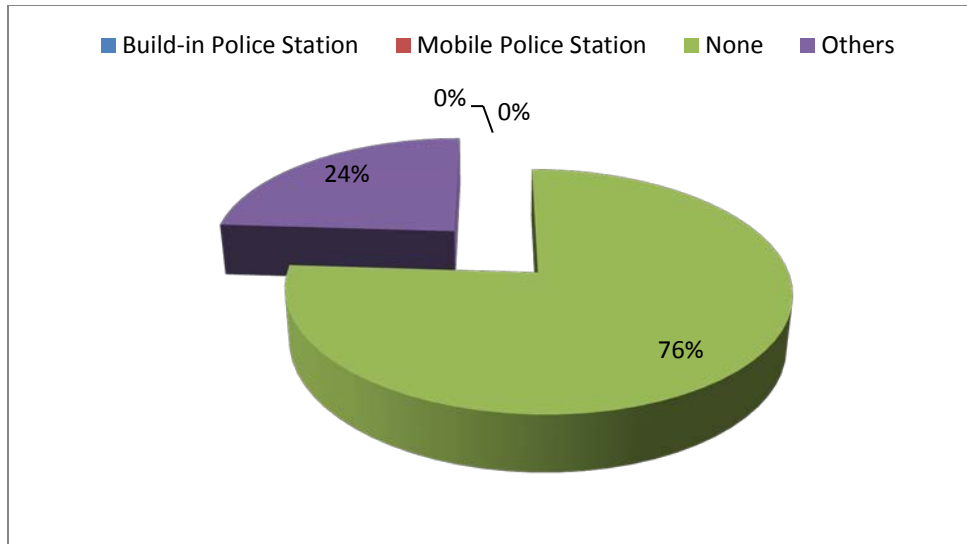


Figure 9 represent the room density based on the number of members per household. The figure also demonstrates the number of rooms available, inclusive of the bedroom and the kitchen in each household in Disteneng. Predominantly, household shelters in the area have between 1 to 2 rooms. It was observed that households with more than one room usually have a kitchen and the one roomed shacks use the space as both kitchen and bedroom. Furthermore, the figure reveals that the 11 percent of the household shelter have between 3 to 4 rooms, inclusive of the bedroom and kitchen. It is estimated that each household in the area has an average of 3 members per household. Evidently, the figure revealed that Disteneng households are not overcrowded.

Figure 10: Security Measures in Disteneng

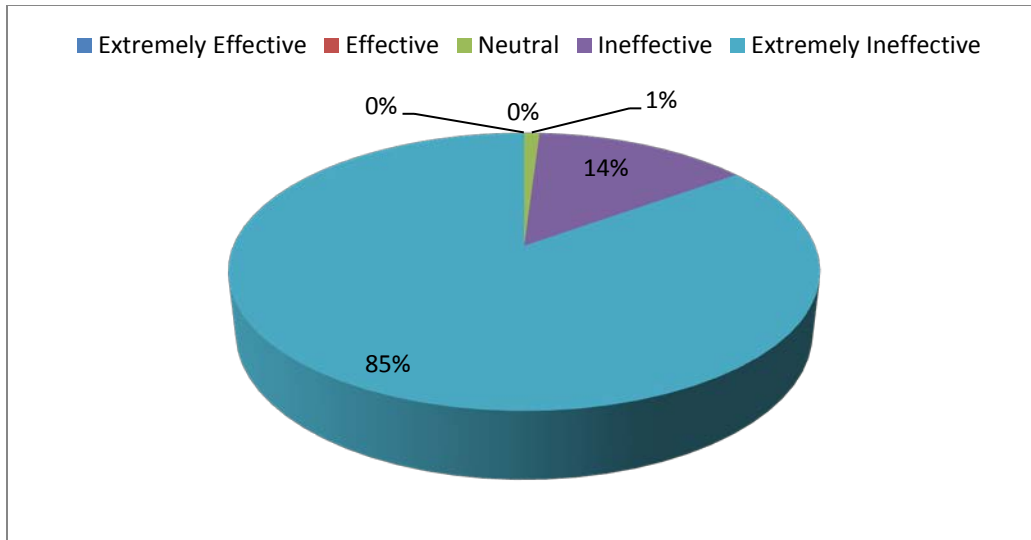
Informal settlements are known to be hostile and have high crime rate. It is important to have safety measures in order to reduce criminal activities and to protect the lives of the people living in Disteneng. Figure 10 resents available security measures in the area.



The above figure demonstrates security measures available in Disteneng. The figure reveals that majority (76 percent) households have no access to safety and security measures. With such a huge statistic having no access to such services, people’s lives and properties are exposed to harm and theft. Some further explained that the area has no electricity and it is very dark at night. They also said that they have inadequate access to public transport, they have to take off the taxi at the robots which is about a kilometre from their homes. Furthermore, they have to walk in the dark every day when they come back from work. Some also talked about number of cases which included murder and robbery. However, the remaining 24 percent said that they have community safety measures. The community of Disteneng created a forum to help reduce the rate of criminal activities. However, the majority of households seem to be clueless about such community activities. ‘There was a mobile police station next to the robots, it has been removed’, said a respondent.

Figure 11: Effectiveness of Security Measures

To ensure homonymous and sustainable human settlements, it is essential to ensure effectiveness of security measure to control and reduce the rate of criminal activities in the area. Figure 10 revealed that the only security measure available in Disteneng is the community forum against crime. Figure 11 reveals the effectiveness of the community forum.



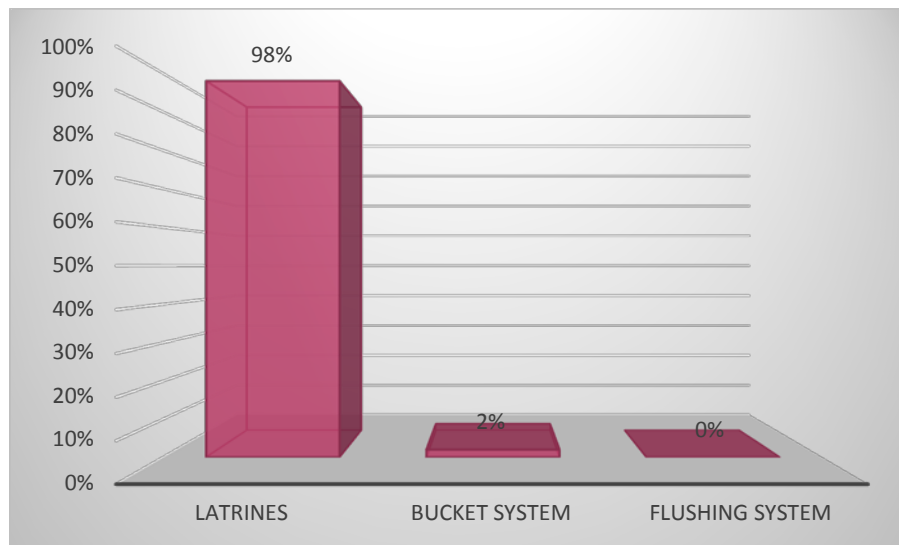
According to the figure 10, Disteneng has only one form of security measures that are used to keep the community safe from harm. However, figure 11 reveals that the security measure used in Disteneng is extremely ineffective (85 percent). During observation, it was clear that many households had no idea that their community has a forum against crime. The forum would not be effective if the whole community is not actively taking in it. However, communities with poor access of basic services, safety and security measure are most likely not to be implemented. In other cases, communities organise such measures for themselves. Dwellers in Disteneng have expressed how disappointed they are with the safety measure that was implemented then later removed.

With the community acknowledging that Disteneng is not safe, 14 percent of the households said that the security measures available in the area are ineffective. It has been discovered that Disteneng has one safety and security measure but it is not functional. The forum was formed after the area had countless arm robberies and other criminal activities taking place at night. One of the respondents explained that murder cases in Disteneng were reported every weekend and that most corpses were discovered under the bridge on Mandela Road. Such activities persist in the area and they take place at night, targeting those who come back from work very late in the evening. Lastly, 1 percent of the respondents said that the security measures in Disteneng are neutral. They stated that they have access to police station which is

located at Westernberg. Taking into consideration that Disteneng and Westernberg are far apart from each other, the service rented by the station may not be effective. The community of Disteneng report all criminal activities at the Westernberg or Seshego Police Station.

Figure 12: Household Sanitation Facilities in Disteneng

Adequate sanitation has a great influence on good hygiene of households because informal dwellers are exposed to numerous ill-healths. It is essential to have sanitation facilities that are conducive for the urban vulnerable to maintain a better living condition. Figure 12 reveals the types of sanitation facilities used in Disteneng.



Literature debated that informal households in informal areas use communal facilities for sanitation purpose (DHS, 2009). Thus, latrines are the most common sanitation facilities available in informal settlements. It is revealed by the above figure that almost all the households in Disteneng depend on communal sanitation facilities. Although latrines are not sustainable, Disteneng household's needs for such facilities could not be ignored. It was stated by the key informant that the latrines are there as a temporary solution. However, some dwellers expressed their views and said that although they have communal sanitation facilities in the area, they are not easily accessible and that household members have to walk certain distance to utilize the facility. Moreover, the table also demonstrates that 2 percent of the households use the bucket system. The

households that use the bucket system were able to provide their own sanitation facilities.

4.3. Roles and Rationale of informal settlement upgrading in Disteneng

The living conditions in Disteneng have provoked the implementation of ISU programme. With South Africa being a democratic country, it is injustice for the Polokwane Local Municipality to overlook the need to improve the circumstances that poor households face every day. In the existence of The Republic of South Africa's Constitution and policies on citizens' rights, the Polokwane Local Municipality put in place the upgrading of informal settlement programme to focus on addressing the poor living conditions in the settlement. There are roles and rationale devoted to the programme. Furthermore, there are numerous institutions involved in providing support and guidance to maximize the effects of the programme on the development of households and the community of Disteneng. Thus, this section discusses the roles and rationale of ISU programme.

4.3.1. Roles of Urban Renewal Programme in Disteneng

Disteneng was congested with households that were randomly located, creating extremely harsh conditions that are not suitable for any household regardless of its formality. The settlement faced many environmental and social problems; hence the Polokwane Local Municipality implemented the ISU programme, guided by different policies. The programme plays a number of roles which entail enabling basic services, promoting socio-economic integration and promoting a decent standard of living. Moreover, the below sub-section explains the roles played by ISU programme in Disteneng.

4.3.1.1 Enabling Basic Services in Disteneng

Disteneng had no access to minimal basic services before the execution of the upgrading programme. At present, the area is continuously being provided with basic services. The role of the upgrading programme is to ensure provision, availability, accessibility and continuous enhancement of basic services in Disteneng. Furthermore, the programme has to ensure that vulnerable households have access to services essential to maintain daily living. Households in Disteneng now have access to minimum basic services. Although services are not provided to individual households, communal amenities are available for dwellers to share. Enabling basic services is crucial as it improves the living conditions of those living in Disteneng. Although dwellers have minimum access to basic services, the little services that are accessible contribute to improving their living conditions. Service delivery is an important element in the upgrading programme and its main goal. However, some households continue to suffer even in the existence of the programme, especially at the early stages of the programme.

4.3.1.2 Socio-economic Integration in Disteneng

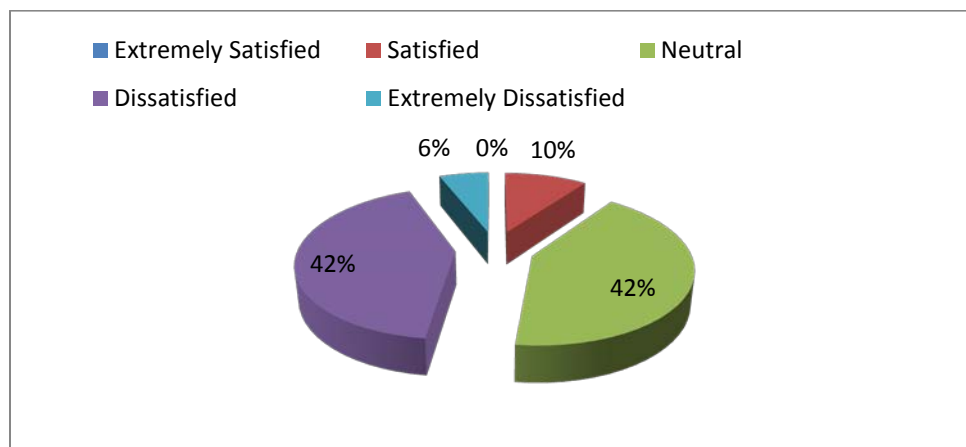
Improvements of social and economic factors are crucial in developing the wellbeing of households in Disteneng. The role of ISU programme in Disteneng is to promote socio-economic integration and create household's economic and social improvements. Where household's social-economic development occurs, the quality of life within households is improved. The role of the upgrading programme is to improve the quality of lives of those living in informal households through the provision of basic services. Furthermore, ensuring that services are available and accessible at all times also has a great influence of improving the living standard of these living in Disteneng. In addition, the urban renewal programme's role in Disteneng is to halve the harsh economic, social and environmental conditions of informal households. As a result, the programme aims at improving the life expectancy of household members. Furthermore, ensuring safety and security in Disteneng is crucial for protecting dwellers lives.

4.3.1.3 Decent Living Conditions in Disteneng

South Africa is a democratic revolution country and citizens have right to living environments that in good conditions. Thus, the role of the programme is to upgrade living conditions of households so that they may have access to clean water, housing and other services. The ISU programme in Disteneng plays a role of enabling better standard of living through service provision. Changing the harsh living conditions and promoting a decent household's standard of life in Disteneng is a priority in the programme. Promoting decent living conditions in Disteneng is part of many international, national, provincial and municipal policies that are intended on improving harsh conditions of vulnerable communities.

Figure 13: Informal Dweller's Satisfaction with the Upgrading Programme in Disteneng

ISU programme plays a number of roles in Disteneng, whilst working towards meeting the needs of the vulnerable households. It is important to take into consideration the informal household's level of satisfaction with the programme and its roles. Figure 13 presents household's satisfaction with the ISU programme.



As stipulated by the key informant, the role of the upgrading programme is to enable basic service provision, socio-economic integration and promote decent living conditions. Figure 14 uncovers that households are not satisfied with the upgrading programme. The figure demonstrates that 42 percent of the households are not happy with the programme's role so far. On the other hand, 42 percent of the household's

satisfaction on the programme is neutral. The programme made minimal improvement but the services are not good enough. Furthermore, other households stated that they would be satisfied if they were given houses, water, sanitation facility and electricity in each household. Moreover, a small proportion (6 percent) of the households expressed that they are extremely dissatisfied with the urban renewal programme. Lastly, figure 13 also uncovered that 10 percent of the households are satisfied with the programme. Through the programme, vulnerable households were given stands and now they have access to communal water and sanitation facilities.

Figure 14: Quality of ISU Programme in Disteneng

The ISU programme’s high degree of excellence has a major influence on the outcomes. Respondents were asked to rate the quality of the upgrading programme in Disteneng. Thus, the figure below uncovers the quality of ISU programme in the area.

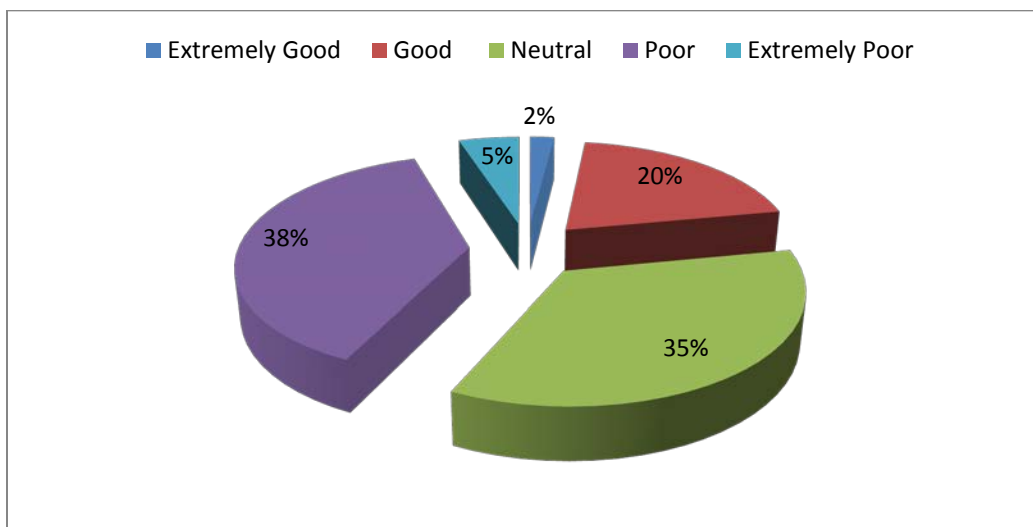


Figure 14 reveals that 38 percent of dwellers in Disteneng believe that the quality of upgrading of informal settlement programme is poor. Dwellers might have drawn this conclusion based on issues such as poor community engagement, poor implementation of projects, inadequate accessibility and availability of services in the settlement. Upgrading informal settlement programme are designed based on general assumptions, hence the quality of the outcomes is compromised. Furthermore, the design and implementation of the upgrading programme should be tailor-made for each informal

settlement because of different circumstances faced by households in various dwellings. In addition, the 38 percent revealed by figure 14 is influenced by the fact that dwellers have no access to household basic services, rather they used communal amenities. Like any other informal settlements around the world, Disteneng has poor access to services hence majority of the respondents said that the upgrading programme is of poor quality. Furthermore, figure 14 also reveals that 35 percent of households in Disteneng have rated the upgrading programme's quality to be neutral. The outcomes are influenced by the minimum access, availability of basic services that they have in the areas. Furthermore, one respondent said that 'we did not have access to any services before the implementation of the programme. We had to rely on the river near our homes to have water for households' consumption'. 'The services are not enough but at least we have clean water to drink and cook', the respondent added.

Moreover, 20 percent of the dwellers said that the quality of the upgrading of informal settlement programme is good based on the comparison between before and after the existence of the programme. Disteneng was tremendously overcrowded settlement with no minimal access to basic services. Currently, the population of the area has been decreased as a result of rearrangement and resettlement of households and people have access to basic services that they did not have before the implementation of the programme. One source added that 'basic services are being provided slowly but eventually, we will have all the services that other urban residential areas have'. He further said that 'I understand that service provision can not happen overnight and that such things take time'. The figure also demonstrates that 2 percent of the respondents rated the quality of the upgrading programme to be extremely good. The rating has been influenced by dwellers current access to services than how they used to suffer in the past. The design, plan and implementation of the programme might have loop holes, but the minimum services that it has provided, makes a huge difference to some dwellers. In contrary, 5 percent of the dwellers said that the quality of the upgrading of informal settlement programme is extremely poor. Moreover, the 5 percent the households may have given that answer because they were able to provide some of the

basic services for their households. As a result, the minimum services provided through the programme might have not made any difference to their households.

4.3.2. Rationale of the Upgrading Programme in Disteneng

ISU programme is implemented for a set of reasons that generally aim to create better living environment in Disteneng. The programme is supported by numerous institutions so that it can achieve its intended objectives. Institutions involved in ISU programme vary according to different municipalities. Some municipalities have accreditation to implement specific activities on their own, while others do not have the capacity to do so. As a result, this theme discusses the rationale of the urban renewal, the institutions and their role of in the upgrading programme.

4.3.2.1 Objectives of informal settlement upgrading in Disteneng

The logic behind the implementation of ISU programme in Disteneng is informed by the conditions of the settlement and the manner in which the area affects Polokwane City. Disteneng is located next to Nelson Mandela Road, which is used by many people entering and exiting the city. According to the key informant, the settlement is not spatially appealing and negatively affects the appearance of the city. Furthermore, the settlement does not contribute much to the Polokwane Local Municipality through rendering of service. Thus, the urban renewal programme is executed to promote mixed land use, social cohesion, and proper urban growth and to generate municipal revenue.

4.3.2.1.1 Mixed land use

The rationale behind the implementation of ISU programme in Disteneng is to promote land development that blends residential, industrial and commercial uses. The rationale of the programme is to also ensure that those functions are physically and functionally integrated within the Polokwane city. According to the key informant, it is crucial for the upgrading programme to provide greater housing variety, promote a more compact development of settlement, stronger neighbourhood character and post importantly, to reduce the distances between residential areas, workplace and retail centres. Majority of the households in Disteneng live under extremely poor economic circumstances,

hence it is crucial to ensure that they are located closer to the city because some dwellers work in industries around Polokwane City. Furthermore, mixed land use reduces traveling cost for Disteneng dwellers that commute to the city daily.

4.3.2.1.2 Social cohesion

The implementation of informal settlement upgrading in Disteneng was to address issues related to social inclusion for the marginalised grounds with the Polokwane City. The rationale of the programme is to promote a society that work towards the wellbeing of all community members, create a sense of belonging, and fight exclusion and marginalisation within the city. It is above board that Disteneng dwellers are disregarded and excluded because of their residential appearance and their economic disadvantage, which is the reason why after house breaks, armed robbery and other criminal activities in Emdo and Legae la Batho (African Jewell) residents always put the blame to people living in Disteneng. As a result, the upgrading programme aim at promoting trust and giving all members of the community the opportunity to rise from lower to a higher social class or status.

4.3.2.1.3 Proper urban growth

The rationale of the upgrading programme in Disteneng is to make the area fit into the urban development and growth of Polokwane City. According to the key informant, it was impossible to ignore the conditions in Disteneng especially because it is very close to the city and it is located next to the Nelson Mandela Provincial Road. Thus, the need to upgrade the settlement could not be ignored any further. Additionally, the settlement is located at an open space next to Mandela Road and that does not give Polokwane City a proper image. Thus, the programme was implemented in order to improve the appearance of the settlement so that it would fit into the urban growth development of the city.

4.3.2.1.4 Generate municipal revenue

Currently, the Polokwane Local Municipality does not generate revenue from Disteneng because households are not paying for services. Services are also provided not only to improve the living conditions of households but to also render amenities. Through the provision of adequate housing, water, sanitation and other basic services, dwellers will be able to pay and contribute to the municipal revenue. The key informant also mentioned that informal settlements are not economically viable and municipalities are running at a loss. Disteneng is provided with communal taps and sanitation facilities and dwellers are not paying for those services, which is not economically effective for the Polokwane Local Municipality. By providing services in every household, the municipality will be able to generate revenues that basically fund some of the development initiative. The municipality generate its revenue by charging all people who own property such as houses, land and business rates based in the value of property. Furthermore, Polokwane Local Municipality gain income by commercializing basic service such as refuse removal, water and electricity. However, it will not be possible to generate revenue from Disteneng households because dwellers are not charged for communal services. According to the key informant, the housing project in Disteneng will accommodate the low, middle and high income groups where the low income group will be given low cost houses. Furthermore, the middle and high range group will be given options of renting or buying. In this manner, the municipality will be able to generate income.

4.3.2.2 Institutions involved in the upgrading programme

According to the key informant, there are countless institutions involved in the upgrading programme implemented in Disteneng. Some of those institutions play minimal role while others are involved in every phase of the programme. All the activities implemented through the upgrading programme are informed by decisions made by institution at the international, continental, national and the provincial level. These institutions include United Nation, Africa United (AU) formally known as (NEPAD) then the 3 spheres of government. However, institutions involved ISU programme in

Disteneng are Polokwane Local Municipality, Department of Water and Sanitation, COGSTA, Home Affairs, SAPS, Department of Health, Fleet Management Department, Department of Education and Deeds Office amongst others. This sub-section discusses the institutions involved in the upgrading programme implemented in Disteneng and the roles they play.

4.3.2.2.1 Polokwane Local Municipality

The Polokwane Local Municipality is the primary facilitator of the upgrading programme in Disteneng. The municipality gathered data on households and community needs so that all institutions can work towards achieving a shared goal. Before the implementation of the programme, municipal officials conducted a survey on the number of households there in the area, borders were drawn outside the settlement to control sprawl. The borders were created so that any other household that will be established beyond the border will not form part of the upgrading programme. However, the municipality could not control the establishment of new shack within the border. Furthermore, the Polokwane Local Municipality registered all the shacks by putting a sticker that indicates that the household was there during survey.

4.3.2.2.2 Department of Water and Sanitation

With many South African challenges caused by Apartheid Regime, Disteneng is also a product of the White Government, water and sanitation backlog is a huge challenge in the area. Thus, the Department of Water and Sanitation's role in ISU programme is to primarily focus on ensuring access to at least minimal water and sanitation facilities. The role of the institution is to ensure growth in access and availability of water and sanitation in the area. Furthermore, the institution is committed to providing high standard basic services such as water and sanitation and also ensures high level of investment in these amenities.

4.3.2.2.3 COGSTA

COGSTA is a government institution responsible for improving the living conditions of the urban vulnerable. Guided by RSA Constitution and other policies, COGSTA's role in informal settlement upgrading is to provide housing approval. The institution is responsible for providing low-cost, rental and subsidised housing to those living in Disteneng. During survey, the Polokwane Local Municipality revealed that Disteneng has different income groups and housing should be provided according to household income generation. Thus, the institution approves housing request informed by the household monthly income. Extremely poor households will be granted the low-cost housing; the middle will be given an option of rental housing, while the high income households will be given subsidised housing. All these are determined and approved by the COGSTA.

4.3.2.2.4 Department of Home Affairs (DHA)

Generally, the DHA offers multitude services to South African citizens, as well as foreigner flocking into the country for variety of reasons. The department determines and grant citizenship, issue travel documents and identity documents amongst other services. According to the key informant, the DHA protect and verify the identity and status of South African citizens and any other persons residing in the country. The institution helps people to practice their rights and access to opportunities and access to benefits of public services. Furthermore, the department regulates and facilitates immigration, provides civics and immigration services at foreign mission. The institution also determines the status of asylum seekers and refugees in accordance with international obligations. Thus, the DHA was largely involved during the relocation process in Disteneng. The DAH is aware of the legislative frameworks that guides the issues related to illegal immigrants. Thus, the institution's role was to assist the Polokwane Local Municipality in terms of illegal non-South Africans.

4.3.2.2.5 South African Police Services (SAPS)

Institutions such as SAPS played a crucial role during the relocation and rearranging of households. The SAPS's role in ISU programme in Disteneng was to maintain order during the process. The institution was invited to be involved in the programme because Disteneng is known to be a hostel. According to the key informant, the first attempt to relocate informal households had ended up with municipal officials being attracted. In the 2013, 42 households were relocated but there was a political upraise where tyres were burned and it was not safe for anyone to be working on site. Government were attacked and stones were used to damage cars. The Executive Major of Polokwane Freddy Greaver said everyone should leave the site and the project was placed on hold for a while. Thus, the SAPS's role in urban renewal was to protect both vulnerable dwellers and official who were working on the site.

4.3.2.2.6 Department of City Planning

The City Planning Department is responsible for surveying and registering townships within the city. The role of the institution is to plan and manage land use, protect the use of environment, public welfare and the design of the urban environment in a manner that is socially and economically viable. Moreover, the institution's role in upgrading Disteneng was to register the area as a legal township within Polokwane City. At present, Disteneng is recognised as a township known as Extension 78. The department strive to ensure spatial efficiency and it also plays a role of advancing principles of sustainable development in Disteneng.

4.3.2.2.7 Fleet Management Department

The Fleet Management Department's role in ISU programme in Disteneng was to provide transportation of goods from Disteneng to Extension 78. It is the Polokwane Local Municipality's responsibility to ensure households goods were transported from one area to the other during the relocation and rearranging of households in Disteneng. The Fleet Management Departments working together with the Polokwane Local

Municipality helped households that were relocated to move all household belongings to the stand that was legally provided by the government.

4.3.2.2.8 National Deeds Office

The National Deeds Office is involved in the upgrading of Disteneng because Polokwane Local Municipality is not fully accredited to perform duties done by the Deeds Office. The role of the National Deeds Office in upgrading Disteneng is to ensure that the households have security of property. The institution is also responsible for registering property with household head and to provide proof of ownership documents. Subsequently, all documents are kept to maintain addresses and acknowledgment of property possession. Furthermore, it is the role of the National Deeds Office to protect the interests of the poor people living in Disteneng and other stakeholders involved; hence the institution was involved in upgrading the area. National Deeds Office is guided by the Deeds Registrar Act, 47 of 1937.

4.3.2.2.9 Land Claims Commission

Disteneng was occupied by people who worked in the city during the apartheid regime and some dwellers relocated from the area. While the Polokwane Local Municipality was busy with screening in preparation of upgrading Disteneng, a group who stayed in the area came to claim their land back. The Land Claims Commission was partly involved because of land expropriation that had to take place in order to give back or reimburse those who were claiming the land back. Majority of the land claimers were compensated through monetary restitution based on the value of the land in Disteneng. Furthermore, some claimers bought stands in Seshego. The remaining proportion said that they cannot compare money with land and that they want land restitution. The government had to plead with the claimers to accept another land besides stands in Disteneng. The claimers accepted the offer and they were given stands at Polokwane Extension 40.

4.4. Status of Service Delivery in Disteneng

Challenges associated with service delivery in Disteneng are entrenched with marginalization and apartheid government. Informal settlements characteristics are attached unbearable living conditions and poor access to basic services. Service availability is also a concern to households and the community. Literature showed that majority of informal settlements has access to minimum services (DHS, 2009; Sinwell, 2011). Furthermore, the available services could either be of poor quality or inaccessible. This section discusses the status of service delivery in Disteneng.

Figure 15: Disteneng is considered to be well serviced

Informal settlements are known to have the poorest services amongst other settlements in urban areas. During field work, respondents were asked if they think Disteneng was well serviced and to rank their opinions used strongly agree, agree, neutral, disagree and strongly disagree ranks.

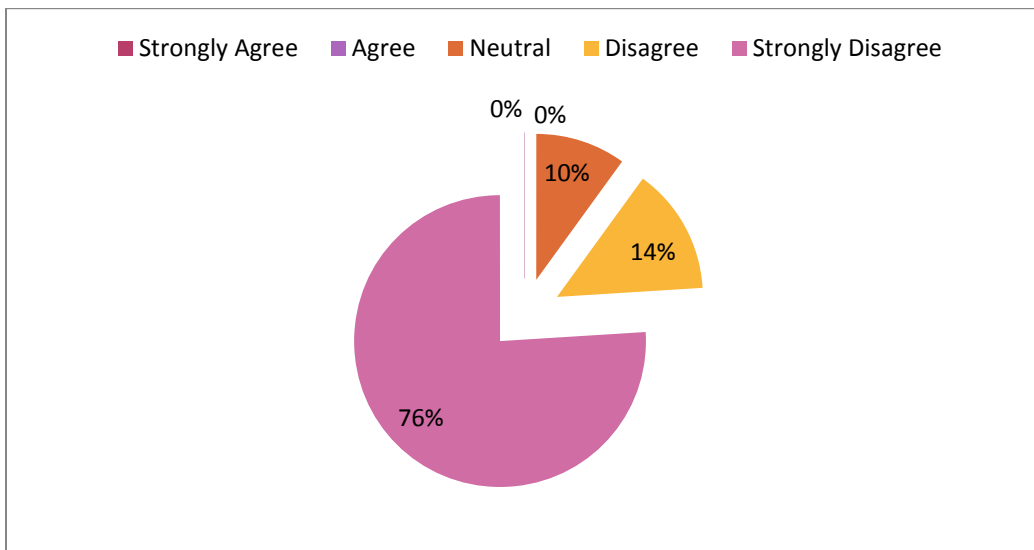


Figure 15 reveals that 76 percent of households strongly disagree that Disteneng is well serviced. These outcomes are provoked by the household's poor access to the minimum services available in the area. Furthermore, the discovery is based on the fact that the only services available to households are these that are shared within the community. Thus, a settlement with such conditions cannot be considered to be well

serviced. In addition, some dwellers indicated that there are many services that they do not have even minimal access to; hence, Disteneng cannot be a well serviced settlement. Furthermore, 14 percent of the households disagreed with the idea that Disteneng is a well serviced residential area. Although basic services are delivered in Disteneng, residents said that the area cannot be considered to be well serviced. Moreover, 10 percent of the respondents said the Disteneng is not either well serviced or under services. One of the respondents said that 'we have services that we never had in the past'. The respondent further said that 'although there are so many services that we wish we had, we can survive with what we have now'. Lastly, none of the dwellers agreed or strongly agreed that Disteneng is a well serviced area. The outcomes are based on their poor access to available services.

Figure 16: Dweller's Satisfaction on the Services Provided in Disteneng

Through the ISU programme, services have been delivered in informal settlements. Aspects such as service adequacy, accessibility and availability are concerns. Majority of informal households are dissatisfied with the service provided in their settlement. Thus, Figure 16 presents informal dweller's level of satisfaction or dissatisfaction in terms of service provided in Disteneng.

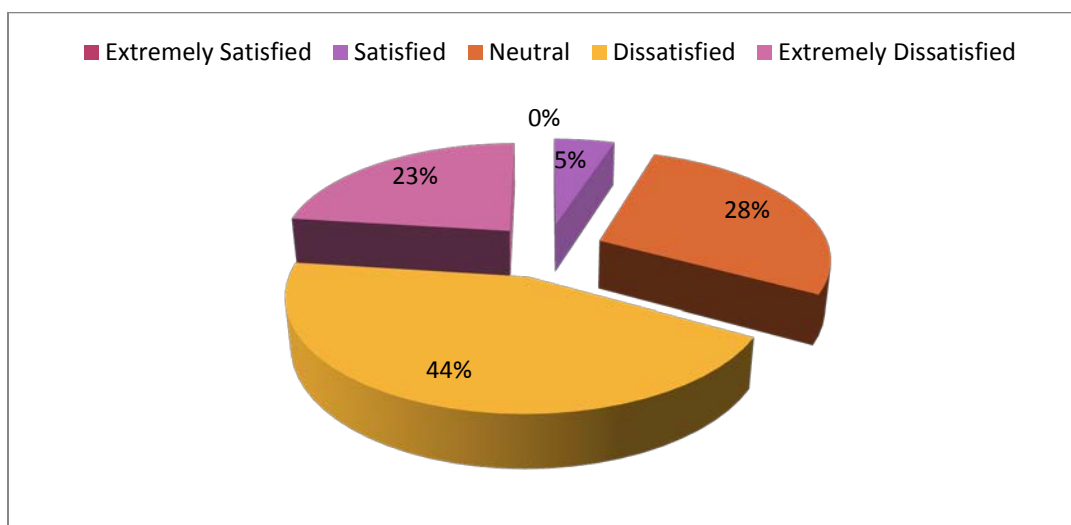


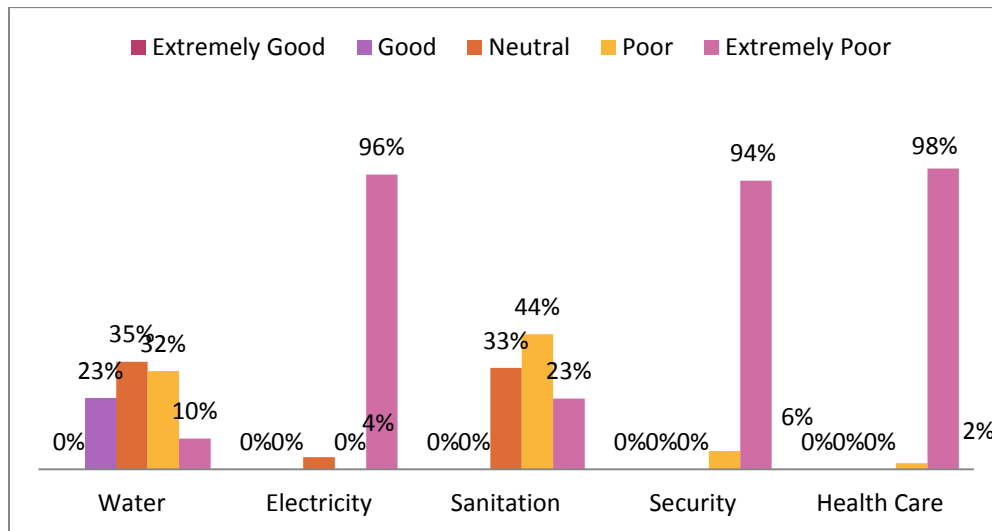
Figure 16 reveals that majority of people living in Disteneng are not satisfied with the services that are provided. The outcome is demonstrated by the 44 percent of

households who indicated that they are dissatisfied with the services provided. Although few services are provided in the area, the dwellers are not satisfied with what has been provided. Dwellers have to walk certain distance to access water because they do not have household taps. Furthermore, Disteneng is not well serviced hence dwellers are unsatisfied with the minimum services provided. Figure 3 showed that basic services such as electricity, shelter, health care and educational facilities are not provided. However, the provided services such as land, water and sanitation facilities are in a condition that influenced dweller not to be satisfied with the amenities.

Furthermore, figure 16 shows that 23 percent of households are extremely dissatisfied with the services provided. Dwellers are extremely dissatisfied with the services provided in Disteneng because they live near residential areas that are well serviced. Furthermore, most dwellers have a perception that settlements in urban areas are supposed to well serviced. That was demonstrated by one of the respondent who said that 'look at areas such as Legae la Batho. Residents have full access to water and is provided to each household'. Literature argued that people migrate to urban areas with a perception that living in urban areas guarantees access to services. However, there is a large gap in service provision in urban areas. Thus, Disteneng dwellers said that they are extremely dissatisfied with the services provided because they do not have the same services that other urban dwellers have. The figure further demonstrates that 28 percent of the dwellers said that they are not either satisfied or dissatisfied with the service provided in Disteneng. Furthermore, the figure reveals that 5 percent of the dwellers are satisfied with the services provided. Historically, Disteneng had no minimal services. Currently, services such as water, sanitation facilities and land tenure are provided. Thus, some households said that they are satisfied with the services that they have. The outcomes may have been influenced by the past living conditions in the settlement. Some dwellers said that the services they have now are better than having no services at all. Hence they are satisfied with what the Polokwane Local Municipality has provided.

Figure 17: Rating the Provision of Services in Disteneng

Figure 17 demonstrates the provision of the types of services provided in Disteneng. The figure focuses on rating the provision of water, electricity, sanitation, security and health care in the settlement.



Informal settlements are known to have no access to services, however, Disteneng has access to minimal basic amenities such as water and sanitation facilities. Respondents were asked to rate the provision of services in the area. The figure reveals that 23 percent of the dwellers said that the provision of water is good. Dwellers have access to water at all times. Households always had challenges when it comes to accessing water. At present, dwellers may not have household taps but they access water through community taps. According to the key informant water is a scarce resource in most municipalities in Limpopo. However, dwellers in Disteneng have minimum access to water. Accordingly, 23 percent dwellers said that the provision of water is good. The figure further demonstrates that 35 percent of the households said that the provision of water in Disteneng is neutral. The provision of water in the area cannot be rated to be either good or bad. The outcome is influenced by the idea that households have access to water but the service is shared amongst households in the area. Furthermore, 32 percent of the households said that the provision of water in Disteneng is poor. Dwellers expect to have the same services as other residents in Polokwane City. Thus, sharing

services such as water while other residents within the same municipality have household taps influenced the outcome. Lastly, the figure reveals that 10 percent of households have rated the provision of water to be extremely poor.

Figure 17 also reveals that 96 percent of households in Disteneng said that the provision of electricity is extremely poor. Respondents said that Disteneng has no electric connections. Thus, they rated the provision of electricity to be extremely poor. Some respondent said that there are households that have electricity connections but they do not have such. However, the key informant said that Disteneng has no access to electricity as yet and that such services will be provided after delivering water to each household. Therefore, such outcomes reveal that households that have access to electricity have illegally connected power from Green Side. Lastly, the figure demonstrates that 4 percent of households said that the provision of electricity is neutral. It was discovered that Polokwane Local Municipality has not provided electricity in Disteneng. In contrast, some dwellers stated that the provision of electricity is neutral. They further explained that although power switches off at any time, it is better to have electricity with these problems than to rely on wood, paraffin and candles alone. The unreliable power is the result of illegal connections that these households are complaining about.

Furthermore, the figure demonstrates that 33 percent of households in Disteneng rated the provision of sanitation facilities as average. Although sanitation facilities have been provided in Disteneng, these amenities are shared amongst households. 'Such services were not provided in the past but now we have them in our settlement' one of the respondents said. In addition, the figure demonstrates that 44 percent of the households in Disteneng rated the provision of sanitation facilities to be poor. Sanitation is a basic human need that every household should have access to. However, when a household lacks such amenities or share them with other households, the provision of sanitation becomes poor. Lastly, the dwellers stated that the provision of sanitation facilities in the settlement is extremely poor. Sanitation amenities are provided in Disteneng; however, the fact that many households have to share one toilet compromise the hygiene of the facility. Furthermore, the amenity is considered to be extremely poor because they are

not easily accessed. One of the respondent said that ‘the government has made a big mistake by not providing each household with its own sanitation facility’. He further said that ‘the toilet smells very bad and it is affecting my household mostly because the facility is located next to my home’.

Figure 17 show that 94 percent of households said that security in Disteneng is extremely poor. Such discovery is based on the fact that there is currently no security measures to ensure that dwellers are safe. It is assumed that Disteneng has high crime rate. Thus, proper security measures are critical in the area. The area had a mobile security and it was later removed. The provision of security in Disteneng is not sustainable. Furthermore, 94 percent of households said that the provision of security is extremely poor because their lives are vulnerable to harm. In addition, some households are inadequately fenced. Therefore, members of majority of households in Disteneng are not safe from the crime speculations. Moreover, the figure also reveals that 6 percent of the respondents said that the provision of security is poor. Some of the respondents said that they only depend on the Westernburg police station for security of which is very far from the settlement. Moreover, the figure also reveals that 98 percent of the households said that the provision of health care is extremely poor. That is because dwellers have inadequate access to clinics and hospitals for emergencies. One of the respondent said that ‘we rely on Polokwane Provincial and Seshego Hospital when we seek for medical attention’. Furthermore, the figure shows that 2 percent of the households stated that the provision of health care is poor. They further said that they previously had mobile clinics visiting Disteneng and they used that opportunity to seek for medical care. Some dwellers said that health care cannot be regarded as extremely poor because we have mobile clinics. The respondent further explained that ‘mobile clinics are better than not having minimum access to clinics, and traveling long distances to access health care facilities’.

Figure 18: The Quality of Services Provided in Disteneng

Dominating studies concluded that services provided in informal settlements are of poor quality (Sinwell, 2011; Naster and Ramasar, 2012). The figure below presents the quality of types of services provided in Disteneng.

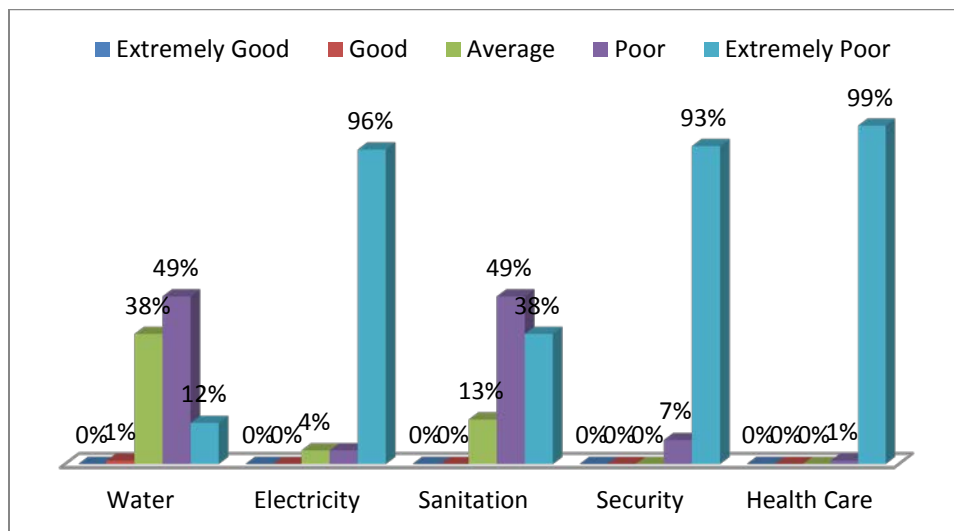


Figure 18 present the quality of water, electricity, sanitation, security and health care that are provided in Disteneng. The figure confirms the ample literature that argues water provision in majority of informal settlements in developing countries is of poor quality. The figure discloses that 49 percent of the households in Disteneng think that provided water is of poor quality. The quality of water provided in the area is poor because households are unable to access such services at any time they wish. Such discoveries exist because dwellers have to walk to fetch water for household consumption. While 49 percent of households say that the quality of water that has been provided is poor, 38 percent said that the quality of water provided is neutral. Having running water in the community may have influenced 38 percent of households in Disteneng to say that the quality of water provision in the area is neutral. Households in Disteneng had no access to clean water and the idea of have minimum access to piped water influenced some households to rate the quality of water delivery as neutral. Furthermore, water provision in Disteneng might not have the similar quality as residential areas such as Seshego and Bendor, but dwellers have access to water that households can use.

In addition, the figure demonstrates that 12 percent of households in Disteneng said that the quality of water provided is extremely poor. The comparison that exists amongst the residents of Polokwane Local Municipality cannot be ignored. Residents always compare their dwelling with other area regardless of the type of settlement. Therefore, 12 informal households have concluded that the quality of water provided is extremely poor. Every household is entitled to having safe water that is available and accessible at all times. Thus, when households have no access to their own running water, dwellers conclude that the quality of water provided is extremely poor. Additionally, 1 percent of the households indicated that the quality of provided water in Disteneng is good. It is obvious that dwellers in Disteneng would love to enjoy the benefits of living in urban areas because towns and cities are assumed to have better service.

Figure 18 shows majority (96 percent) of households said that the quality of electricity provided in Disteneng is extremely poor. It was also stipulated that Disteneng was never provided with electric connection. However, there are households that have access to electricity. Other respondents expressed their concerns in relation to the provision of electricity in Disteneng. Others said that electricity was never provided in the area. On the other hand, other respondents said that the Polokwane local Municipality has provided electricity for only few households and the rest was left out. Thus, 96 percent of the respondents feel that the quality of provided electricity in Disteneng is extremely poor. The figure also tells that 4 percent of the households rated the quality of the provided electricity to be poor. However, the provision of electricity in Disteneng is questionable because few households have access to electricity while the rest of the settlement has no minimum access. From observation, households that have access to electricity connection are those that have been relocated. Households that has access to electricity in Disteneng are these that have illegally connected power from Greenside. Evidently, households that have access to electricity connection are those that are located very close to Greenside.

Literature argued that although providing sanitation facilities for informal households is a priority for ISU programme, the provision of such services usually has poor conditions (Miraftab, 2009; Scovronick *et al.*, 2015). Thus, these conditions determine the quality of

such amenities. Figure 18 made evident that the quality of sanitation facilities in Disteneng is poor. That is indicated by 49 percent of households that said that those facilities are poor and not good for hygiene. 'We are disappointed by the provision of sanitation facilities in this area' said one of the respondents. The respondent further said that 'when we were first told that we are going to have toilets, no one thought we are going to be given anything of this kind'. Although dwellers have minimum access to sanitation facilities, the residents are complaining about the quality of the services because households expected better services than what they have received. In addition, the figure reveals that the quality of sanitation facilities provided in Disteneng is extremely poor. Households are forced to share the available community toilets. However, some households are not pleased with the fact that the municipality is currently unable to provide sanitation facilities for each household in the area. 'I have never seen anything like this before, I have never seen households sharing the same toilets'. The respondent also explained the uncomfortable nature of sharing a toilet with different households.

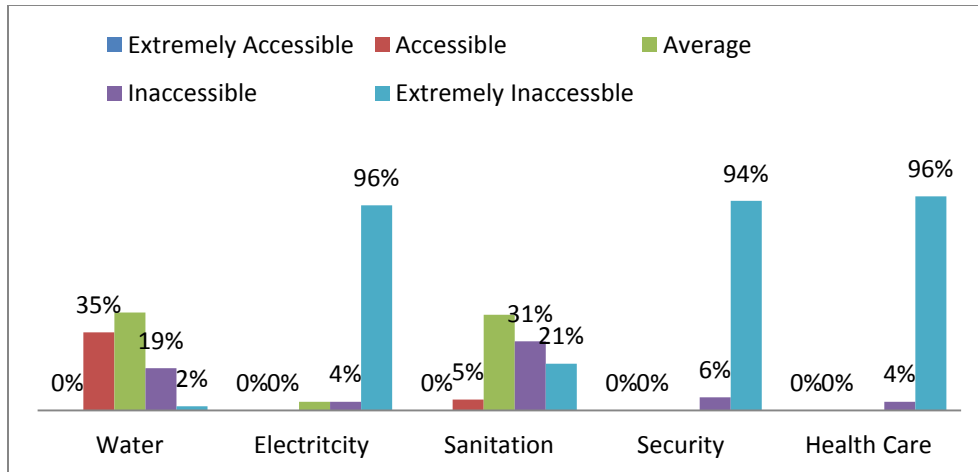
Informal settlements are hostile, hence there is a need to ensure security measures that dwellers will depend on for safety. Figure 18 reveals that majority of households in Disteneng are exposed to criminal activities because the quality of security is extremely poor. The results are demonstrated by 93 percent of households who stated that the provision of security service is extremely poor. 'There was a mobile police station near the robots but later disappeared respondent said. Residents of Disteneng were never told when the mobile police station was removed, hence majority of households feel that their safety is compromised. The respondent also added that 'Westernburg Police Station and Seshego police station are far from Disteneng and they usually take a very long time to respond to reported criminal activities'. Although households in Disteneng use police services from the neighbouring areas, the quality of the service is extremely poor because of the distance and the time taken to respond to request for services. Additionally, the figure also reveals that 7 percent of the households indicated that the quality of security service in Disteneng is poor. There is no form of security or measures implemented by the Polokwane Local Municipality to ensure safety. Although dwellers

have minimal access to security services from Westernburg and Seshego, the sustainability and reliability of these services are poor. Households feel that Disteneng is not safe and the security services are poor.

The quality of basic services such as health care should not be overlooked. In contrast, majority of informal households are denied the opportunity to access health care that are necessary to sustain their healthy living. Health care services in Disteneng is provided through mobile clinics that come to the settlement after a while. Notwithstanding the fact that households are vulnerable to virus breakthrough and other ill health circumstances, the provision of quality health care is prerequisite. Figure 18 displays that the quality of health care in Disteneng is extremely poor. The figure discloses that 94 percent of households are receiving health care services that are extremely of poor quality. Although Disteneng households utilize Seshego Clinic and Hospital and Provincial Hospital to access health service, there are long queues, the services are poor, and the shortage of medication is also a huge challenge. Extremely poor quality of health care provision in this case may have been caused by the fact that there are many people who depend on the two hospitals. Furthermore, the demand of medication and human resources such as Doctors and Nurses in larger areas such as Seshego and Polokwane City also affects the quality of services in Disteneng. In addition, the figure discloses that 4 percent of households voiced that the quality health care provided is poor. Dwellers have no health care facilities of their own, provided specifically for Disteneng. However, respondents rated the quality of health care facilities that are accessible.

Figure 19: Accessibility of Services in Disteneng

Informal settlements are provided with services. However, it is important to understand the level of accessibility of the provided amenities. Using extremely accessible, accessible, average, inaccessible and extremely inaccessible ranks, figure 19 demonstrates the accessibility of different services in Disteneng.



Services are provided in majority of urban areas and currently, informal settlements are also a priority in terms of service provision in most local municipalities. However, the accessibility of services plays a critical role in relation to measuring the status of service delivery. Therefore, figure 19 demonstrates the accessibility of water, electricity, sanitation facilities, security and health care in Disteneng. The figure reveals that 35 percent of households have access to water. Disteneng has been provided with communal taps and has to be shared amongst every household in the area. Community taps are one of the common strategies used by the government as a temporary solution to lack of clean and safe water. With the same approach implemented in Disteneng, some households are near community taps, thus, making water accessible to some households. The 35 percent of households that said that they have access to water are those that are near taps and can access such services easily. Also, the figure reveals that 44 percent of household's access to water is average. Household members have to walk certain distance to fetch water. Although household members are complaining about the distance that they have to walk to access water, there is also an element of appreciation that they have running water. 'Although we don't have taps in each stand and we have to walk long distance to fetch water, the government provided us with clean water and it is better than fetching water from the neighbouring communities'. Moreover, the figure also shows that some households are unable to access water. The distance between the nearest community tap and certain households determine the accessibility of water in Disteneng. Thus, households that are

further from community taps are more likely to walk long distances and experience inadequate access to water. Furthermore, 2 percent of the respondents said that water in Disteneng is extremely inaccessible.

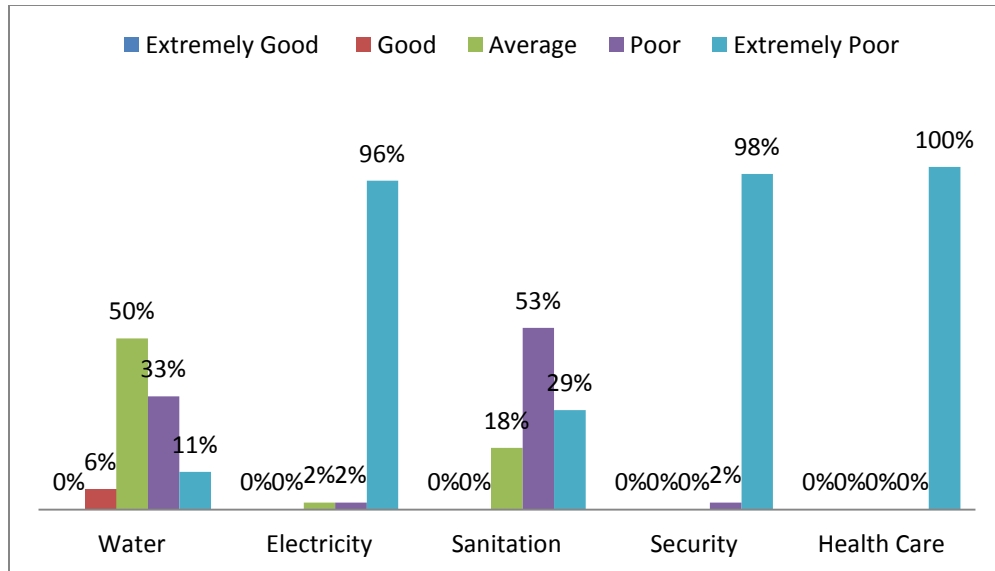
The figure also shows that majority (96 percent) of households have no access to electricity connections. Access to electricity in Disteneng is extremely inaccessible because it has not as yet been provided. However, there are households that have electricity and they said that the accessibility of electricity is average. The 4 percent of households in Disteneng that has rated the access to electricity average are these that have electricity connection. Unauthorised power connections affect the quality of electricity on the households nearby. Nonetheless, access to sanitation facilities is also crucial in maintaining a healthy living environment. Sanitation facilities that are provided in Disteneng are also communal and well known as latrines. Figure 19 discloses that 5 percent of households have access to sanitation facilities. Some of the households are relatively closer to such facilities and members of the households are able to utilise these facilities at any time. Sanitation facilities in Disteneng were provided before the relocation and rearrangement of the houses and were randomly located. Thus, some of the facilities are located not on the streets but on within the stand of a particular household. Therefore, households that coincidentally have sanitation facilities on their stands are these that have better access to these services. Figure 19 demonstrates that 43 percent of informal households in Disteneng rated the accessibility of sanitation facilities to be average. Such services are provided in Disteneng but are not accessible to all households. That is because not every household has its own facility; rather, the community has to share the provided amenities. Furthermore, some households stated have average access to sanitation facilities because the provided amenities are not as accessible as they assumed they would be and that having these services is better than most of the systems that were used before the provision of sanitation facilities. Although the facilities are not flushing and poorly maintained, having these amenities improved the hygiene in the area. However, the figure also shows that 31 percent of the households in Disteneng have poor access to sanitation facilities. Sanitation facilities are inaccessible to 31 percent of households in Disteneng. Household members have to

walk long distances to utilise such amenities. In addition, 21 percent of the households said that such services are extremely inaccessible in the settlement. Some facilities are located on other households' land. Thus, sanitation facilities are inaccessible in Disteneng.

Moreover, the accessibility of security services in Disteneng is rated to be extremely inaccessible. There are sufficient studies that concluded that informal households depend on service at their neighbouring communities. The figure divulges that 94 percent of the households' access to security services is extremely inaccessible. However, 6 percent of the households said that security is inaccessible. The outcomes are influenced by the distance between Disteneng and areas where the SAPS is located and the time taken to respond to their safety queries. In addition, the figure also shows that health care services in Disteneng are extremely inaccessible. One of the respondent said that no hospital or clinic has ever been delivered in the area. The respondent further explained that 'we have to travel to town or Seshego in order to have access to health care facilities'. In this regard, traveling to town to access Provincial Hospital is costly for informal household because they either have to take two taxis, one from Disteneng to town and the other one from town to the hospital. Taking into consideration their economic status, health care services in Disteneng is extremely inaccessible. However, 4 percent of the informal households said that health care on Disteneng is inaccessible.

Figure 20: Status of Service Delivery in Disteneng

Figure 20 demonstrates the status of overall provision of services such as water, electricity, sanitation, security and health cares. Respondents were asked to rate the status of service delivery in Disteneng using extremely good, good, average, poor and extremely poor ranks.



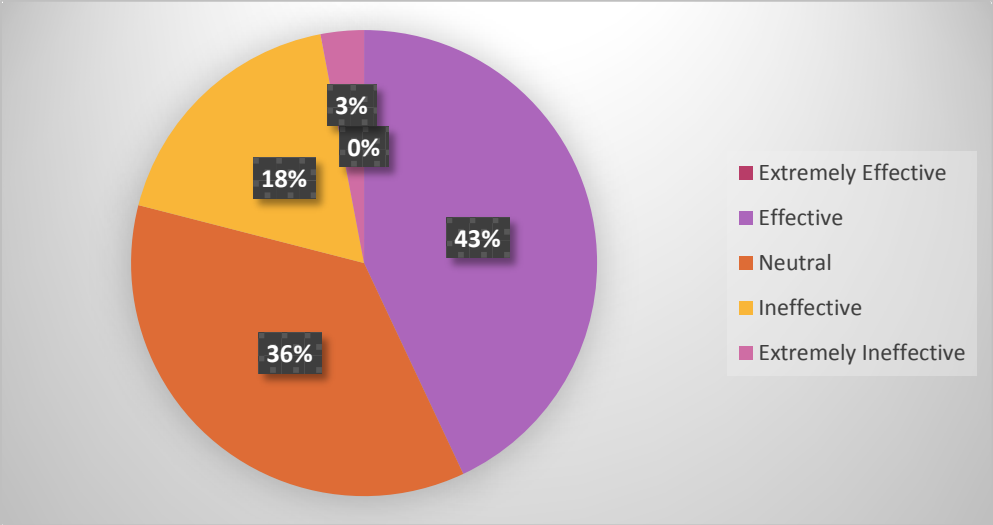
Half of the households said that status of water in Disteneng is neutral. In this regard, water has been provided but may not effectively cater for all households. Dwellers have access to water but the effort of walking a distance to the community taps is not convenient for other households. However, minority of households said that the status of water in the area is good. Although households share communal taps, dwellers had no access to such services before the implementation of the upgrading programme. Thus, having minimum access to services is appreciated. Furthermore, figure 20 reveals that the status of health care, electricity and security services are extremely poor. The outcomes are demonstrated by the highest percentage demonstrated by the figure above. Figure 20 also uncovers that 53 percent of respondents argued that sanitation is rated poor, whilst 29 percent said the status of sanitation in the area is extremely poor. The outcomes are influenced by the shared sanitation facilities, quantity and poor maintenance of those facilities. On the other hand, 18 percent of the respondents said that the overall status of sanitation in Disteneng is average. It was further explained that households have access to such services but there are serious issues that need the municipal attention. The overall status of service delivery in Disteneng is poor, even in the existence of the upgrading programme.

4.5. Effects of ISU Programme on Service Delivery in Disteneng

Informal households in Disteneng are faced with many uncertainties that affect their daily living. The ISU programme's objectives are to ensure sustainable provision of services, while remedying the harsh conditions that households face in Disteneng. Although service provision in Disteneng left households unsatisfied, the programme improved most of the harsh living conditions. Literature said that ISU programme has minimum effects on service provision. However, the argument has not been verified in Disteneng. Therefore, this theme covers the effects of ISU programme on service provision in Disteneng.

Figure 21: Effectiveness of the Overall Upgrading Programme in Disteneng

The effectiveness of the programme is dependent upon the adequate planning and execution of projects. Respondents were asked to rate the overall effectiveness of ISU programme using extremely effective, effective, neutral, ineffective and extremely ineffective ranks. Figure 21 reveals household's opinions of the effectiveness of the overall programme.



ISU programme has been put into practice in countless informal dwellings to improve the living conditions of households. In other informal dwellings, the programme has not affected the households' harsh condition because of poor implementation. Figure 21 reveals that 43 percent of households said that the upgrading programme is effective. The programme has made improvements on the harsh living conditions of the informal

dwellers. Furthermore, households have access to services that they never had before the implementation of the upgrading programme. Although households do not have access to services such as water and sanitation per household, the improvements the programme made is remarkable. The overall conditions of the settlement have been amended; households are not as clustered as they used to be before the implementation of the programme. Furthermore, households have access to tenure security which is one of the priorities of the upgrading programme.

Moreover, figure 21 also shows that 36 percent of the households said that ISU programme's effectiveness is neutral. Although the urban renewal programme has affected the provision of basic service in Disteneng, the quality and accessibility of those services are not of the standard that other households in formal settlements have. Having minimum access to services in informal settlements is better than not having those basic services at all. One of the respondent said that 'we are not entirely satisfied with the basic services that were provided by the upgrading programme but we appreciate the little that the Polokwane Local Municipality has provided'. In addition, 18 percent of the households rated the ISU programme to be ineffective. There are number of services that are considered to be basic but are not as yet provided in the area. The outcomes of are influenced by inadequacy of services such as health care and security amongst others that are inaccessible to households. Furthermore, the figure demonstrates that 3 percent of the households said that the ISU programme extremely ineffective.

Figure 22: Effects of the ISU Programme on Quality Services in Disteneng

Poor quality of services in most townships is demonstrated through service delivery protests. With the increasing rate of service delivery protests annually, the quality of service in informal settlements are bound to be extremely poor. It is assumed that ISU programme have effects on providing services in general. However, the quality of services provided should to be disclosed. Figure 22 presents the effects of the upgrading programme on quality services in Disteneng.

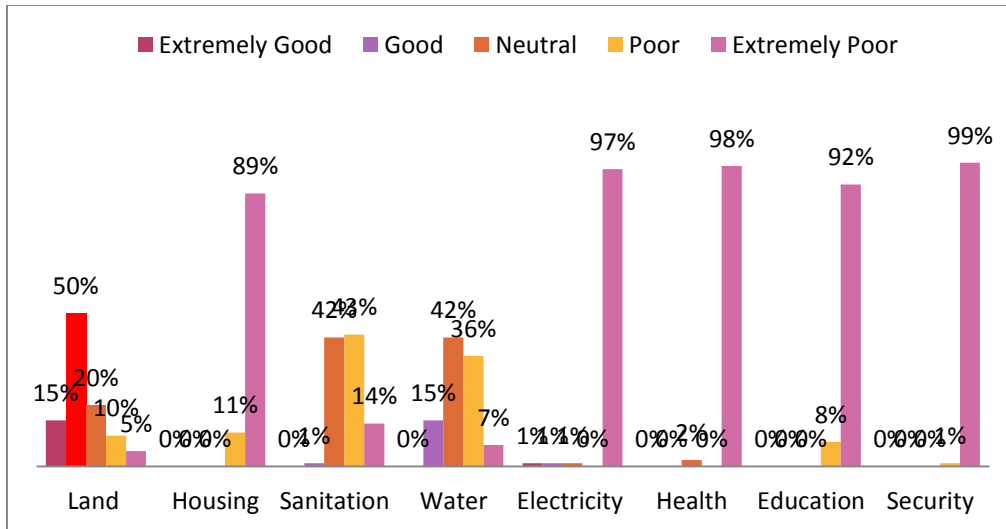


Figure 22 discloses that 15 percent of the households rated the effects of the urban renewal programmes' quality of the land tenure as extremely good. Each household in Disteneng is provided with secured tenure; thus, the quality of land provision is rated to be extremely good. Dwellers have their own land that is legally assigned to them and can be used anyhow. Furthermore, the figure also reveals that 50 percent of the households in Disteneng have access to quality land. Land tenure has always been prioritized by the ISU programme and one of the reasons why the programme exists. Thus, the outcomes of the figure illustrate that the programme has provided quality land to informal households in Disteneng. The figure also displays that 20 percent of the households rated the quality of the effects of ISU programme on land tenure as neutral. Some households have access to land tenure but are not fully satisfied with the land that they are given. The process of reallocation and in-situ has created changes in relation to the location in which dwellers were settled in. Thus, households said that they are located on land that is hard and that they may not be able to have vegetable gardens as they had planned. However, some households (10 percent) rated the quality of the programme towards land as poor. There are number of implications attached to the process of reallocation and some of these include affecting the households' livelihood and economic activities. Hence, participation forms an important part of the ISU programme. Through consultation and decentralization of authority, members of informal households are able to make decisions on whether or not reallocation favours

the household and its economic opportunities. Furthermore, the remaining 5 percent of the households in Disteneng argued that the effect of the programme on quality land tenure is extremely poor. The outcomes may have been influenced by the productivity of land provided to the 5 percent of the households.

The figure also discloses that the effect of ISU programme on quality housing is extremely poor. The outcomes are demonstrated by 89 percent of the households that said quality of housing is extremely poor. The type of houses that dominates in Disteneng is shacks. Proper houses are not provided as yet in the area. Thus, majority of households rated the effect of ISU programme on quality housing as extremely poor. On the other hand, 11 percent of the households said that the quality of housing provided through the upgrading programme is poor. In addition, figure 22 demonstrates that 1 percent of the households rated the effect of informal settlement upgrading on quality sanitation to be good. From observation, the respondents who said the effect of the upgrading programme on quality sanitation is good are the households that have easy access to the facility because it is located within their stand. Thus, the households have access to sanitation facility at any time that is convenient for the members. In contrast, 14 percent of the households said that the effect of the urban renewal programme on quality sanitation is extremely poor. The quality of such amenities is extremely poor because there is inadequate management of these facilities. Furthermore, sanitation facilities in Disteneng are not well maintained by both the Polokwane Local Municipality and the community. The figure also shows that 42 percent of the households said that the effect of the upgrading programme on quality sanitation is neutral. The facilities provided are inaccessible for some households and accessible for other households. It was also made clear that 43 percent of the households described the quality of sanitation provision as poor. Although sanitation facilities are provided, the latrines are not enough to effectively cater for the whole community. The planning process of providing these amenities was poor because they were built before households could be relocated and rearranged. Thus, some households have better access to sanitation services than others.

In addition, figure 22 also reveals that 15 percent of households stated that ISU programme effect on quality water is good. Before ISU programme was implemented in Disteneng, having clean and safe water for household consumption was problematic. However, accessing clean water is not as tricky as it used to be. Water is a scarce resource in countless developing countries, inclusive of South Africa. Thus having clean, piped water in an informal settlement is an achievement. On the other hand, 7 percent of the households said that the effect of the upgrading programme on quality water is extremely poor. It is assumed that every household in urban areas have access to clean and safe water. Many households in these areas have inadequate access to quality water. Hence, the quality of water provision by the upgrading programme is considered to be extremely poor. In addition, the figure also discloses that majority of households have stated that the effect of the programme on quality water is neutral. Having community taps that provides clean water cannot be compared to not having water at all. 'Even though we do not have running water in each household, we get water from community taps', one of the respondents said. Moreover, every household have its own expectation from their local municipality and one of them is to provide certain service in a manner that suits their preference. Polokwane Local Municipality could not deliver water to each household in Disteneng. As a result, 36 percent of households said that the quality of water provided by the urban renewal programme is poor. In addition, 42 percent of the household's access to quality water provided by ISU programme is neutral. The effects of the upgrading programme on quality water in Disteneng cannot be rated either poor or good, rather in between. There are expectations that the informal households have towards the programme. Thus, the outcomes of the above figure are influenced by the unattended expectations.

Provision of electricity in informal settlements is normally the poorest amongst other services. Figure 22 demonstrates that 97 percent of Disteneng households have extremely poor access to quality electric connections. Households have no access to even minimum power connections. Furthermore, 3 percent of households rated the quality of electricity as poor. From observation, the 3 percent of households in Disteneng that rated the quality of electricity as poor are speculated to have illegally

connected power from Greenside. In addition, the figure also shows that 98 percent of the households said that the effects of ISU programme on quality health care are extremely poor. Quality health care service provided by the upgrading programme is extremely poor because facilities have not been provided to the dwellers in Disteneng. Furthermore, household members have to travel to Seshego or Polokwane city in order to access such services. However, 2 percent of the households said that the effects of the urban renewal programme on quality health care are neutral. The outcomes are on the bases that mobile clinics visit Disteneng once in a while to assist household members who are in need of medication and health care services in general.

Although ensuring primary education is one of the most crucial goals in developing countries, most informal settlements are still disadvantaged in this regard. The above figure reveals that 92 percent of the households rated the quality of education facilities provided by the ISU programme as extremely poor. The process of providing quality services is time consuming; hence the provision of educational facilities by the upgrading programme in informal settlement is rated to be extremely poor. Furthermore, 8 percent of the households also rated the quality of education facilities provided through the ISU programme to be poor. Household members who are still in school depend on the facilities at the neighbouring communities to enhance their learning. However, the upgrading programme did not provide any form of education facilities, even short education programmes. Moreover, informal settlements are known to be hostile and in need to quality security services in order to ensure safety of people living in the area. The quality of security services delivered by the programme is rated 99 percent extremely poor. The results are influenced by the fact that Disteneng has no police services assigned to provide safety of security to the vulnerable. However, it is assumed that most criminal activities are initiated by the dwellers. As a result, household members' safety is compromised because house breaking, armed robberies, pic pocketing and murders are initiated within the area and there is no police force to control the situation. Lastly, the figure reveals that the quality of security in Disteneng is rated at 1 percent poor. That is because most households have no safety measure in a

form of fence or any other form of security. In addition, Disteneng had a mobile police station which was later removed without any consultation with the community.

Figure 23: The Effectiveness of ISU Programme on Service Delivery in Disteneng

The debates about the effects of ISU programme has been discussed and argued on countless literature. Most studies have debated that ISU programme has affected informal households' access to services and improved the harsh living conditions found in informal settlements (Super, 2016). Figure 23 presents the effectiveness of ISU programme on service delivery in Disteneng.

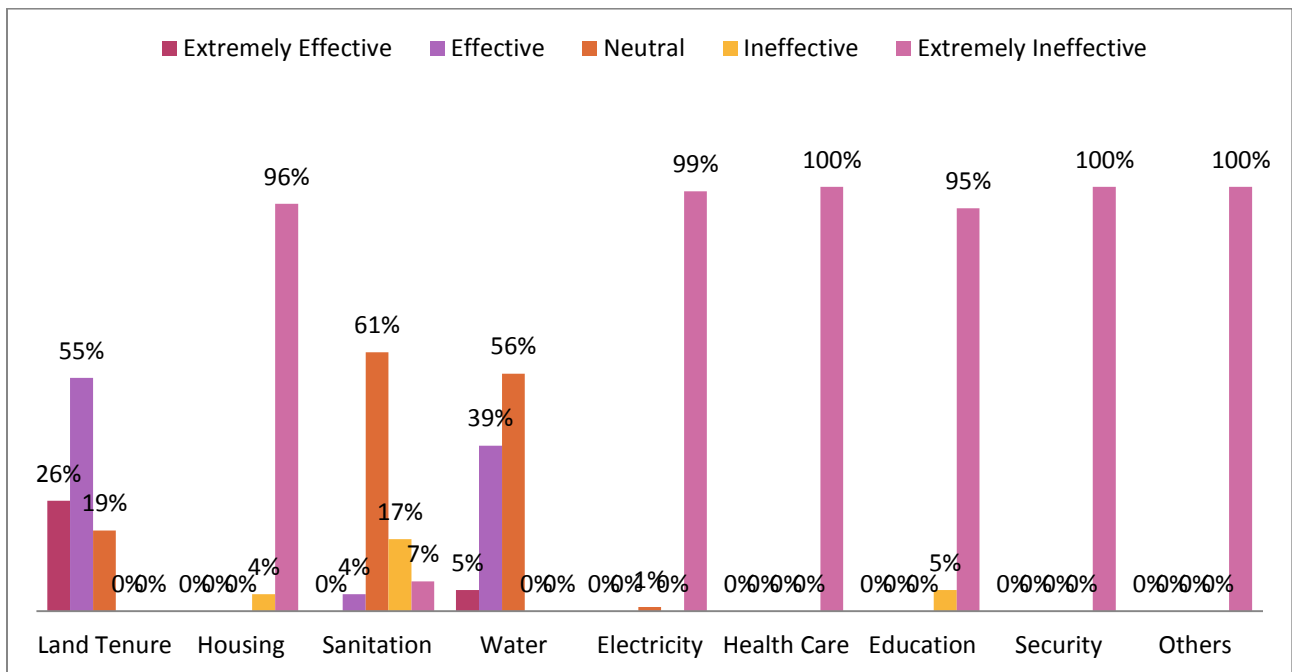


Figure 23 discloses the effects of ISU programme on services such as land tenure, housing, sanitation, water, electricity, health care, education and security. The figure demonstrates that the upgrading programme has been extremely effective in providing land security in Disteneng. The outcomes are demonstrated by the 26 percent of households who indicated that they now have access to land and that occupied stands are registered in their names. Furthermore, the figure reveals that 55 percent of the respondents said that the informal upgrading programme in Disteneng has effectively affected land tenure. In this regards, majority of land security in the area was effectively

provided through the upgrading programme. The figure also reveals that 19 percent of the households rated the effectiveness of the ISU programme on land tenure as neutral.

Furthermore, the effectiveness of informal settlement upgrading on services such as housing is rated very low as there are no houses provided to poor households at present. Evidently, figure 24 reveals that 4 percent of the households said that the effects of the programme on housing are ineffective, whilst 94 percent of the other households said that the urban renewal programme is extremely ineffective. The outcomes are influenced by the fact that houses are not provided in Disteneng and that households are exposed to poor housing conditions, evidence from figure 6. Figure 23 also reveals that majority (61 percent) of the households stipulated that the effect on the upgrading programme on sanitation facilities is neutral as households have access to such facilities and they also said that the services are not easily accessed. Furthermore, 17 percent indicated that the programme is ineffective because the latrines are poorly maintained. The figure also demonstrates that 7 percent of the households said that the effect of the upgrading programme on sanitation facilities is extremely ineffective. 'The whole residential area has to share few facilities, those facilities are not well maintained, my household is suffocating because of the bad smell as the facility is located next to my house' one of the respondents voiced out their concerns regarding the provided latrines. The programme has provided latrines so that the informal settlement dwellers could have access to sanitation facilities while waiting for installation of sanitation facilities per household. However, 4 percent of the households stated that although the latrines are not in a good condition, all the households in Disteneng had no minimal access to sanitation facilities but after the implementing the upgrading programme, they have access to such facilities.

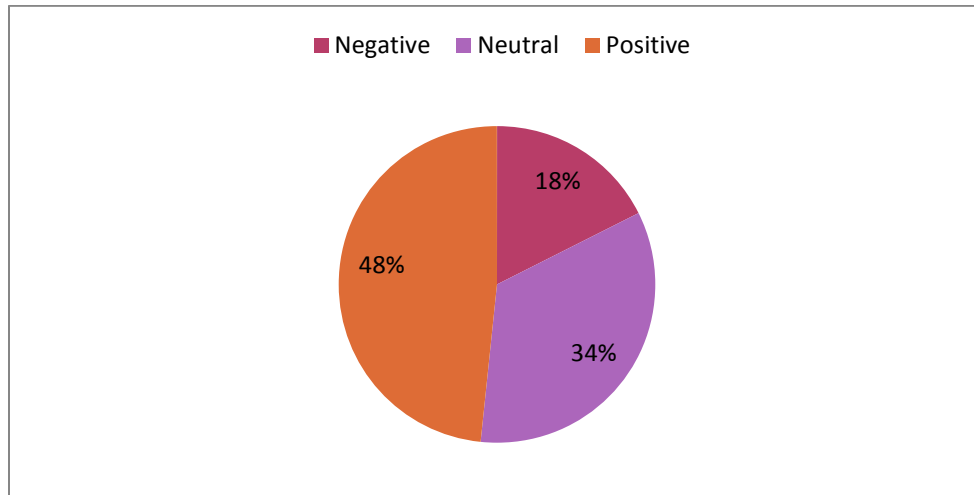
Moreover, the effect of the upgrading programme on water is mostly neutral as indicated by 56 percent of the households. Through the programme in Disteneng, households were able to access water from the communal taps; however, household members have to walk a distance to access water. Furthermore, 39 percent of the households indicated that the effect of the urban renewal programme is effective with regard to water in the area. Household's access to water has improved since the

programme has installed communal taps so that dwellers could have safe water for consumption. Additionally, the remaining 5 percent of the households voiced out that the programme has extremely effective water service in Disteneng. From observation, the respond of 5 percent of households was influenced by the location of communal taps. In this regard, community taps are located closer to their stands and that they have easy access to water. Moreover, the effect of the programme on electricity in Disteneng is extremely ineffective. The outcomes are revealed by almost all the sampled households (99 percent) that said they have no electricity connection and that they continue using the primitive methods of heating and lighting. However, the remaining 1 percent said that the ISU programme's effect on electricity is ineffective.

Also, the effects of the programme on health care are recognised as extremely inadequate. Figure 23 uncovered that household members in Disteneng have no access to health care facilities that are provided precisely for them. In this regard, every household in Disteneng have a shared sentiment when discussing issues related to health care provision by the upgrading programme. Moreover, the outcome of the effect of upgrading programme on education also has similar conclusion. Majority of households (95 percent) expressed that the programme's effect on education is extremely ineffective. The other 5 percent of the households said that the programme's effect on education is ineffective. No educational facility has been provided in Disteneng; hence the respondent's feedback revealed that the programme's effect on education is extremely ineffective. According to the key informant, upgrading of Disteneng is a huge programme that requires adequate funds and that schools are not as yet provided because of constrains related to finance. However, educational facilities will be provided and that forms part of their long term goal. Lastly, figure 23 demonstrates that 100 percent of the households said that the programme has not affected security at all. The outcomes are influenced by the dwellers inadequate access to safety and security services such as the SAPS.

Figure 24: Effects of ISU programme on Service Delivery in Disteneng

Households in Disteneng were exposed to harsh and life threatening living conditions, with no minimal access to basic services, insecure tenure amongst other conditions. ISU programme is put in place to develop the informal settlement dwellers, improve the harsh living conditions in informal settlements. At present, the households have access to few communal basic services. Figure 24 presents the effects of ISU programme on service delivery in Disteneng.



Majority of households are not satisfied with the services that they have received thus far. However, some households have stipulated that there is a huge difference between the before and after the implementation of ISU programme. The above figure demonstrates the overall opinion of households on the effects that ISU programme has on service provision. Figure 24 reveals that 48 percent of households in Disteneng believe that ISU programme has positive effects on service delivery. Although the effects on the upgrading programme in Disteneng are minimal, households have access to services that dwellers did not have before the programme. Households have access to running water, sanitation facilities and tenure security. Furthermore, the programme affected the living conditions of many households in the area. Houses in Disteneng were clustered very close to each other and in cases of fire breaks, majority of households were affected. However, houses are arranged in a manner that allows dwellers to walk around the settlement that has improved street patterns. In addition, the improvement in relation to well-planned streets is the promotion of better safety and

security. Moreover, there are households that had a different view on the effects of ISU programme on service delivery. Figure 24 reveals that 18 percent of the households in Disteneng indicated that the programme has negative effects on service delivery. Figure 22 revealed that the quality of services in Disteneng is poor, Figure 19 and 16 also demonstrated that services in the area are inaccessible, and that households are not satisfied with the services provided. The outcomes of figure 24 have been influenced by the outcomes of figure 22, 19 and 16.

4.6. Conclusion

Households in Disteneng are faced with number of harsh living conditions which amongst them, there are extremely inadequate access to basic service and poor infrastructure development. Chapter 4 has revealed the minimal improvements that are noticeable in Disteneng and which includes secure tenure, access to water and sanitation facilities. The programme has not as yet reached its final objective. However, most basic services are still on the pipeline. One of the key informants said that a school and clinic will be contracted, low cost housing will be provided to the needy, and sewage systems will be installed and that a park also forms part of the programme's long term objective. The issues around the quality of services are also raised in this regard. However, chapter 4 exposed that households in Disteneng think the effects of ISU programme on service delivery is positive. The following chapter proves the findings, recommendation and conclusion on the study.

CHAPTER FIVE

FINDINGS, RECOMMENDATIONS AND CONCLUSION ON INFORMAL SETTLEMENT UPGRADING AND SERVICE DELIVERY

5.1. Introduction

Both primary and secondary data put together to study the effects of ISU programme on service delivery. Analysis and interpretation of the primary data presented on chapter and 4 has revealed the living conditions, the roles and rationale of the ISU programme, the status of service delivery and the effects of ISU programme on service delivery in Disteneng. The findings from data analysis are explained in this chapter. Furthermore, the chapter gives recommendations on how to best improve the effects of ISU programme on service provision in Disteneng. Lastly, the chapter also concludes the thesis.

5.2. Research Findings

- Theoretically, the thesis established that the conditions of a typical informal settlement are extremely harsh and not conducive. Informal settlements have the poorest physical conditions amongst all areas in cities. In addition, informal settlements are located next rivers, rail-ways and dumping sites, exposing the urban vulnerable to water borne diseases and other ill-health conditions. As per South African experience, the dissertation established that the living conditions in informal settlements expose dwellers to little environmental disruption and more social problems. Informal households in South Africa are exposed to high criminal activities and illiteracy. Furthermore, informal dweller's inadequate access to basic services is not serve because the ISU programme has affected household's access to water, land and in some cases housing. Based on experiences in Disteneng, the study established that after the implementation of ISU programme, household's living conditions have improved. Households in the area were exposed to floods during rainy seasons. However, after relocation and rearrangements of households, dwellers are not exposed to any environmental

disruption. Access to basic services such as water, sanitation and land in Disteneng has enhanced.

- Theoretically, the study has established that the roles of ISU programme are to facilitate service delivery, integrate social and economic development and to promote decent living conditions in informal settlements. In addition, the rationale of the ISU programme is to empower the urban vulnerable, to ensure health and security and formalization of informal settlements. Institutions involved in ISU programme are the local government, UN-Habitat and Department of Housing and Urban Development. However, the local government is the closest sphere of government to the public; the institution played a greater role to gather data on the needs of the local communities. As per South African experience, the dissertation established that the roles and rationale of the upgrading programme are similar to those at the international level. However, Local Municipalities; Co-operative Governance, Human Settlement and Traditional Affairs; Department of Human Settlement; National Deeds Office and Department of Environmental Affairs played different roles in ISU programme. Based on experiences in Disteneng, the thesis recognized that ISU programme's rationale in the area is to promote mixed land use, social cohesion, and proper urban growth while fitting Disteneng into Polokwane City and to generate municipal revenue. Furthermore, the study revealed that Polokwane Local Municipality, Land Claim Commission, DCP, NDO, COGTA, DHA and DWS played different roles during the implementation of the upgrading programme. However, the Polokwane Local Municipality played a massive role because it was interacting with Disteneng community and all the other institutions involved.
- Theoretically, the thesis established that the status of service delivery in informal settlements is poor. Evidently, an estimated 748 households have poor access to drinking water; 2.5 billion people lack access to improved sanitation resulting in 1 billion people practicing open defecation in Pacific Countries. The government failed to provide quality and affordable water, electricity and housing to the informal settlement dwellers. In line with South African experience, the study

proved that there is a large gap in service delivery. Since South Africa became a democratic country, the government built only 2.3 million houses but has unsuccessfully kept up with the high demand of such services. In contrast, statistics revealed that majority of households have access to water, electricity and sanitation. However, households that have inadequate access to such services utilise amenities from their neighbouring communities. Based on experiences in Disteneng, the study established that basic services are delivered in Disteneng, however, the accessibility and quality of the amenities is poor. Almost all the households indicated that they have access to land, while more than 50 percent said that they have access to water and sanitation. Electricity is not provided; hence households use solid fuel, paraffin and candles as their sources of energy.

- Theoretically, the thesis established that the ISU programmes have a positive effect on the improvement of basic services in informal settlements. As per South African experience, the dissertation established that there is a mix of success stories and failures in terms of the effects of ISU programme on service delivery. Based on experiences in Disteneng, the study established that ISU programme has positively affected service provision in the area. Although the ISU programme positive effects on service delivery, households are not satisfied with most of the services provided. Informal dwellers have access to communal taps and sanitation facilities. Furthermore, every household in the areas have access to land. At present, the settlement is now acknowledged as a township rather than an informal settlement.

5.3. Recommendations

Guided by the rough analysis of literature, data collected in Disteneng and the research findings, the study recommends the following:

- Adequate investment on basic services to provide amenities such as schools, electricity and shelter. The safety and security of Disteneng households should not be compromised. As a result, a mobile police station should be brought back

to Disteneng. For Disteneng community forum against crime to be effective, dwellers have to actively participate in all activities implemented to prevent crime.

- Given that ISU programme in Disteneng have partially affected service delivery and accessibility in the area, sustainable measures to improve the quality and availability of services need to be put in place. For sustainable and easy access to basic service in Disteneng, each household should be provided with piped water, sanitation facility, electricity and adequate housing.

5.4. Conclusions

The study has delivered arguments on informal settlement upgrading and its effects on service provision in informal settlements around the world. Other scholars gave criticisms on the two concepts. The first hand data gathered from households in Disteneng and Polokwane Local Municipality official (key informant) also provoked arguments on the two concepts. The urban renewal programme ensures continued improvement in Disteneng. The provision of communal services forms part of the short-term goals on the programme. A blind eye could not be turned on households and community needs while planning for the long term and more sustainable access to basic service. However, the study revealed that the ISU programme has made minimal improvements on the bases that it provided services that had to be shared amongst households. In existence of the outcomes of the study, the thesis on the study concludes that ISU programme has a positive effect service delivery. Evidently, the programme has ensured legalization of the settlement; hence Disteneng is now recognised as a township and it is given a new name (Extension 78). Furthermore, households have access to secured land, which is considered to be an essential.

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Appendix A: Questionnaire



University of Limpopo Turfloop Campus

School of Economics and Management, Faculty of Management and Law

RESEARCH QUESTIONNAIRE

This questionnaire is designed to solicit information from households on the effects of informal settlement upgrading on service delivery in Disteneng, Polokwane City. This survey is part of the Master of Development Planning and Management research project, registered in the Department of Planning and Management at the University of Limpopo, Turfloop Campus.

The information collected will be used for academic purposes only. In addition, respondents are also guaranteed anonymity and participation in the survey is voluntary.

Thank you, in advance

MR Ngoepe (201117385)

Section A: Demographic Profile

Instructions: Please use an X to indicate the following

1. The number of people in your household and gender.

	Age	Male	Female	Total Number
1.	0 to 18			
2.	19 to 35			
3.	36 to 53			
4.	54 and above			
Total				

2. Nationality of members of the household.

1	2	3	4
South African	Asian	Zimbabwean	Others

3. The number of bread winners in the household.

1	2	3	4
1 to 2	3 to 4	5 to 6	6 and more

4. Household employment.

1	Self-employed	
2	Informal employment	
3	Formal employment	
4	Unemployed	
5	Minor	

5. The household monthly income.

1	2	3	4	5	6
R1 to R200	R201 to R400	R401 to R600	R601 to R800	R801 to R1000	R1001 and more

6. The period your household have been staying in settlement.

1	2	3	4
Less than a year	1 to 3 years	4 to 6 years	Above 7 years

Section B: Conditions of a typical informal settlement

1. How would you describe the lay-out of settlement?

1	2	3
Miscellaneous	Uniform	Others

Please specify _____

2. Which service infrastructures are available in the settlement?

1	2	3	4
Drainage system	Social facilities	Roads	Others

3. Which amenities have been provided in area?

1	2	3	4	5	6	7	8
Water	Sanitation facilities	Health care facilities	Education facilities	Electricity	Land tenure	Shelter	None of the above

4. The settlement is located next to;

1	2	3	4
Railway	Dumping Side	River	Others

Please specify _____

5. How would you describe environmental shocks are experienced in the area?

1	Frequency	Floods	Drought	Water borne diseases
2	Never			
3	Once a year			
4	Twice a year			
5	Throughout the year			

6. Which forms of energy does your household use for cooking, heating or lighting?

1	2	3	4	5	6
Coals	Paraffin	Generator	Candles	Woods	Others

Please specify _____

7. Using a scale of 1 to 5 where 1 represent the most and 5 represent the least, which of the following factors most affect the environment cleanliness of the area.

1	2	3	4	5
Air pollution	Littering	Noise pollution	Poor sanitation facilities	Poor waste management

Please explain further

8. The settlement is considered to be over populated.

1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

Please justify your answer

9. How would you describe the conditions of your household shelter?

1	2	3	4	5
Extremely Adequate	Adequate	Neutral	Inadequate	Extremely Inadequate

Please justify your answer

10. How would you describe the condition of your household shelter?

1	Shack	
2	Clay houses	
3	Brick house	
4	Others	

Please specify _____

11. Indicate the material used to construct the house.

1	2	3	4	5	6	7	8
Bricks	Cement	Corrugated metal	Cardboard	Plywood	Plastics	Face brick	Others

Please specify _____

12. How many rooms does your household have? (Room density)

1	2	3
1 to 2	3 to 4	5 and more

13. Which measures are implemented to ensure safety in the settlement?

1	2	3	4
Build-in police station	Mobile police station	None	Others

Please specify

14. How would you rate the effectiveness of safety measure in the area?

1	2	3	4	5
Extremely Effective	Effective	Neutral	Ineffective	Extremely Ineffective

Please justify your answer

15. How would you describe your household sanitation facility?

1	2	3	4
Latrines	Bucket system	Flushing system	Others

Please specify _____

16. How would you describe the social conditions of the area?

1	2	3	5
Crime	Education	Health	Others

17. On a scale of 1 to 5, where 1 represent the most serious and 5 the least serious, what are the issues that are of serious concern to you?

1	2	3	4	5
Crime	Unemployment	Food Insecurity	Illiteracy	Others

Please specify _____

Section C: The role and rational of informal settlement upgrading

1. How would you describe your awareness of ISU programme?

1	2	3	4	5
Extremely Good	Good	Neutral	Poor	Very Poor

2. Which activities of the upgrading that are implemented in the settlement?

1	2	3
Projects	Actions	Others

Please specify _____

3. What do you think were the purpose of the activity implemented?

1	2	3	4
Infrastructural services	Basic services	Empowering the poor	Others

Please specify _____

4. How satisfied are you with the programme?

1	2	3	4	5
Extremely Satisfied	Satisfied	Neutral	Dissatisfied	Extremely Dissatisfied

5. How would you rate the quality of the programme?

1	2	3	4	5
Extremely Adequate	Adequate	Neutral	Inadequate	Extremely Inadequate

6. How would you describe the adequacy of the programme?

1	2	3	4	5
Extremely Adequate	Adequate	Neutral	Inadequate	Extremely Inadequate

7. How long has it been since the upgrading was implemented?

1	2	3	4	5
Less than a year	1 – 2 years	3 to 4 years	4 to 5 years	More than 6 years

Section D: Status of service delivery in Disteneng

1. This settlement considered to be well serviced.

1	2	3	4	5
Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

Please justify your answer

2. How satisfied are you with the services provision?

1	2	3	4	5
Extremely Satisfied	Satisfied	Neutral	Unsatisfied	Extremely Unsatisfied

Please justify your answer

3. How would you rate the provision of basic service delivery in the area?

	1	2	3	4	5
Basic Services	Extremely Good	Good	Average	Poor	Extremely Poor
Water					
Electricity					
Sanitation					
Security					
Health care					

4. How would you rate the quality of those services?

	1	2	3	4	5
Basic Services	Extremely Good	Good	Average	Poor	Extremely Poor
Water					
Electricity					
Sanitation					
Security					
Health Care					

5. How would you rate the accessibility of basic services?

	1	2	3	4	5
Basic Services	Extremely Accessible	Accessible	Average	Inaccessible	Extremely Inaccessible
Water					
Electricity					
Sanitation					
Security					
Health care					

6. How would you describe the status of service delivery in the settlement?

	1	2	3	4	5
Basic Services	Extremely Good	Good	Average	Poor	Extremely Poor
Water					
Electricity					
Sanitation					
Security					
Health Care					

Section E: Effects of informal settlement upgrading on service delivery

1. In general, how would you describe the effects of informal settlement upgrading of service infrastructure?

1	2	3	4	5
Extremely Effective	Effective	Neutral	Ineffective	Extremely Ineffective

2. How would you describe the effects of the upgrading on the quality service delivery?

	1	2	3	4	5
	Extremely Good	Good	Neutral	Poor	Extremely Poor
Land Tenure					
Housing					
Sanitation					
Water					
Electricity					
Health					
Education					
Security					
Others					

3. How would you describe the effects of the upgrading on service delivery?

	1	2	3	4	5
	Extremely Effective	Effective	Neutral	Ineffective	Extremely Ineffective
Land Tenure					
Housing					
Sanitation					
Water					
Electricity					
Health					
Education					
Others					

4. How would you recognise the effects of the upgrading on service delivery?

1	2	3
Positive	Neutral	Negative

Section F: Recommendations

1. What do you think should be done to improve the living conditions in the settlement and by whom?

2. What do you think should be the additional objectives on the ISU programme and by who?

3. What do you think could be done to enhance the positive effects of the upgrading on service delivery?

Appendix B: Interview Schedule



University of Limpopo Turfloop Campus

School of Economics and Management, Faculty of Management and Law

INTERVIEW SCHEDULE

This interview schedule is designed to solicit information from community representatives and the management at the Polokwane Local Municipality on the effects of informal settlement upgrading on service delivery in Disteneng, Polokwane City. This survey is part of the Master of Development Planning and Management research project, registered in the Department of Planning and Management at the University of Limpopo, Turfloop Campus.

The information collected will be used for academic purposes only. In addition, respondents are also guaranteed anonymity and participation in the survey is voluntary.

Thank you, in advance

MR Ngoepe (201117385)

1. Please explain the conditions in Disteneng
2. When was informal settlement upgrading implemented in Disteneng?
3. What were the objectives of the upgrading?
4. What was the role of the urban renewal programme?
5. How effective is the upgrading at Disteneng?
6. What is the primary focus of the upgrading?
7. How would you describe the provision of services in Disteneng?
8. What is the rationale of ISU programme?
9. How is the population growth in Disteneng?
10. How is the quality of basic services in Disteneng?
11. What are the reasons behind the relocation to Extension 78?
12. How would you rate the accessibility of basic services in Disteneng? Justify your answer.
13. Please describe the status of service delivery in Disteneng.
14. Which services are mostly accessible?
15. What are the effects of the upgrading on service delivery in Disteneng?

Appendix C: TREC Approval



University of Limpopo
Department of Research Administration and Development
Private Bag X1106, Sovenga, 0727, South Africa
Tel: (015) 268 2212, Fax: (015) 268 2306, Email:noko.monene@ul.ac.za

05 February 2016

Ms MR Ngoepe
Department of Development Planning and Management
UNIVERSITY OF LIMPOPO

Dear Ms Ngoepe

APPLICATION FOR ETHICS APPROVAL

Researcher: Ms MR Ngoepe
Title: The effects of informal settlement upgrading on service delivery in Disteneng, Polokwane City
Supervisor: Prof JP Tsheola - University of Limpopo
Co-supervisor: Dr AA Asha - University of Limpopo
Served at TREC on: 27 January 2016
Decision of TREC: Conditional Approval

Condition:

- (i) The researcher should expand on ethical considerations e.g. informed consent, right to privacy, voluntary participation, etc. and own it.

Kindly make the necessary correction and submit the required information as soon as possible so that your ethical clearance certificate can be processed.

N Monene
Secretary: Turfloop Research Ethics Committee

CC: Prof TAB Mashogo: Chairperson - Turfloop Research Ethics Committee
Prof JP Tsheola: Faculty of Management and Law
Prof MP Sebola: School of Economics and Management

Finding solutions for Africa

(29/01/2016)

DIRECTORATE: CORPORATE AND SHARED SERVICES

ITEM:

FILE REF: 5/16/2

REQUEST TO GRANT MR. K.K MESO, MS M.R NGOEPE AND MS. S MAAKE TO
CONDUCT THEIR RESEARCH WITHIN POLOKWANE MUNICIPALITY

Report of the Director: Corporate and Shared Services

Purpose of the Report

To request approval from the acting Municipal Manager to give permission to Mr. K.K Meso, Ms M.R Ngoepe and Ms. S Maake to conduct their research within Polokwane Municipality.

Background and Discussion

Mr. K.K Meso and Ms M.R Ngoepe masters students under Department of Development planning and management at University of Limpopo and also Ms S Maake Doctoral Technologies student in business information systems at Tshwane University of Technology to conduct their research within Polokwane Municipality. The titles of their theses are as follows:

1. Mr. K.K Meso masters students under Department of Development planning and management at University of Limpopo and the title of his Thesis is "*Contributions of informal trading towards urban livelihoods: a case of Polokwane Local Municipality.*"
2. Ms M.R Ngoepe masters students under Department of Development planning and management at University of Limpopo and the title of her Thesis is "*the effects of informal settlement upgrading on service delivery in disteneng: Polokwane Local Municipality*"
3. Ms S Maake Doctoral Technologies student in business information systems at Tshwane University of Technology and her thesis is "*Effective e-filling system usage to enhance service delivery in South African Public sector: a case of Polokwane Local Municipality.*"

The information collected during the survey shall be kept confidential and the University promises to observe all relevant research ethics in line with the University of Limpopo and Tshwane University of Technology's standards and requirements. The university promises to make information available related survey to the municipality.

FINANCIAL IMPLICATION

There is no financial implication on this project

RECOMMEND

That approval be granted for Mr. K.K Meso, Ms M.R Ngoepe and Ms. S Maake to conduct their research within Polokwane Municipality.

The approval should be standard.
I give comment on a few points.
Just let the showing of
the research info be included
in the approval letter.



University of Limpopo

Private Bag X1106, Sovenga, 0727, South Africa
Tel: 015 268-3198, Fax: 015 268-2215, Email: johannes.tsheola@ul.ac.za

TO: Honourable Ms Faith Maboya, Municipal Manager
Polokwane Local Municipality

Cc.: Ms MR Ngoepe (201117385), Lecturer & Masters Candidate, University of Limpopo

From: Professor Johannes Tsheola, Executive Dean & Supervisor

Subject: Request for Permission that Ms Ngoepe Conducts Surveys in Disteneng, Polokwane City

As Supervisor, I herewith make a sincere request to you to allow Ms Ngoepe to conduct fieldwork, questionnaire and interview surveys in Disteneng, Polokwane City, during January 2016. This request is referenced hereunder:

Ms Ngoepe (201117385) is a Lecturer in the Department of Development Planning & Management at the University of Limpopo and is currently registered for a Masters Qualification with the same Department and University as follows:

Title: *The effects of informal settlement upgrading on service delivery in Disteneng, Polokwane City*

Candidate: Ms MR Ngoepe (201117385)

Supervisor: Professor Johannes Tsheola

Ms Ngoepe's Masters Research Proposal has been approved by the University of Limpopo's School of Economics & Management as well as the Faculty of Management & Law Higher Degrees Committees (HDCs); and, the Turfloop Research Ethics Committee (TREC) requires that she secures a letter of permission for her fieldwork and survey in Disteneng, Polokwane City.

Her fieldwork and survey will include observations, photographic information, administration of questionnaires among households, Community Leaders and purposively selected Polokwane City Officials. The purpose of the surveys is to determine the effects of informal settlement

Tsheola 22/12/2015

Finding solutions for Africa

upgrading on service delivery. The relevant data collection tool, questionnaire and interview questions, will be made available to Polokwane Local Municipality.

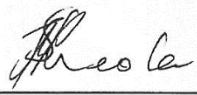
Ms Ngoepe will be assisted by four of her Colleagues and Postgraduate Students: Ms Mmakgoshi Maloa, Mr Kevin Meso, Mr Andani Madzivhandila and Mr Edwin Mutyenya.

Ms Ngoepe would be greatly assisted if she could be allowed permission to conduct fieldwork and survey as requested; and, shall observe all relevant research ethics in keeping with the University of Limpopo's standards and requirements. She is thoroughly trained as a researcher and she knows that she has to uphold the values, principles and guidelines applicable to Polokwane Local Municipality Community.

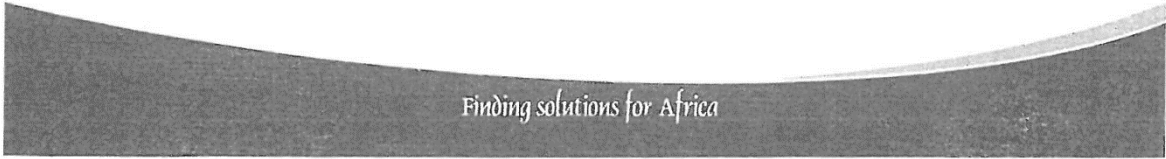
Also, all information to be collected will be kept confidential and made available to the Honourable Municipal Manager.

I herewith kindly request you to allow Ms Ngoepe and her Assistants the opportunity to conduct the fieldwork, questionnaire and interview surveys as requested.

I look forward to your favourable decision.

Signed:  22/12/2015

Professor Johannes Tsheola, Executive Dean
Professor in Development Planning & NRF C3 Rated Researcher
Faculty of Management & Law



Appendix E: Similarity Index Report

Rejoyce First Draft, 2016

ORIGINALITY REPORT

%9

SIMILARITY INDEX

%8

INTERNET SOURCES

%2

PUBLICATIONS

%4

STUDENT PAPERS

PRIMARY SOURCES

1	unhabitat.org Internet Source	%2
2	www.investopedia.com Internet Source	%1
3	Submitted to British University in Egypt Student Paper	%1
4	www.sasdialliance.org.za Internet Source	<%1
5	Submitted to De Montfort University Student Paper	<%1
6	Submitted to California State University, Monterey Bay Student Paper	<%1
7	econpapers.repec.org Internet Source	<%1
8	www.housing.gov.za Internet Source	<%1
9	Submitted to University of Stellenbosch, South	

	Africa Student Paper	<% 1
10	www.acsp.org Internet Source	<% 1
11	Submitted to Clark Atlanta University Student Paper	<% 1
12	Submitted to University of Cape Town Student Paper	<% 1
13	Submitted to Da Vinci Institute Student Paper	<% 1
14	wcr.unhabitat.org Internet Source	<% 1
15	opendocs.ids.ac.uk Internet Source	<% 1
16	uir.unisa.ac.za Internet Source	<% 1
17	archive.epa.gov Internet Source	<% 1
18	Submitted to Bond University Student Paper	<% 1
19	eur-lex.europa.eu Internet Source	<% 1
20	www.econjournals.com Internet Source	<% 1

21	docplayer.net Internet Source	<% 1
22	www.unhabitat.org Internet Source	<% 1
23	Submitted to Nelson Mandela Metropolitan University Student Paper	<% 1
24	www.lgma.org.au Internet Source	<% 1
25	ul.netd.ac.za Internet Source	<% 1
26	uzspace.uzulu.ac.za Internet Source	<% 1
27	www.ros.hw.ac.uk Internet Source	<% 1
28	SpringerBriefs in Geography, 2016. Publication	<% 1
29	Submitted to University of KwaZulu-Natal Student Paper	<% 1
30	Submitted to University of Sheffield Student Paper	<% 1
31	myethiopatrips.com Internet Source	<% 1

32	Submitted to Deland High School Student Paper	<% 1
33	Submitted to Swansea Metropolitan University Student Paper	<% 1
34	Submitted to University of Southampton Student Paper	<% 1
35	www.undp-aciad.org Internet Source	<% 1
36	www.iied.org Internet Source	<% 1
37	Submitted to Kwame Nkrumah University of Science and Technology Student Paper	<% 1
38	ww2.unhabitat.org Internet Source	<% 1
39	Uzun, B.. "Legalizing and upgrading illegal settlements in Turkey", Habitat International, 201004 Publication	<% 1
40	openaccess.adb.org Internet Source	<% 1
41	Submitted to University of Witwatersrand Student Paper	<% 1

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Appendix F: Linguistic Edit Report

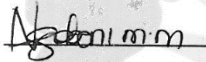


University of Limpopo
School of Molecular and Life Sciences
Private Bag X1106, Sovenga, 0727, South Africa
Tel: (015) 268 3960, Email:mkateko.ngobeni@ul.ac.za

TO WHOM IT MAY CONCERN

This is to confirm that the Master of Development in Planning and Management research entitled 'The effects of informal settlement upgrading programme on service delivery in Disteneng, Polokwane city'. By **Malesela Rejoyce Ngoepe** Student Number: **201117385** has been proofread and edited, and that I am satisfied with both its current academic and technical layouts.

Yours truly



22 May 2017

Ms M.M Ngobeni (English Lecturer)

School of Molecular and Life Sciences

Finding solutions for Africa