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The implementation of site and service schemes in a depressed economy. The case study of Beitbridge, Zimbabwe.

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A research report submitted to the Faculty of Engineering and the Built Environment, University of the Witwatersrand, in fulfilment of the requirements for the degree of Masters of Built Environment in Housing

Johannesburg May 2018

DECLARATION

I declare that this research report is my own unaided work. It is being submitted to the degree of Masters of Built Environment in Housing to the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination to any other University.

……
(Signature of Candidate)

……. day of ……., ……..
(Day) (Month) (Year)

ABSTRACT

The implementation of site and service schemes (S & SS) as a low cost sustainable housing arrangement in Beitbridge may not succeed in a depressed economy entrenched with both formal and informal approaches to project implementation. The delivery of low cost houses though S & SS as a low cost sustainable housing delivery approach has not lived up to its expectations, leaving much be desired except to arouse people's concerted efforts to project implementation. This is in spite of a partnership which promised to be a potential success in providing serviced sites with infrastructure and services and reduce the housing backlog in Beitbridge. The depressed economy eroded household incomes, reduced government public funding of housing development and reduced municipal capacity to provide infrastructure which corresponds with the increased rate of housing development. Following an insightful in-depth interview methodology and several transect walk to the Dulivhadzimu West S & SS Project site, I argue that implementation of the scheme in terms of administrative, infrastructure provision and financial aspects were weak to enable successful implementation of the conventional approach to the scheme. The implementation inadvertently shifted to informal and unplanned approach to the dismay of the municipality and implementing partner and ended up benefitting the high income people who could afford paying for the services. As such, there were no clear regulatory mechanisms and modalities to enable the targeted low-income people to be beneficiaries of the scheme which was hijacked and benefitted the high income people in Beitbridge. As a result, this has resulted in self-help approaches as resulting in self built houses through parallel and incremental development and informal adoption of alternative conventional infrastructure like septic tanks for sanitation facilities. Although the scheme is still in the early stages of project implementation, it clear that the trajectory of the implementation has changed and that the low income people, as the target population, might have been missed.

DEDICATION

The research is dedicated to my mother for her support throughout the study and more importantly to the urban poor who search day and night, sleeping in open spaces, illegal and disused buildings, in hope for adequate housing in the future where they, *"...shall dwell in a peaceable habitation, and in sure dwellings, and in quiet resting places.***" Isaiah 32:18**

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LIST OF ACRONYMS

BBTC	Beitbridge Town Council
CBOs	Community Based Organisations
DPP	Department of Physical Planning
EMA	Environmental Management Authority
GOZ	Government of Zimbabwe
MDC	Movement for Democratic Change
MOU	Memorandum of Understanding
NGOs	Non-Governmental Organisations
NHDP	National Housing Delivery Programme
OM	Operation Murambatsvina
PPPs	Public Private Partnerships
RDCs	Rural District Councils
RTCP	Regional Town and Country Planning
S & SS	Site and Service Schemes
UN-HABITAT	United Nations Human Settlement Programme
ZANU PF	Zimbabwe African National Union (Patriotic Front)
ZIM ASSET	Zimbabwe Agenda for Sustainable Socio-Economic Transformation
ZIMSTAT	Zimbabwe Statistics Agency

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CHAPTER ONE

1.0 Introduction

The shortage of adequate housing is one of the main challenges faced by the developing world, in particularly amongst the low earning population. One of the strategies adopted to solve the housing challenge is site and service schemes (S &S S). Site and service schemes is an approach aimed at providing plots of land with essential infrastructure and services which would enable people to develop their own houses in an organized fashion. There are various approaches in the implementation of site and service schemes which have been adopted by different countries including the USAID and World Bank Assisted Project in Zimbabwe. In order to discuss the housing delivery intervention programmes in Zimbabwe, it is necessary to clarify the "housing" terminology in Zimbabwean context. The National Housing Delivery Programme (2004-2008) conceptualised housing as a "site and servicing scheme" rather than a complete structure. This chapter focuses on the background of the Zimbabwe housing situation, problem statement, objectives and aims of the research, research methodology, ethical considerations and limitations of the study. Finally the chapter layout of the dissertation will be given.

1.1 Background

The government of Zimbabwe adopted site and service schemes as an alternative to the direct housing delivery model. The government is confronted with keeping pace and closing the national housing backlog which is estimated at 1, 25million (ZIMASSET, 2013) as a result of rapid urbanisation, political interference, contradictory economic policies, poor housing policies and resettlement. The demand for housing is but one aspect of the problem. The issue of affordability has serious implication for access to adequate housing. The ZIMASSET (2013) policy document states that, as a result of a depressed economy, high levels of unemployment and liquidity crunch exacerbated by the withdrawal of bilateral and multilateral support, both the private and public sector are failing to deliver adequate housing as beneficiaries are being allocated partially serviced or un-serviced sites to construct their houses.

The prevailing economic conditions have seen more than 70% of the national budget being channeled to fund the government wage bill and the remainder is meant for servicing external debt estimated to be over US$8.7billion (The Financial Gazette, 3 April 2017). More so the government is prioritising agriculture and the manufacturing sector in a bid to revive the economy despite the need to fund housing to reduce the backlog. The current Government Housing Program is a negotiated scheme after government failed to pay civil servants bonuses for 2016 and promised to allocate them serviced plots in exchange for monetary bonuses. This housing strategy raises many issues

for instance the government capacity to fund servicing the site and service schemes given the constraints of government funds. In addition, the government where it has been directly involved to deliver houses, has failed to meet the national target for instance *Garikai / Hlalani Kuhle* Housing Scheme where it managed to deliver 3 325 houses from the national target of 7 000 due to the constrained financial resources (GOZ, 2008).

To cater for this demand, the government of Zimbabwe then adopted many policies such as the "Pay Your Own Service Scheme" (Government of Zimbabwe, 2012:6). The policy prescribed that it was no longer the mandate of the state to provide services. Rather it shifted to be the obligation of the beneficiaries to contribute towards the provision of the services in their new developing settlements through collective self-management (ibid). Due to the economic meltdown in the country, the government therefore adopted the site and service schemes approach to provide housing. The site and service schemes have been implemented under different approaches and concepts which included conventional housing development, informal housing development, incremental housing development and parallel housing development which construction of houses was allowed to be carried out simultaneously with the provision of services (ibid). These approaches have been adopted in the implementation of many housing schemes throughout the country including the Dulivhadzimu Township scheme in Beitbridge.

The constrained financial base has affected individual and household income to afford housing finance and adequate housing. There is a high level of unemployment, deindustrialization and an increase in people employed in the informal market. The economic contraction resulted in increased job losses and further eroded disposable incomes, resulting in a rapid increase in poverty; this continues to affect affordability of housing finance as well as housing itself. As a result of the current depressed economic context, where national savings continue to wane, the project seems to have missed its target population of low income earners and has been hijacked by the 'better offs' who could afford it, leading to gentrification. Due to loss of formal employment and poverty, beneficiaries are now failing to afford payments to acquire housing finance. Given the target population affordability of plot and house is a key issue. The government has enabled private sector and civil societies in housing to augment government efforts. However despite public, private and civil society involvement in housing delivery, the low earners are failing to access affordable housing. Moyo (2014) acknowledges that given the limited ability to deliver adequate housing with the context of a deteriorating economic situation, questions arise as to the magnitude of the impact of site and service schemes in relation to sustainable human settlement.

1.2 Problem Statement and Rationale

The implementation of different types of sites and services schemes since 1980 clearly shows that they are failing to provide adequate shelter and access to housing to the urban population with a demand estimated at 1.25million (ZIMASSET, 2013.) With the 2016 cash shortages, Zimbabwe's fragile economy spiralled down and contracted significantly due to continuous deteriorating liquidity situation. The economic contraction resulted in increased job losses and further eroded disposable incomes, resulting in a rapid increase in poverty; this continues to affect affordability of housing finance as well as the housing itself. Proplastics Limited (the sole manufacturer and supplier of polyvinyl chloride (PVC), high-density polyethylene (HDPE), low-density polyethylene (LDPE) pipes for water and sewer reticulation and building construction) in its 2015 Annual report, pointed out that the increased foreign currency shortages led to delay in importing sources raw materials. This was further exacerbated by government funding being prioritised to agricultural sector, mining and manufacturing sectors leaving little or no funding for housing development. The shortages of raw materials coupled with electricity load shedding reduced the production volumes by reduced the volume and this resulted a mismatch between production and demand for water and sewer reticulation pipes (ibid).

Beneficiaries who have paid are complaining, which seems to indicate dissatisfaction among communities on the lack and slow pace of servicing the sites. Some beneficiaries have stopped paying their monthly instalments until they are connected, thereby affecting progress of servicing and construction of important infrastructure. In trying to motivate people to pay for servicing fees, Council has allowed beneficiaries to construct their wet core structures on unserviced sites despite the strict controls enforced by the Environmental Management Authority (EMA) against such developments and the provisions of the Environmental Impact Assessment Certificate that construction will only commence when all sites have been connected with infrastructure and services. This parallel development has led to informality, legal battles with EMA, environmental pollution due to lack of sanitary facilities (toilets), civil unrest as a result of dissatisfaction where people are demanding services for monies paid. As a result, there are high levels of defaults towards payment of monthly instalments. Proplastic Limited Annual Report (2015:06) argued that, "the prevailing liquidity situation poses a serious risk in offering credit terms to our clients." This affected the procurement of essential material for water and sewer reticulation system by local authorities who relied on credit and would pay after the beneficiaries have deposited. Hence, high levels of defaults have resulted in delays in the procurement of servicing infrastructure for residential stands by local authorities.

Given the target population, affordability of plots is a key issue. The project was targeting low income earners however it seems to have missed its target population of the urban poor as it is now

benefitting the medium and high income earners. This clearly demonstrates not only a serious shortage of housing but an escalation in gentrification, where the high and middle income people now occupy the low income residential areas. The previous studies on sites and services schemes such as Kamete (2001), World Bank (2006), Mangezi-Mutizwa, (2001) covered important aspects like cost recovery, affordability and sustainability in Harare and Bulawayo. The research by Moyo (2014) was centred on the implementation of site and service schemes in Harare which were funded by banks. This study is focusing on the implementation of sites and services scheme in relation to sustainable human settlement within the context of the recessionary economy.

Furthermore, no research has been conducted in Beitbridge on the delivery of low costs housing scheme. Beitbridge's strategic proximity as a border town between Zimbabwe and South Africa, makes it a unique case study for the implementation of site and service schemes within this depressed economic environment. The economic impacts on income levels, housing costs and high levels of poverty warrants for an inquiry into its magnitude on the effectiveness of sites and services schemes in the Zimbabwean context and compare it with lessons derived from other developing countries. This is with the objective of deriving lessons that will be of great benefit to Zimbabwean residents and Beitbridge in particular to solve the housing need problem for both residents and housing institution to access and provide adequate housing in a depressed economy.

1.3 Aim and Objectives

The aim of the study is to unpack the implementation of site and service schemes in a depressed economy with the objective of identifying challenges and suggesting guidelines that will enhance a more effective implementation of the sites and services scheme so that they are accessible, affordable, and sustainable and benefit the target population. In an attempt to investigate the problem and achieve the aim of the study, the following objectives will be pursued:

- To understand the concepts and approaches to site and servicing schemes in Beitbridge.
- To identify factors influencing the implementation of sites and services scheme.
- To identify and discuss the experiences and attitudes of Beitbridge residents in relation to the provision of site and service schemes in light of the depressed economy
- To determine the efficacy of the site and service schemes in relation to sustainable human settlement in a depressed economy.

1.4 Research Questions

To what extent are site and service schemes an appropriate low cost sustainable housing delivery

approach in a depressed economy? Specifically it attempts to answer the following sub questions:

- What are the concepts and approaches to site and service schemes in Beitbridge?
- What factors influence the implementation of site and service schemes in a depressed economy?
- What are the experiences and attitudes of Beitbridge residents in relation to the provision of site and service schemes in light of the depressed economic environment?
- How effective are site and service schemes in achieving sustainable human settlements in a depressed economy?

1.5 Expected Findings and Outcomes

This study expects to understand the concepts and approaches in the implementation of site and service schemes in Beitbridge in the current prevailing depressed economic environment. The implementation of site and service schemes is influenced by factors like high default rates, the lack of coordination between the Beitbridge Town Council and the private developers, lack of regulations and legal frameworks which control the operations of the developers and lack of mechanism to enforce payment by beneficiaries. Through this research I will gain insight into the attitudes and experiences of the beneficiaries towards the implementation of site and service schemes as well as how beneficiaries responded to this

1.6 Research Methodology

The research methodology was directed by the objectives intended to be achieved. To address the research questions above, the study adopted a qualitative research design. A research design refers to the methods and procedures used to collect data and aid in analysing required information, hence, plans the action of the research study (Zikmund 2003). A qualitative research design will allow the subject in question or under investigation to be explored more in depth as it covers a broad scope, generating useful data. The case study approach was adopted for this research study. . Beitbridge as a border town and its strategic proximity to South Africa makes it a unique case study for the implementation of site and service schemes within this depressed economic environment. The case study is ideal as it is useful in acquiring first-hand information from natural settings which produce valid data as compared to the use of derived data (Hamel, 1993). Thus the case study technique method allows the implementation of site and service scheme (S & SS) to be explored through a range of lenses which permits various aspects of the phenomena to be revealed and understood (Yin, 2009).

For the collection of data, the study adopted both secondary and primary methods to fulfil the purpose and objectives of the research project. Primary methods in the form of case study and interviews were

used, after gaining insight of site and service schemes from examining literature on past research towards the subject. Secondary data was used especially Committee minutes, Full Council resolutions, management reports, Engineering Department's monthly progress reports and financial reports to provide an insight into the financing, cost recovery, design characteristics and implementation, costs of servicing and affordability.

Interviews and observation techniques were also employed along with the case study. A tour was conducted on where the S & SS is being implemented and observations were made on the quality and progress on the plots being serviced and number of the houses built. Observations were employed also to reconcile what the participants were saying and what exactly was on the ground. Interviewees for key informants and beneficiaries were selected through purposive sampling. A selection criterion for selection of potential interviewees was established to ensure that the participants are knowledgeable about the subject matter and are also beneficiaries of the scheme under study. Adegun (2013:5) justified the use of purposive sampling as, "a form of non –probability sampling that is most effective when studying a field with well-informed experts within." An interview guide with structured and semi structured questionnaires was administered to the participants. I used an audio recording with the consent of the interviewees during the interviews. In cases where the consent to record was not given, l made notes in a shorthand notebook.

I interviewed key informants which included officials from Beitbridge Town Council being the Town Planner, Town Engineer and Housing Officer and Finance Director, The Project Manager for SDP Africa (The Land Developer), two officials for the Department of Public Works being the District Officer and Housing Officer and five beneficiaries of the S & SS. I also took a transect walk to the site in company of the Project Manager and his commentary provided me with first hand observation and explanation of the current situation in implementing the scheme. During the fieldwork, I was a non-participant observer in the meeting between BBTC and a Committee of SDP Beneficiaries held to resolve the challenges caused by the delays in servicing which are also stalling housing development. This served as a short informal focus group where some of the research issues were discussed with the Committee leaders after the meeting.

The main challenge I faced in conducting interviewees with beneficiaries was that as a former employee, I was associated with the officials from Beitbridge Town Council and there were reluctant to be interviewed whilst others were not comfortable to share their experience and perceptions concerning the implementation of the S &SS. However, to make them feel comfortable l continuously reminded them that my research was purely for academic purposes and emphasised the issue of anonymity which they read from my interview consent form, and on how securely their

information was going to be stored. I had challenges in interviewing key informants as they were attending meeting in other towns for instance Harare and Bulawayo and had to keep postponing the dates till we finally did the interviews for the Housing Officer and Town Engineer. During the interviews, key informants interviews raised the issues of loans and mortgages which they refried me to the banks and for interest sake, I went to the banks which requested that I sent them questionnaires which I did and they kept referring me to their headquarters in Harare. Further follow up emails and calls were made until the write up of the research, there has been no response.

1.7 Ethical Considerations

Ethical considerations are vital and necessary to conduct the study in an ethical manner. The aspect of harm is concerned on the safety of the participants, when results are reported. Research on sensitive issues requires the consideration of ethics. According to Bryman (2004), a researcher should consider ethics during the process of the research. The researcher bears responsibility as humans and social lives are being dealt with. As a researcher, certain aspects are considered in gathering or acquiring data. Berg (2007), points out that, issues of harm, privacy, consent and confidentiality need to be taken into account when conducting research. The research used a qualitative research design to gather data. Bryman (2004) has argued that, with qualitative research there is a possibility of the participants being identified. In reporting and discussing the findings, their real names were substituted by false names to ensure confidentiality. The participants were informed that the main objective of the study is purely for academic purposes. Participants were explained about their right to opt not to take part in the research as well as the nature and reasons for the study. During the field work, I identify myself as a former employee of Beitbridge Town Council and currently a full time student at the University of Witwatersrand, South Africa who is undertaking the research for academic purposes.

1.8 Scope and Limitation of the Research

Taking into consideration the short time required to complete the dissertation by the 11th of December 2017, I adopted a qualitative research design. This might have potentially reduced the scope of study and other issues were not covered. The research strategy was adopted to ensure that the research is managed within the given timeframe and resources. Another challenge faced was the administration of the interviews within short times by the researcher alone which required more time than anticipated. However, I am convinced that despite the aforementioned limitations however through personally being involved in the case study and with the respondents, the researcher managed to produce a more informed, inductive and interactive research. The participation of the researcher in conducting interviews gave me the opportunity to ask relevant questions and further probe where

necessary thereby in the process ended up optimizing the relevance, reliability and validity of findings.

1.9 Organisation of the Research Report

Chapter One –This chapter will introduce the whole study including the background and problem statements and the research design for the study.

Chapter Two – This chapter will provide literature review of sites and services schemes by discussing the discussing concepts and approaches to sites and services schemes within the context of sustainable human settlement. The chapter will also focus on case studies from other developing countries where sites and services schemes have been implemented with the objective to understand their designs, implementation and derive lessons to be adopted.

Chapter Three- This chapter will provide a critical overview Zimbabwean context in housing delivery and policies and legal frameworks used before and after political independence of 1980 and the opportunities and challenges to sustainable human settlement in Zimbabwe.

Chapter Four This chapter gives a description of my case study; location, population and socio- economic activities among others.

Chapter Five - This chapter will present and analyses the empirical findings in relation to the practicality, viability and efficacy of sites and services scheme in relation to sustainable human settlement.

Chapter Six – This chapter will present the conclusions and policy recommendations.

CHAPTER TWO

THEORETICAL AND CONCEPTUAL ISSUES IN HOUSING AND SUSTAINABLE HUMAN SETTLEMENT

2.1 Introduction

This chapter review literature on major theoretical concepts of site and service schemes and sustainable housing delivery for process for low income houses in a depressed economy. Greater attention will be given to theories relevant to site and service schemes and sustainable human settlements. Aided self-help approach, enabling approach and public private partnerships (PPPs) will be presented. Site and service schemes is typified by, “a subdivided plots, physical house (shelter) and accompanying infrastructure” (Chirisa, 2013:93) to make up a habitat. Different models adopted through different delivery approaches will be interrogated to found out the factors which influenced the shift in the provision of site and service schemes up to the current delivery model. The review informs useful insights into how each of these models has fared in the implementation and its shortcoming which has prompted a shift in implementing of this concept through parallel development and the implication in low cost housing and sustainable human settlements. As the concepts are being

interrogated, the impact of economic recession and debt crisis cannot be understated in influencing delivery of site and service schemes. In light of the above, topics on the concepts and approaches to site and service schemes, instruments and mechanism for implementation and sustainable human settlements will be discussed to arrive at a theoretical answer for the practical implementation of site and service schemes in depressed economy.

2.2 Housing Theories and Delivery Models

Gbadeyan (2011:105) defined housing as, "a bundle of services such as neighborhoods services (parks, schools); a location (accessibility to jobs and amenities) and proximity of certain types of neighbours (a social environment). It embraces more than shelter or lodging for human habitation." Echoing the same sentiments, Jenkins, Smith & Wang (2007) argues that housing is related to the process of both the development of houses and the mechanism linked with provision of housing. "Housing is thus a process, an experience, basic need, a human right, a commodity of value, an investment, and shelter plus habitat. As a process, housing development and provision thus, "…takes place over time and which has a precise aim regarding the result to be achieved" (Muller,2008:1). Since decolonization in Africa, there have been different and evolving approaches to housing provision in Sub Saharan Africa. These concepts and approaches to housing include the provider concept, self-help concept, enabling concept, and Marxist theory. I chose these theories because they largely relate to provision of low costs housing through the implementation of site and service schemes in a depressed economy and sustainable human settlements. It is imperative to state that the challenges in housing are difficult to solve and "cannot be solved by any one method" (Harris & Giles, 2003: 167). Thus in reality, the context has necessitated the adoption and implementation of different concepts in the delivery of low costs housing in the developing countries.

2.2.1 The Neo-Marxist Approach

French and Hamilton (1979:4) cited in Davies & Dewar (1989: 51) argues that the Neo-Marxist approach views, "housing as more than just a technical or infrastructural question, it is a political question; the State has the power to determine the pace and form of development." The concept rallies for the state to be central in the creation of an equal society and production of houses and provision of infrastructural services to the urban poor. Davies and Dewar (1989:51) assert that, "in a Marxist state, housing delivery should strive to achieve convergence of access, tenure, production, qualities and standards." Here, it is argued that the existence of a low cost housing delivery models was a direct response to capitalist exploitation of the poor. Rakodi & Mutizwa-Mangiza (1990:8) views the "Neo Marxist arguments as providing insights on "Who" produces each type of housing, "How" the construction process is organised and financed and sheds light on the constraints on housing production by different categories of producers." The government of Zimbabwe adopted a mixed ideology approach in its implementation

of housing policies. Immediately after independence, the Permanent Secretary of Local Government and National Housing was quoted as saying, "ours being a people oriented government bent on achieving socialist goals, our housing policy is a redistributive mechanism for redressing colonial income and wealth inequalities" (Chikwanha, 2005:95). Site and service schemes as a housing delivery strategy became the 'best model' for the government as it was faced with realities of an increased housing demand and economic depression.

2.2.2 Enabling Approach

Keivani & Werna (2001: 191) argue that, this concept was dominated by the World Bank neoliberal strategy, "of developing the housing sector as a whole by enabling primarily formal private markets to work more efficiently.' This approach was a departure from the earlier approach which emphasised direct state provision of housing to allowing the development of housing by both private sector and communities. This was a new era, which is different from the 1960s and 1970s where the Arusha Declaration was implemented which restrained private sector and community programmes in housing development and left housing finance, investment and production under government control (Nguluma, 2003). Jenkins, Smith & Wang (2007: 169) argue that the enabling approach involves for the provision of, "legislative, institutional and financial frameworks for entrepreneurship of the private sector, communities and individuals, and hence in this period, the international agencies focused assistance on promoting the development of policies and programmes as opposed to projects." This approach is centred on the shifting the government role from being a 'provider' into being an 'enabler' thereby creating an enabling environment for both the private sector and community to provide both finance and infrastructure for housing development. Hassan (2011) summed the government role as an enabler in housing provision as following:

"Enabling housing markets by:

- Setting up the regulatory framework needed and reforming government institutions, focusing them on different goals and retooling them accordingly. Ensuring the availability of the components of housing supply, including land, infrastructure, labour, building materials suppliers, and service providers, through technical assistance, and training.

Enabling partnership:

- Involving all actors in the process; accepting the informal sector as a partner; government only enables serviced land supply, finance, or servicing informal areas and providing security of tenure."

The enabling approach has been criticised for only concentrating on the role of the private sector and excludes some informal housing delivery strategies which are becoming popular for community approaches and social movements in housing delivery. Durand-Lasserve (1987) criticised this approach for failing to supporting the expanding role of the informal market in housing delivery especially in developing countries. Gilbert (1992:444) argues that, "the enabling approach has been adopted enthusiastically precisely at the time when the government is least able to help the poor." Further the government, "will not only leave the poor to construct their own dwelling but also leave them to provide their own services and infrastructure" (ibid: 445).

2.2.3 Self-help Approach

Despite debates on the origins and emergences of 'self-help approach", this concept is widely believed to have been pioneered by John F.C Turner through his various publications in the 1960s and 70s (Turner, 1963, 1965, 1967, 1968a, b; Turner, Turner & Crooke, 1963; Mangin & Turner, 1968, 1969; Turner & Fichter, 1972). Jenkins, Smith & Wang (2007: 159) argue that, "Turner argued for reducing the government's role to ensuring security of tenure for land and housing, applying lower official standards, and providing access to financial and appropriate technical support." This concept relegated the government role to creating an enabling environment for the poor to house themselves. It also recognised the ability and capacity of the poor to house themselves as evidenced by the proliferation of informal settlements. Pugh (1995:13) notes that the, "self-help approach is centred on four phases which are sites and services, squatter upgrading (through incremental development), employment activities and community organisation and a focus on programmes rather than projects." The self-help approach resulted in the implementation of sites-and-services (aided self-help) programmes by many international development agencies and governments. Home (1997:23) refers to sites-and-services schemes, "as programmes and projects implemented by government agencies providing support (infrastructure and services) to low-income households in building their houses." In Zimbabwe, site and service schemes were implemented through the assistance of the World Bank, development agencies (USAID) and after the end of the 20th Century, it was now implemented by local authorities, private land developers and social movements like housing cooperatives and community based organisations. The origin of this concept is pinned on the assertion of unaided efforts of the urban poor to house themselves. "In Pakistan and Thailand, infrastructure was perceived as a postponeable expenditure and was subsequently given low priority in scheduling budgetary expenditure which promoted a self-help approach among residents. Through this self-help approach 800 000 residents of Orangi district of Karachi managed to build their own sewer system in 1987 (Choguill, 1997:444).

Self-help is "not only the investment of sweat equity by owners in their homes, but also the

processes of owner design and management" (Harris, 2003b:248). This concept argued for the dweller to have full control on the development and management of their structures. Thus this was a clear departure from the earlier concept of instant housing development to allowing a progressive housing development by the urban poor. Despite the popularity of the concept as a strategy for the delivery of provision of housing for poor, the approaches, it has emerged has its shortcomings. Mathey (1997) in (Marais et al, 2003:352) summarises the criticism of self-help approach as:

- *"Self-help programmes in principle still serve the interests of capital accumulation through the effects of double exploitation. The argument is that self-help programmes prolong the working day as people need to build after hours or during weekends.*
- *Self-help is a mechanism for disciplining the workforce by means of credit and work-time commitments. Self-help housing leads to commodification. Commodification means that land and the self-built processes and products start to obtain an economic value and a link to the market.*
- *Turner had an individualistic view of the self-help process and ignored the socio-political context in which self-help housing takes place.*
- *Although Turner was of the opinion that the self-help sector was able to generate its own resources without interference from capitalist relationships, this view was, according to Burgess, a myth."* (Marais et al, 2003:352)

Meffert (1999) cited in (Napier 2002:12) argue that, "the self-help strategy is based on the idealistic notions of communalism and a return to artisan by the majority poor and co-operation and anti-authoritarianism in a utopian socialism." More so, this concept does not seek to challenge and change the inequalities in the society but to encourage the urban poor to develop housing within that unequal society. This concept did not improve the quality of life for the poor despite it being adopted and supported by the development agencies, governments and the World Bank. The success of the concept also relied on government subsidies which were required to fund the provision of service infrastructure. Burgess (1977) as quoted by Muchadenyika (2013:65) essentially argued "for the need to be comprehensive when dealing with housing supply and to incorporate the diverse vested interests of groups such as politicians, building firms, landowners, and financial institutions." These shortcomings led to the emergence of the 'enabling approach' in low cost housing provision.

2.3 Site and Service Schemes

2.3.1 Definitions of Site and Service Schemes (S & SS)

Mayo & Gross (1987:301) defined sites and services scheme (S & SS) scheme as, "government-sponsored packages of shelter related services, which range from a minimal level of surveyed plot, to an intermediate level of serviced sites to an upper level of core housing complete with utilities and access to community-based services." Lisa (1982:1) argues that S & SS include, "the provision of plots of land, either on ownership or land lease tenure, along with a bare minimum of essential infrastructure needed for habitation." Sites and services (S &S) scheme is an approach which has been adopted by many developing countries, including Nigeria, Pakistan and Zimbabwe to provide adequate housing with basic services and infrastructure to low income earners. In Pakistan sites and services schemes are popularly known as "serviced plots." In Zimbabwe, S & SS are referred to as "housing stand or serviced stand or stand" as they include "land and infrastructure" (GoZ, 2012:10). The National Housing Delivery Programme (2004-2008) a government housing strategy document conceptualised housing as a "site and servicing scheme" rather than a complete structure. Site and service scheme basically relates to the need of establishing the dwellers as an active participant, in the total process of housing. This serviced sites ranges from subdivided pieces of land with basic infrastructure like gravel roads, sewer and water reticulation system and storm water drainage system. Thus S & SS as a shelter related package includes, land, infrastructure, shelter and people. Central to the implementation of site and service schemes is:

"(1) the projects must provide a package of benefits that is widely acceptable and affordable by the beneficiaries; the charges must be small mortgage repayments not generally exceeding 20% of the income of participants;

(2) the cost of the project must, to a great extent, be recoverable; and

(3) the programme-must be capable of being replicated others for urban housing and community services" (Onibokun et al, 1989:51).

2.4 General Concept of Implementation of Site and Service Schemes in a Functional Economy

The S & SS housing delivery approach has been implemented through the support of the World Bank, USAID, development partners, government departments and local authorities in many developing countries. The implementation of site and service scheme is guided by the planning process per each local authority/department or government. The Department of Labour Report (2007:05) defined planning as, "the initiation and management of change in the built and natural environment across a spectrum of areas in order to further human development and environmental sustainability specifically through the organisation of service infrastructure, utilities, facilities, and housing for human

settlements." Thus planning is a critical component in the implementation of site and service scheme in the developing countries. The concepts of S & S entails the provision of plots of land (or sites) with infrastructure on it (or services) and the beneficiaries have to, in most of the schemes build their own houses, ranging from the subdivided plots only to a serviced plots of land with a "core" house built on it. Site service scheme allow the owner of land to construct their own house with a variety of building materials depending on their desires and preference as well as income. The residential plots are laid out with major infrastructural facilities such as road, schools, open spaces and health centers in the layout. It offers landless housing aspirants the opportunity and hope of a serviced plot of land with prospect of home ownership as incentive towards house building.

Site and service scheme are the provision of plots of land either ownership or land lease tenure along with a bare minimum of essential infrastructure needed for habitation (Peal, 1982). However, sites and services schemes are not homogeneous as these standards differ with the financial capability of the implementing agent and the beneficiaries' ability to pay. Onibokun, Agbola and Labeodan (1989 : 51) argue that, "the concept, in principle, focuses directly on lower income groups and it attempts to deliver shelter and services as a cost they can afford while still ensuring that the costs of the S & SS schemes are recovered so that the project can be replicated." Local authorities have been involved in the provision of housing through the delivery of site and service schemes. In Nigeria and Pakistan, "sites and services scheme, the government or its agency will be able to provide infrastructural serviced plots for individuals who are then encouraged to erect their own type of buildings" Aribigbola & Ayeniyo (2012:51). In the approach, the scheme land is furnished with access roads, drainage, water, sewage, electricity and a variety of other individual as well as community services. The scheme generally entails public financial commitment for land acquisition, planning, design and installation of basic infrastructure, such as paved roads, water and electricity before the sites are allocated on leasehold basis, to the public for housing development (Izeogu,1987).

The S & SS has been implemented in Nigeria, Pakistan, Indonesia and Cuba through a planned conventional housing approach which is affordable to the low income earners. A planned layout is created to address the housing shortage identified through the government or municipal housing demand waiting list. In most cases, a mixed use layout design is advocated as it encompasses optimal density and better access to local facilities. During the course of planning and designing of layout plan, a number of activities take place in a cyclic order and thus planning and its implementation sites and services schemes continues to satisfying the needs of the low income people and is also replicated else to provide access to affordable housing. The implementation is guided by government rules, municipal bylaws, development control mechanisms and international frameworks to ensure that the development is regular, legal and professionally designed and managed (UN Habitat, 2003;

Masum, 2014). There ought to be a development project cycle that consists of the stages set out in table 2.1.

During implementation stages, engineering services which includes infrastructure provision must be fully installed in all the plots before allocation or selling of sites as this is essential for sustainable human settlements (Gumbo, 2014). Infrastructure has been divided into two components. Social infrastructure includes educational and health facilities and physical infrastructure included water supply, sanitation facilities, drainage, urban roads, pump station and solid waste disposal facilities (Choguill, 1996). The traditional model for urban infrastructure involved the provision of physical infrastructure elements by a central government or local authority. In the event of a partnership, it is the responsibility of the private land developer to provide public infrastructure.

Table 2.1 General implementation of S & SS

Phase	Stages
a. Securing rights to the land	• Land identification • Establishment of the registered owner • Negotiations with the owner, conclude agreement and
b. Land investigation into legal cadastral position of the land.	• Title deed description and area • Study existing leases (registered or unregistered) •Restrictive conditions----servitudes •Restrictive conditions-----other rights • Restrictions----- surrounding development • Environmental Impact Assessment •Provisional Local authority approval
c. Town planning layout	• Obtain base mapping • Define planning parameters •Prepare draft layout plan • Test plan against engineering requirements

d. Land surveying	• Collate base information • Outside figure survey • Prepare General Plan • Submission, examination and approval of General Plan by Surveyor General • Undertake topographical surveys • Undertake geo-technical surveys • Determine flood lines
e. Engineering services	• Construct bulk engineering services • Drawing house plans
f. Implementing Phase	• Contracting and Procurement • Tender documentation, call for tender and tender award • Contract finalisation • Project Inception • Construction • Civil services Practical Completion • Units hand over Certificates
g. Transfers	Beneficiary and sales administration

Source: *Drawn from Umhlaba Consulting Group (2013); Hopkins (2001)*

Table 2 .2 The Sequence of formal Implementation of Sites & Service Schemes

Sequence of development	Planning →	Servicing →	Building →	Occupation
Stakeholders	Central government Local planning authorities	Contracted companies Private Sector Developers	Individuals Sites/Plots	Beneficiaries Buyers
Outcomes	Adequate and secure housing units but very few and unaffordable to the urban poor			

Source: *Gumbo (2014)*

Gumbo (2014:12) summarized the implementation of the S &SS as "planning, servicing, building and occupation "as shown on table 2.2 above. The approach ensures allocation of fully serviced plots with complete houses before allocation and occupation (ibid). Thus during implementation, there is constant inspections and monitoring by professionals to ensure that the developments are within the building requirements of the layout design. This concept has been criticized for being too elitist as it emphasizes on standards and control development which is deemed illegal (Chirisa, 2012). More

so, the concept is a top down approach which gives government monopoly in infrastructure provision thereby ignoring the community approaches to housing and infrastructure delivery.

2.5 The Depressed Economy and Housing Development

Moore (2003:19) defined economic depression as, "a period of decline in total output, income, employment and trade, usually lasting more than two years or more and marked by widespread contractions in many sectors of the economy." The economic decline has forced government to cut back expenditure which has prompted the realisation that government cannot play the role that is used to play in housing development. In addition, even the private sector's ability to supply services in housing for instance mortgages and loans for infrastructural provision has been undermined by the ability of most customers to pay. Gilbert (1992) argues that in many cities, neither the government nor private sector enterprises will provide decent shelter, services and infrastructure. In Brazil, Mexico, Ivory Coast and Philippines, the macroeconomic policies to improve productivity of agriculture, reduce subsidies for public services and reduce expenditure have had major consequences for the urban residents in terms of affordability and access to decent housing. Furthermore prices for water, food, energy and housing have increased while real wages have fallen in the face of economic depression coupled with closure of companies for instance Zimbabwe and Brazil (Muchadenyika, 2016). In Chile, it is equally clear that deteriorating urban conditions have reduced the absorbing capacities of the cities and government are facing challenges to upgrade and built new infrastructure to support the growing population coupled with housing development. In short, in many parts of the world cities now contain more poor families than ever before.

Ramirez (1990) argues that the withdrawal of the state from housing provision has unforeseeable social and political implications. The state has built fewer houses and currently is providing more support for informal settlements upgrading and self-help efforts. In Ecuador, Indonesia and Nigeria governments have reduced provision of public housing and more governments worldwide are seeking to provide assistance to the self-help housing sector (Potter and Salau, 1990; Pugh, 1989a). "The role of housing in national development has undergone three main phases from emphasis on state-built public housing, through aided self-help, to the present phase during which the concern has shifted to the proper management of services and infrastructure (Stren, 1990:49). The shift has made government intervene in informal settlements which in turn has affected the S & SS concept. Malpezzi (1990:972) argues that, "S & SS for example started out as core housing which would be progressively developed but which has evolved into low cost land development and upgrading of existing settlements." The Bauchi S & SS in Nigeria's initial concept was of core housing but the beneficiaries did not buy the concept and it ended up deviating to adopting the allocation of serviced plots only as a result of unaffordability by the intended beneficiaries (Onibokun et al, 1988). Jonah (2000:24) suggests that, "the experience has shown that the solution to sites and services scheme is not

merely to expand the number of sites. The key to reform is to deliver the schemes that users need and are willing and able to pay for. The scheme should respond to providers whose demand can be identified and services should be provided in a sustainable way."

The economic depression has resulted in cutting the ability of governments to supply urban populations with either housing or services and governments are looking for less expensive ways to resolve this challenge. UNDP (2013) argues that few governments in the third world have ever managed their cities very well and in general urban cities are characterised by water system leaks, impassable roads with potholes, inadequate and obsolete infrastructure which needs refurbishment. Watts (1990:541) summaries the findings of urban cities in Africa and commented that, "There is a large proportion of people living in areas without water and sewer reticulation system, and unconnected from the municipal infrastructure system as Van der Linden (1990:12) termed an urban chaos. Watts (2010:541) sums the current state of affairs in cities as, "whether it is solid management in Lagos, urban management reform in Abidjan… infrastructure in Daka-Pikine, water supply in Nairobi, the picture is one of unrelenting gloom." Most municipal infrastructure in the developing world is decaying after a decade of depreciation without maintenance and upgrading. As a result "Africa cities have rapidly outgrowing their ability to provide adequate services and infrastructure to their population" (Stren, 1988:242). The poor need to be housed but, if proper housing cannot be supplied and properly serviced, it becomes a question of encouraging the poor to do it themselves (Gilbert, 1992).

Although scholars have advanced privation as the panacea (Gilbert, 1992; Sachs, 1990; Mabogunje, 2002), it has been strongly criticized for satisfying the high income groups rather than the poor. The issue of equity and loans from banks used to finance used to provide housing and infrastructure by the private developers need to be recovered and repaid through a monthly mortgage with interest. The conventional method has opened way to informal and or unplanned access to land and services by the beneficiaries. More so, the government has been relegated to be an enabler and opened ways to community centred approaches to infrastructure provision and other stakeholders like social movements and community based organization to provide land and basic infrastructure. This emergence of other stakeholders like social movements and people centred approaches have benefited the urban poor, as they are not only involved in the production and distribution of the services and facilities but they also gain access to urban benefits which they would otherwise would not have enjoyed (Stren, 1988:219). The poor need to be housed but, if proper housing cannot be supplied and properly serviced, it becomes a question of encouraging the poor to do it themselves (Gilbert, 1992).

2.6 The Implementation Approach of Site and Service Schemes in a Depressed Economy

This section provides for some implementation approaches to sites and services schemes adopted in by different countries in a depressed economic context. Some of the implementation approaches are done through the public sector, private sector, and public-private partnerships which have been resulted to site and service schemes being done in an incremental approach and parallel development approach. The incremental approach, parallel development, rapid land release and progressive development approach will be interrogated as approaches adopted to successfully implements S & SS in a depressed economy.

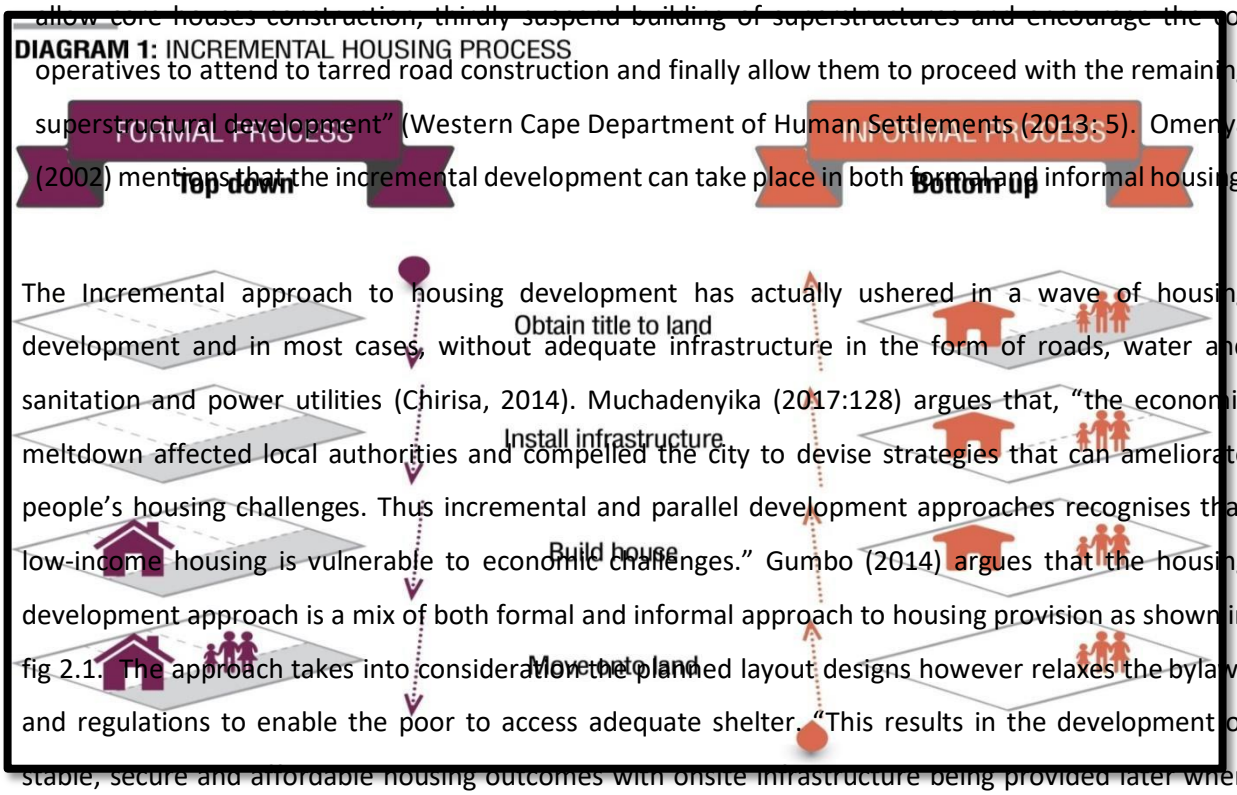
2.6.1 Informal Housing Development Approach

Informal housing development has emerged in many cities of the developing world and it is shaped by the socio-economic context of a particular city or country. Sivam (2003:136) argues that this development does not conform to the laws and regulatory frameworks of the city." In the developing countries, " informal housing development exists due to the inability of low income groups to purchase high quality , professionally designed and constructed housing produced through the conventional way"(Keivan and Werma, 2001). Informality is prevalent in many third world countries for instance in Bangladesh it is characterised by, "informality, irregularity, illegality but also by its flexibility and resilience (Tunas and Peresthu, 2010: 315). In India, S & SS have been developed through, "invasions, quasi-legal settlements and tenements, unauthorised community based subdivisions and landlord based subdivisions" (ibid: 137). The poor can only access housing through informal means since they are excluded from the formal housing delivery approach. Houses developed through informal approach are of cheap quality and use local material which is affordable and easily accessible by the urban poor. The approach has been criticised as an approach which has, "led to insecure and sub-standard housing outcomes with serious repercussions which include overcrowding , disease outbreaks, insecure investment that suffer from demolition and eviction threats" (Gumbo, 2014:4). Mostly informal settlements in South Africa, Kenya and Nigeria have no basic infrastructure and supporting services which has led to environmental pollution.

2.6.2 Incremental Approach

Many governments have adopted the incremental development approach as a result of the prevailing economic meltdown (Muchadenyika, 2017). These concepts were adopted to balance between two issues which are housing and the economy. Western Cape Department of Human Settlements (2013) argues that incremental approach takes different forms and first includes consolidation of a house after provision of site and serviced land and secondly the incremental part involves the alteration of the existing housing to include new rooms. The incremental approach in the implementation of site and service schemes is important because the "policy apparently assumes an

incremental reward approach where the first stage is to allow basic infrastructure provision, secondly allow core houses construction, thirdly suspend building of superstructures and encourage the co-operatives to attend to tarred road construction and finally allow them to proceed with the remaining superstructural development" (Western Cape Department of Human Settlements (2013: 5). Omenya (2002) mentions that the incremental development can take place in both formal and informal housing.



The Incremental approach to housing development has actually ushered in a wave of housing development and in most cases, without adequate infrastructure in the form of roads, water and sanitation and power utilities (Chirisa, 2014). Muchadenyika (2017:128) argues that, "the economic meltdown affected local authorities and compelled the city to devise strategies that can ameliorate people's housing challenges. Thus incremental and parallel development approaches recognises that low-income housing is vulnerable to economic challenges." Gumbo (2014) argues that the housing development approach is a mix of both formal and informal approach to housing provision as shown in fig 2.1. The approach takes into consideration the planned layout designs however relaxes the bylaws and regulations to enable the poor to access adequate shelter. "This results in the development of stable, secure and affordable housing outcomes with onsite infrastructure being provided later when resources permit, thus calling for incremental development of structures and onsite infrastructure to accommodate the poor, reducing homelessness levels and housing backlogs" (ibid).

Fig 2.1 Formal and Informal Housing Process

Source: Lecture on Home Space and Collective Space (27 July 2017).

In Pakistan, the conventional sites and services was seen to be bedeviled with problems of implementation such as, "colossal amounts of public money being wasted by the degeneration of facilities not used for years because the plots are used as safe investments and are sold and resold many times before final construction of houses take place" (UNCHS, HABITAT, 1991:11). This led to the shift from the conventional site and services to incremental Housing approach. The approach adopted is illustrated below in the following sequence of settlement.

PEOPLE ⟹ LAND ⟹ HOUSING ⟹ INFRASTRUCTURE

The scheme here is based on the idea that people should settle before houses and infrastructure are constructed, and that once they settle, the beneficiaries can develop their housing and infrastructure incrementally, as and when resources are available. The scheme requires a low income family in need of shelter to spend initially two weeks in a reception area to provide its urgent need for shelter then, the Hyderbad Development Authority (HAD) allocates a plot upon payment of RS 1000 (Us $30) which covers full cost of the plot. The family has to live on the plot permanently. The plot is repossessed if found unoccupied. This reduces absentee ownership and speculation.

2.6.3 Parallel Develop Approach

Parallel development is another housing development approach which both local authorities and private developers have adopted in improving housing development in Zimbabwe (Muchadenyika, 2017.) This concept allows for beneficiaries to construct their houses whilst servicing is taking place concurrently. It also allows for development of houses on land without services on the assumption that infrastructure provision will be installed later (Gumbo, 2014). In Zimbabwe, "at the moment, the housing demand in the country is increasing. There is a shortage of housing and people (beneficiaries and providers) are talking of the option of having **parallel development.** Others want to call it **phased development** and others **incremental development.** I must say there is no written policy about this. As a result of the increased demand, home-seekers have been allowed to bypass the standards and have infrastructure later" (Chirisa, 2013:132). The approach is a formal housing development approach which is unconventional and partly incremental in implementations. It emphasizes people accessing land and developing first without basic services.

The parallel development approach is similar to the South African's Rapid Land Release Programme (RLRP) which was promoted by the Gauteng Provincial Government in 1994 (Bremner, 2000). The approach was aimed at, "bringing relief to 15 000 households living under hazardous or stressful conditions…" (ibid: 88). The concept advocated for land release prior to services and tenure registration. Beneficiaries would be allocated land and commence housing development whilst the

state was going to provide basic infrastructure and services.

However the parallel development approach has been criticised (Chirisa, 2012; Gumbo, 2014; Muchadenyika, 2017) for allowing housing development to interfere with the installation of basic services and infrastructure. It can be argued that the policy exposes people to unhealthy environments as they reside on areas without ablution facilities leading to environmental pollution (EMA Report, 2016). This is further exacerbated by the fact that in low income housing schemes (high density layouts) there is no provision of onsite infrastructure like septic tanks (ibid). Although the ideal concept is to service and install infrastructure first and allow for housing construction (EMA Report, 2016: Muchadenyika, 2017), the economic context, has shifted the implementation to either parallel or incremental development approach

2.6.4 Managed Land Settlement

Eglin (2009) argues that another approach which falls under the land first approach in the implementation of site and service schemes is the Managed land settlement. In this approach, beneficiaries are allocated land with basic infrastructure and services with security of tenure by the state for housing development. The state would assist in the "incremental improvements of the neighborhood and houses through provision of further services and top structure subsidies" (ibid: 3). This approach is aimed at enabling access of adequate and affordable housing with basic services for the urban poor reducing the housing backlog and homelessness (ibid). "The municipality with the support of the Department of Environmental Affairs needs to start doing city or area wide strategic Environmental Assessments which allow municipalities to proactively determine the most sustainable type of development in an area, do basic surveying first then other layout surveys to be done later" (ibid: 6). This approach calls for the release of land which must be allocated to beneficiaries with services to be incrementally provided over time (ibid).

2.6.5 Progressive Improvement Approach

Infrastructure is an essential component in the implementation of S & SS and to achieve urban sustainability. Fulmer (2009:13) defined infrastructure as progressive improvement approach is a paradigm shift from the traditional model of infrastructure delivery which emphasized provision of public infrastructure by the central government or municipalities. Chogull (1991:391) argues that the, "model is based on the premise that the benefits of infrastructure, such as clean water, sanitation and roads, are shared by the entire community, but are beyond the capability of any single part of that community to provide." The model further assumes that only the municipality or central government is capable of collecting revenue required to support infrastructure provision and maintenance. The traditional approach has been criticised for giving central government monopoly

in infrastructure provision. Furthermore, the approach created two parallel systems of infrastructural provision (ibid). Choguil (1992:392) argues that, “a "town system" has developed within the central areas of cities and in areas where high income residences are located, served by the municipal system and financed by something resembling, but rarely quite achieving, a full cost-recovery basis. Those who are unable to afford the service provide their own system, such as pit latrines, septic tanks and drinking-water wells. This latter alternative might be called the "on-site system."

Progressive improvement approach, acknowledge the economic and financial challenges by central and local government authorities to provide infrastructure. The approach further talks into consideration that the urban poor cannot afford to be connected to existing town infrastructure. Choguill (1992:392) proposes for a, “progressive improvement of on-site facilities to meet the standards in effect within the town system.” The approach incorporates other stakeholders like social movements, non-governmental organisations and community centred approaches/efforts in infrastructure provision. This is a bottom up approach which involves contestations and collaborations between the government and communities in the provision of infrastructure. The approach allows for the use of onsite infrastructure and later be connected to the town system as the poor progress from one rung of the ladder to the next in the course of self-improvement. In United Kingdom and America, there is a large proportion of the urban population who are using on site infrastructure such as septic tanks for sanitation facilities. The progressive approach has been criticised for the environmental pollution through the use of sceptic tanks especially in high density areas (Muchadenyika, 2016). Choguill (1992:392) argues that, “on-site systems may well fail to meet environmental standards inherent in that definition in that they pollute ground-water resources or have other unhealthy aspects.”

2.7 Infrastructure Provision on Site and Service Schemes

Infrastructure is an essential component in the implementation of sites and services schemes. Fulmer (2009:31) defined infrastructure as, “physical components or interrelated systems providing commodities and services essential to enable, sustain or enhance societal living conditions.” Choguill (1992) divided infrastructure into two components being social infrastructure and physical infrastructure. Social infrastructure includes educational and healthcare facilities whilst physical infrastructure involves, “water supply, sanitation facilities, drainage, urban roads, solid-waste disposal facilities and land management” (ibid : 293). World Bank (2013:08) referred infrastructure as, “"the long lived engineered structures, equipment and facilities, and the services they provide which are used in economic production and by households." Hence, infrastructure is critical in achieving sustainable human settlements. In Zimbabwe, offsite infrastructure includes bulk physical infrastructure like water pumps, sewer pump station, sewer ponds and solid waste engineered

dumpsite.

2.8 Stakeholders in the implementation of Site and Service Schemes

This section will interrogate the roles played by different stakeholders in the implementation of site and service scheme in depressed economy. The stakeholders include the public sector; private sector; Public Private Partnerships and social movements/Community Based Organisations.

2.8.1 Public Sector Approach

As already discussed in the housing theories, the public sector through government departments and local authorities play a major role in delivery of low cost housing delivery. This approach is premised on the concept that central government and local authorities are directly involved in housing delivery strategies and projects to address the housing crisis (Ademiluyi, 2010). This concept argues that government must be directly involved in housing construction and release funding for new projects. During the 1960s to the late 1990s, in Asia and Africa, the state was the provider of infrastructure and housing (ibid). Palacin and Shelburne (2005) argues that the private sector through the World Bank funded US$300m (Nigeria), US$60m (Tanzania), US$130m (India) and US$25m (Pakistan) for sites and services schemes, the state was still subsidizing the provision of infrastructure for instance in Chile (Richards, 1995). Despite the introduction of the World Bank's neoliberal policies of Structural Adjustment Programmes which ushered in the de-regularization, reduction of state subsidies and privatization, the state still played a pivotal role in social policy and direct housing and infrastructure provision.

The state intervened in housing development through carefully targeted state subsidies to safeguard the poor and ensure that the urban poor have access to adequate housing for instance in South Africa through the RDP Housing programmes. In Nigeria, the government have allocated serviced sites to the urban poor in Bauchi State which costed US$36, 6 million out of which the government subsidised US$18.8m and the World Bank providing US$17.8m. In Pakistan, the sites and services schemes are costed and designed in such a way that the costs for servicing is recovered from beneficiaries through the principle of equity and cross subsidy by the government (Clarke, 2014). In Zimbabwe, the government was directed involved in providing housing in 2005, through Operation *Garikayi/Hlalani Kuhle* Housing Programme. However, despite the government obligation to provide housing and services, the rapid urbanisation has, "outstripped the efforts by the public sector to provide housing and infrastructure" (UNCHS, 2000). The economic depression has reduced the government ability to provide the urban population with either housing or services and hence this has led the government to allow the private sector to play an important role in housing and

infrastructure provision. Gilbert (1992:436) argues that, “in reality both the government and private sector will be able to provide decent shelter, services and infrastructure” especially to the urban poor who cannot afford to pay for the services. The failure of both private sector and public sector has also opened up for community approaches led by social movements, Community based organisation (CBOs) and Non-governmental organisations (NGOs).

2.8.2 Private Sector Approach

Rapid urbanization and rural to urban migration has put increased pressure on urban infrastructure which cannot sustain the influx population. More so, this has further increased the shortage of adequate housing as the existing stock cannot accommodate the increasing population. Payne (1999) states that such an extraordinary increase has placed the formal public-sector strategies to infrastructural services and housing under immense pressure. While government is mandated to intervene through social housing, the huge population in need of low cost housing over stretches the public coffers and the housing supply mechanism to limits (ibid). Rapid urbanisation has “seriously outstripped the capacity of most cities to provide adequate basic services for their citizens” Cohen (2006:64). More so, Hope (1998:7) state that this has resulted in, “unemployment, underemployment, inadequate housing and access to public housing, traffic congestion and environmental pollution...” In such cases, it’s more appropriate for the private sector to play a direct role in housing delivery, finance and investment. The private sectors since the era of economic liberalisation has been playing a direct role in housing delivery and this sector consists of building contractors, financial institutions, material suppliers and land developers. Napier (2002) argues that this sector is efficient in delivery high quality houses and infrastructure and is instrumental in mobilizing funds, has specialist capacities, skills and resources for the effective and complete execution of the housing project.

Payne (1999) is convinced that the private sector is more efficient in meeting diverse housing needs than the public sector. The operations of the private market filters all inefficiencies and bureaucracies and seeks to be innovative in the delivery of housing. Since costs recovery is one of the concepts of site and service schemes, the private sector is highly efficient in cost recovery than the government. The private housing finance institutions requires full cost-recovery in mortgage loans and other funding mechanisms to sustain longer-term borrowings (Palacin and Shelburne, 2005). The private sector supports developers, government or individuals with funding mechanisms like unsecured loans and savings-linked-to-credits loans, pension or provident-backed micro loans and mortgage loans (Tomlinson, 2007 and Melzer, 2009). However the private sector is motivated by profits and hence it operates on strict regulations and realities (Kamete, 1997). Here, it can be argued that the low income earners cannot meet the eligibility criteria to access loans from these finance

institution. Kamete (1997) argues that the low-income group views the private financial sector as an insensitive and inflexible capitalist organization who thrives on profit and disregarding the plight of the poor.

The private sector maintains high standards and quality thereby making their site and service schemes highly expensive for the low income people. Kamete (1997) argues that there little or none formal public funding mechanism for low-income groups and as a result, the low-income groups, desperate for housing, have been competing with high income groups to get funding from the private sector. In the Bauchi project in Nigeria, The Federal Mortgage Bank of Nigeria (FMBN) provided mortgage loans to beneficiaries; however the mortgage loans granted depended on beneficiaries' individual income. In Zimbabwe, the private sector requirements for mortgage loans for the urban poor are beyond the affordability of the poor as they charge between 12%-15% interest rate per annum. More so, eligibility for the CABS-City of Harare partnership "required a CABS bank account and a defined income bracket, making it difficult for ultra-low-income households to benefit" (Muchadenyika, 2015b: 1232). In reality, the financial sector never significantly intervened by advancing the funding, to especially what Freeman (2008) calls the down- market of low-income groups. Thus this approach has failed to benefit the poor as it is mainly centred on projects with less risk and guarantee of their return on investments. This then calls for the need of public private partnership which seeks to strike a balance between the virtues of private sector and public sector in housing and infrastructure provision.

2.8.3 Public Private Partnership (PPP) Approach

Public Private Partnership (PPP) is a, "co-operative venture between the public and private sectors built on the expertise of each partner that best meets clearly defined public needs through the appropriate allocation of resources, risks and rewards" (CCPPP, 2008:78). Ibem (2010) defines PPP as a process of pooling of resources which can be financial, human capital, technical and intangibles that can include also information and political support from the public and private sectors to accomplish a mutually set target and objective. Chikomwe (2014:28) assert that PPPs is a, "collaborative effort among public, private and the third sector organizations based on mutual trust, division of labour and comparative advantages in responsibilities, risks and benefits." Thus from all the definitions, it is clear that PPPs is a mutual strategy between the public sector, private sector and any third sector organization to work together with the available resources, implement a set project with shared responsibilities and targets in order to improve the delivery of services by the public sector organization.

The private sector is laden with resources (human, finance, machinery, expertise) and is efficient and effective in project implementation and thus is best able to complement government efforts in service delivery. Choe (2002) is convinced that urban housing problems have reached alarming levels to leave

them solely in the hands of government or private sectors but there is need to draw wisdom from and resources from all parties concerned. Sengupta (2005) and Ibem (2010) argues that PPPs are a new governance model which involves different sectors in a coordinated, feasible and more equitable approach in infrastructure provision. With the government faced with economic challenges, PPPs is a method which is increasingly being adopted and favored by governments in Chile, Cuba and Zimbabwe in providing public services and infrastructure. Despite their efficiency and quality standards, PPPs approach are costly to undertake since the organization need to finance the costs of tendering, adjudication and awarding the tender and high costs of borrowed capital from the banks and other financial institutions which will incur more interests (Chikomwe, 2014).

2.8.4 Non-Governmental Organisations (CBOS) and Community Based Organisations (NGOs)

Anagal (2007) argues that development organisations like CBOs and NGOs are important stakeholders which compliment government efforts in housing delivery and infrastructure provision. The provision of infrastructure by NGOs and CBOs is a rejection of the traditional approach given the role of the state in infrastructure provision. "The main aim of the NGOs and CBOs is to capacitate active participation of communities (residents) to ensure reliability, continuity and sustainability in infrastructural provision and management (Anagal, 2007; 9). These organisations supports self-help approaches to infrastructure and housing provision. The source of funding for NGOs and CBOs is mainly donor funding (Napier, 2002). CASE (2004:15) argues that in South Africa, "many Community- based organisations, which dominate civil society numerically, are concentrated in areas of service delivery at local level, to address immediate needs of poor communities. Many of them go about their activities without needing or seeking partnership with government." Hence CBOs and NGOs are seen as parallel structures of governance competing and contesting with government and its departments in housing and infrastructure provision. Choguill (1992) argues that there is no greater departure from the top down traditional approach of infrastructure provision, since the government role is now being taken over by the NGO or CBO. The projects implemented by CBOs and NGOs faces difficulties in trying to sustain after the withdrawal of the donor funding. NGOs and CBOs are looked upon as hatcheries of the opposition because of their constant criticism of the government and sometimes are not allowed to operate in high political sensitive areas (Anagal, 2007). CASE (2004:15) argues that, "civil society and state structures shared similar goals at an abstract level, but adopted very different approaches in practice, and as a result their relationship was characterised by mistrust and suspicion. There was a general recognition that regular channels of communication had broken down between CSOs and government and as a result the intentions of each side are frequently misunderstood by the other side."

2.9 Sustainable Human Settlements

Sustainable Human Settlements is regarded as a housing paradigm in its own right. UN Habitat (2006:6) has, "projected that by the early 21st century, the world's urban population will equal its rural population and by 2030, it is estimated that 80% of the world's urban population will live in developing cities, with small cities (less than 500,000 people) and medium-sized cities (one to five million people) absorbing most of this urban growth." UN Habitat (2006:12) shows that, "32% of the world's urban population lives in slums, and 90% of slums are located in developing cities. In Sub- Saharan Africa, 71.8% of the urban population lives in slums." This statistical data picture a gloomy picture and hence calls for a need of sustainable human settlements in sub Saharan Africa. Sustainable human settlements is defined as "…the totality of the human community whether city, town or village with all the social, material, organizational, spiritual and cultural elements that sustain it" Vancouver Declaration on Human Settlements (1976:1). However, the concept of sustainable human settlements in the implementation of low costs housing delivery has, "little agreement on a standardised approach" (Abbott, 2002; 304). More so, to unpack the totality is a complex reality since the new projects of site and service schemes are located in the urban fringes and periphery where they are far from the employment centres, schools and other community facilities.

Central governments and municipalities are at the core of enforcing that sustainable human settlements are implemented through the layout designs and production of infrastructural and housing standards. Site and service schemes are important in achieving efficient and effective functional cities and town as well as promoting economic growth. The 2002 World Summit on Sustainable Development (WSSD) recognised that the basis of sustainable urban development, "is the existence of functional and effective site with infrastructure and services" (Bello et al, 2014:50). ZIMASSET (2013) identifies the provision of urban infrastructure as a national priority and the housing is a key component of the urban economy. Sustainable human settlement empowers the local communities with adequate resources to live in an integrated safe, healthy and economically viable environment. Sheng (1998:352) argues that," sites-and-services schemes are often located in the urban fringe and allottees could lose their sources of income in the city as a result of the move." Thus sustainable human settlement considers housing to encompass the environment, social- economic context, livelihoods approaches and poverty alleviation.

Housing with adequate services is crucial in safeguarding health, protecting the environment and promoting security of tenure. Kihato (2012:13) argues that, "lack of infrastructure usually affects the legality of a settlement since provision of infrastructure for land development is often a requirement for the land to be legally recognized and authorized by local governments." In Karachi, Pakistan, for a beneficiaries to acquire title deeds for their property, the plot must be fully serviced with all the required infrastructure. The scheme without adequate services and infrastructure is not

accepted by other neighborhoods and this leads to settlement exclusion. Plots with services and adequate infrastructure are important in enhancing equality, right to the city and social inclusion. The lack of infrastructure impedes the livelihood strategies and opportunities of beneficiaries (Amis and Kuma, 2000). Mara (1997:342) argues that, "adequacy of infrastructure in housing reduces poverty through the improvement of livelihood strategies."

Huby (1998:67) pointed that housing development, "has effects on the environment in terms of land-use, loss of amenity and waste production, and these are felt unevenly by different sectors of the society. However, the construction of housing – whether these are sophisticated homes for the affluent or the makeshift structures of wood, iron-zinc plates and asbestos roofing which are typical of shanty areas in many developing countries – in itself has environmental impacts." Furthermore, the new sites in the urban periphery are poorly serviced, lack the capacity to improve the general livelihood and living conditions of beneficiaries and generally this has a bearing on their housing and habitat environments. The concepts of sustainable human settlements in its implementation calls for a paradigm shift in the delivery of low costs housing strategies. It is pro-poor housing response mechanisms which incorporate the urban poor whilst creating a conducive living environment for both new and established residential communities to enjoy a healthy, productive and well integrated life.

2.10 Factors Affecting the Implementation of Site and Service Schemes

Kamete (2006) argues that the challenges affecting the implementation of site and service schemes differ between countries. The challenges include lack of funding, rapid urbanisation and economic challenges (Chirisa, 2016; Chirisa and Jonga, 2009). This section will discuss the factors affecting the implementation of sites and services schemes drawing from regional and International literature.

2.10.1 Project Location

The choosing of a site location is the initial stage of the project design. The availability of cheap and affordable land is most important in the implementation of site and service schemes. In most countries in the developing world, land in the city centres and closer to employment opportunities is expensive and if acquired, it is usually purchased at market prices since it's owned by private organisations and individuals. Due to high costs of purchasing land in city centres, most sites and services schemes are located on the urban periphery where such costs are deduced for instance Gwarimba S & SS in Nigeria (Gilbert, 1992). However the longer distance between sites and existing infrastructure networks makes the costs for installation and connection of plots to infrastructure high and sometimes the servicing may be delayed. In addition, the extra distances travelled by residents to and from their employment centers would discourage the beneficiaries to purchase the serviced sites. Most

urban poor rely on informal trades especially street vending, hence transporting their goods and wares will be expensive and end up not affording the plots in the scheme. Hence it is critical to locate sites which are close to the urban centres for instance Bauchi and Karu in Nigeria are located within a close distance to the urban centres and have been successfully in its implementation (Gilbert, 1992).

2.10.2 Increasing Rate of Urbanization

Housing and infrastructure provision is adversely impacted by rapid urbanization. Kihato (2012) paints a gloomy picture of a mismatch between population growth and infrastructure provision, with the latter failing to support the demand. Owusu (2010) argues that in Ghana there was an increase in urban growth from 44% to 51% during the period 2000 to 2009. The increased urbanization has put pressure on infrastructure resulting in constant municipal pipe blockages and allocation of partially serviced plots and unserviced land to beneficiaries in a bid to address the housing shortages (Gilbert, 1992). Munzwa and Wellington (2010) argues that, "housing and infrastructure provision has not been proportionate with urbanization levels leading to urban sprawl, housing and infrastructural challenges." The mismatch between service provision and urbanization is further reinforced by the economic depression which has left the central government unable to discharge its services in infrastructure and housing provision. Kamete (2006a) acknowledges that high levels of unemployment and liquidity crisis are some of the factors affecting the implementation of site and service schemes in sub-Saharan Africa.

2.10.3 Funding Challenges

The central government and municipalities are mandated to provide infrastructure which is capital intensive (Udoko, 2013). The current economic depression has reduced the capacity of the state to fund capital development projects like infrastructure provision for housing development. In South Africa, municipalities rely on grants from the provincial and central government for infrastructure provision. With the collapse of the welfare state and reduction of government subsidies in housing and infrastructure provision, service delivery has been affected as less government grants are offered to housing and infrastructural provision. In Zimbabwe, the economic meltdown affected infrastructure provision, maintenance and upgrading as the state prioritized sectors of the economy which are critical in reviving the economy (Coltart, 2008). The lack of adequate funding delays and derails the implementation of site and service schemes. Due to financial constraints, the residents of Orangi District in Pakistan constructed their sanitary system (Choquill, 1999).

2.10.4 Inadequate Budgeting

Inadequate budgeting is another factor which has affected the implementation of site and service schemes. Developers when budgeting or costing the project schemes they usually leave critical

components of the project (Chirisa, 2015). In Nigeria, on the work of the Bauchi S & SS, the engineering designs, planning details and costing of the project provided by the consultant was found to be incorrect (Agbola et al, 2014). The project was envisaged to cost about US$28 million however in spite of cost overruns the project eventually costed US$36, 8 million. The increased costs was as a resulted of an incorrect design provided which was latter altered during the project implementation and this added to the overall costs of the project. Mdlongwa (2014:1) argues that, "poor budgeting is also seen as a human resource challenge. Many municipalities across South Africa just do not have the people with the requisite technical skills and in cases where they do there is sometimes a shortage of skilled personnel who can assist the municipality in rendering quality services to the people." The lack of a competent personnel in budgeting and costing overall affects the budgeting process and the implementation of the S & SS.

2.10.5 Corruption

Ademiluyu (2010) and Udoka (2013) argues that housing and infrastructure provision is affected by corruption. The lack of transparency and accountability in implementation of S & SS (Hardoy etal, 2005) has an adverse impact on the construction of new infrastructure and the maintenance of existing infrastructure (Udoka, 2013). "Corruption is associated with mal-administration of funds linked with inflation of prices and purchasing inferior materials at exorbitant prices which result in shortened life cycle of a project or product" (ibid). In Nigeria, there are high costs of project implementation and maintenance which are characterized by workmanship on jobs done. Corruption is also associated with the embezzlement and diversion of funds which both affect the success of projects.

2.11 Regional and International Case Studies

Case study provides valuable information pertinent to the implementation of site and service schemes understudy in depressed economies. "A case study is immensely helpful in evaluative research, help explain casual links in real-life and illustrate applicability and workability" (Yin, 1994). This section will analyse three cases on the implementation S & SS in Cuba, Guyana and Indonesia which are developing countries.

2.11.1 The Cuba Experience (Architects in the Community Programme, (ACP)

Severe economic crises as a result of collapse of communism in 1990 and subsequent withdrawal of support from USSR and Eastern Europe, led to a halt in public housing programme in Cuba. Alternative approaches to housing supply, included support for self-help construction development of locally produced building materials and technical support for the people. The ACP scheme was established in 1994, as a collaborative venture by the national Housing Institute, Habitat Cuba (a local NGO)

and two local governments. It was initiated as a pilot project to undertake the above tasks aimed at improving the housing conditions and quality of life of the people. Household's interest in the schemes, were assigned an architect each. The architect visited the household to formulate a design brief and take measurements, as applicable. Thereafter, he prepared 4-5 design proposals, which he discusses with the family before developing the final design. He seeks as much as practicable, the comments and views of every household member, to ensure that the final design suits the needs of all. The focus is on evolving a cost effective solution suited to each household's needs instead of repetition of prototypes (Olanrewaju et al, 2015).

The range of services rendered by the architect include design for new houses, remodelling or expansion of existing ones, obtaining approvals and supervision of construction. The programme has provided jobs for 630 architects in 156 of Cuba's 169 municipalities where the programme has assisted over 250,000 households in realizing their housing dreams (Olanrewaju et al, 2015). The programme won the 2002 World Habitat Award and has been replicated in Uruguay and is currently being explored by South Africa, Argentina and Peru. The beauty of the programme is that it is accessible, self-supporting and has provided affordable technical support to poor households. The participatory design approach used in the project provides households with the required skills and confidence which have translated into better living conditions and confidence to face the future. Good working knowledge of the circumstances of the households, cooperation with local planning authorities as well as commitment to have enhanced the success of the project.

2.11.2 The Guyana Experience

The Government of Guyana has, since 1998 (Inter American Bank, 2016), sought to address the issues of land and housing for its low-income population. First by means of a land divestiture program and then by a Sites-and-Services program. The experience and lessons of these two initiatives illustrate some key elements and criteria for using the incremental development process in Sites-and-Services and low- income housing. The two consecutive IDB-supported housing operations for Guyana show an evolution to an incremental development concept to achieve a comprehensive low-income housing strategy (Olanrewaju et al, 2015). The first, the Low Income Settlement Program (LISP), implemented from 2000 to 2007, had the double objective of upgrading and regularizing squatter settlements and divesting national lands to produce plots with infrastructure (utilities) for low-income housing. The program did not produce houses on the plots; rather expectations were that beneficiaries would mobilize savings and loans to build their own houses. The Land Divestiture Component produced ten new subdivisions in eight Regions of the country, producing about 9,000 residential plots. The Squatter Upgrading Component improved basic infrastructure in five existing settlements in four Regions,

benefitting about 3,700 households.

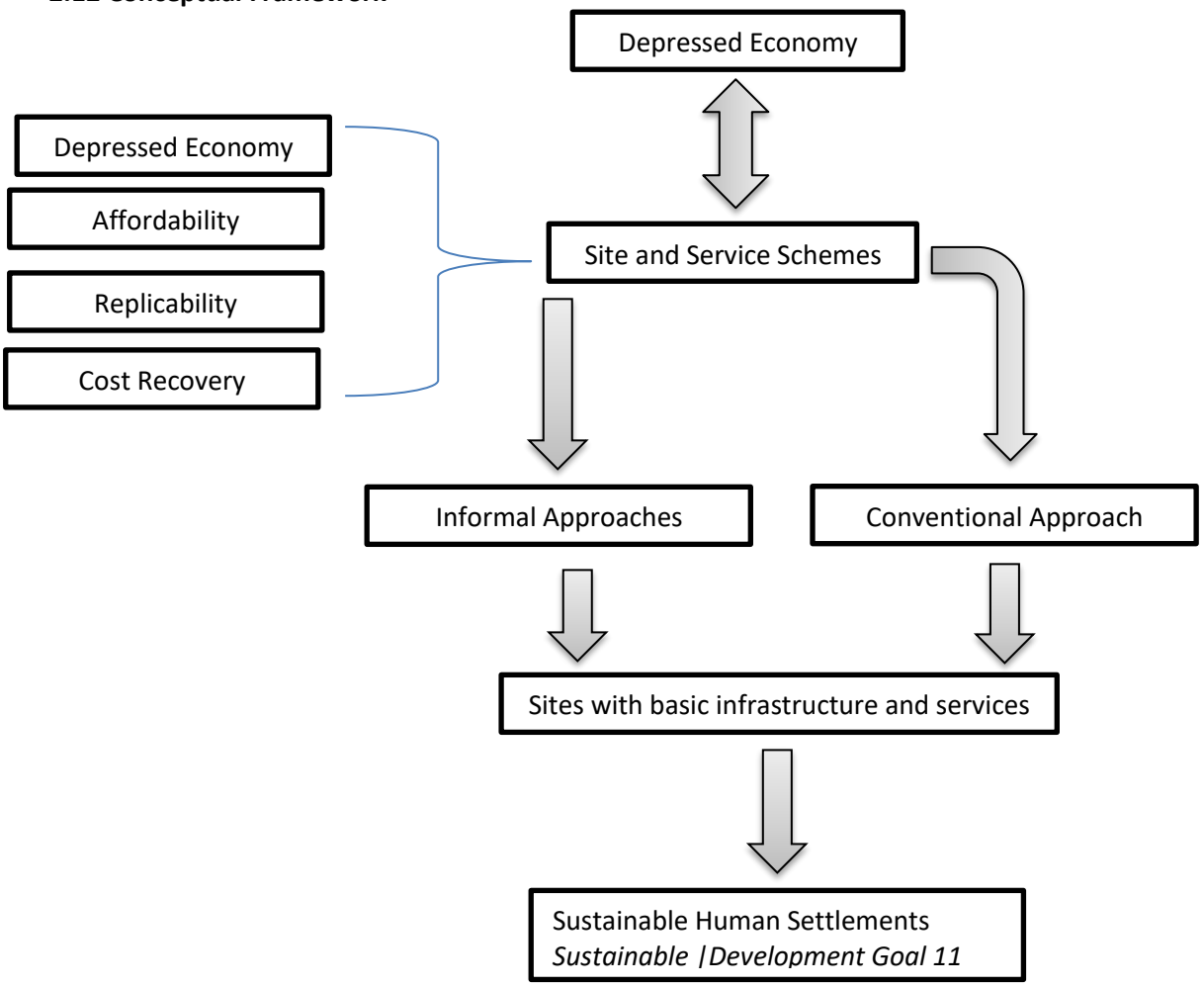
2.11.3 The Indonesia Experience (Kampung Improvement Programme)

In Indonesia, out of a total annual housing demand of 7,000,000 units, public sector intervention has been able to meet only10% while the people's effort account for the remaining 90%, considering the alarming rate of urbanization and the growing poverty level of the urban people, 83% of whom are engaged in the informal economy. The challenge was how to redefine official policy in order to support the people's self-supporting activities and strengthen their capacities in meeting their housing needs. In the early stages, the programme that took off in Jakarta in 1969, aimed at improving public infrastructure facilities in order to improve the quality of the housing (Olanrewaju et al, 2015). The policy elements in the programme included:

"1) Developing functional community institutions that will serve in mobilizing local resources for development programme;
2) Enhancing security of tenure via people targeted subsides as a way of motivating people to improve their houses and environment;
3) Providing incentives for community collective effort via provision of basic public utilities/infrastructure;
4) Developing community based economic programmes such as small credit and skill acquisition schemes in order to sustain development in the area." (Olanrewaju and Oyinloye, 2015:163).

By 1993, the programme had been replicated in 386cities in the marked improvement of the quality of housing of households, increase in housing stock and improved income generation opportunities within the communities. The programme successfully addressed key issues in low income housing namely: security of tenure, poverty, harnessing of peoples' abundant but often hidden resources in improving and maintaining their settlements. It is important to note that this approach involves close cooperation between government authorities and local communities (ibid).

2.12 Conceptual Framework



Source: Author's Own Concept

2.13 Conclusion

Site and service schemes are a low cost sustainable housing delivery approach targeting low income earners. The site and service scheme were implemented through conventional approach which emphasized land, infrastructure and shelter provided by the central government and or municipality. However the depressed economic condition reduced government public expenditure in housing and the capacity of the municipality to provide housing and infrastructure. This resulted in the shift in implementing sites and services schemes through incremental or parallel development approach. These approaches consider the financial challenges and encourage self-help approach to and community concerted efforts into housing and infrastructure delivery. The case studies in developing countries have illustrated the importance of community participation in housing and infrastructure provision for the urban poor. The next chapter will discuss and analyses the contextual environment in housing delivery in Zimbabwe.

CHAPTER THREE

CONTEXTUAL BACKGROUND – ZIMBABWE'S HOUSING SITUATION

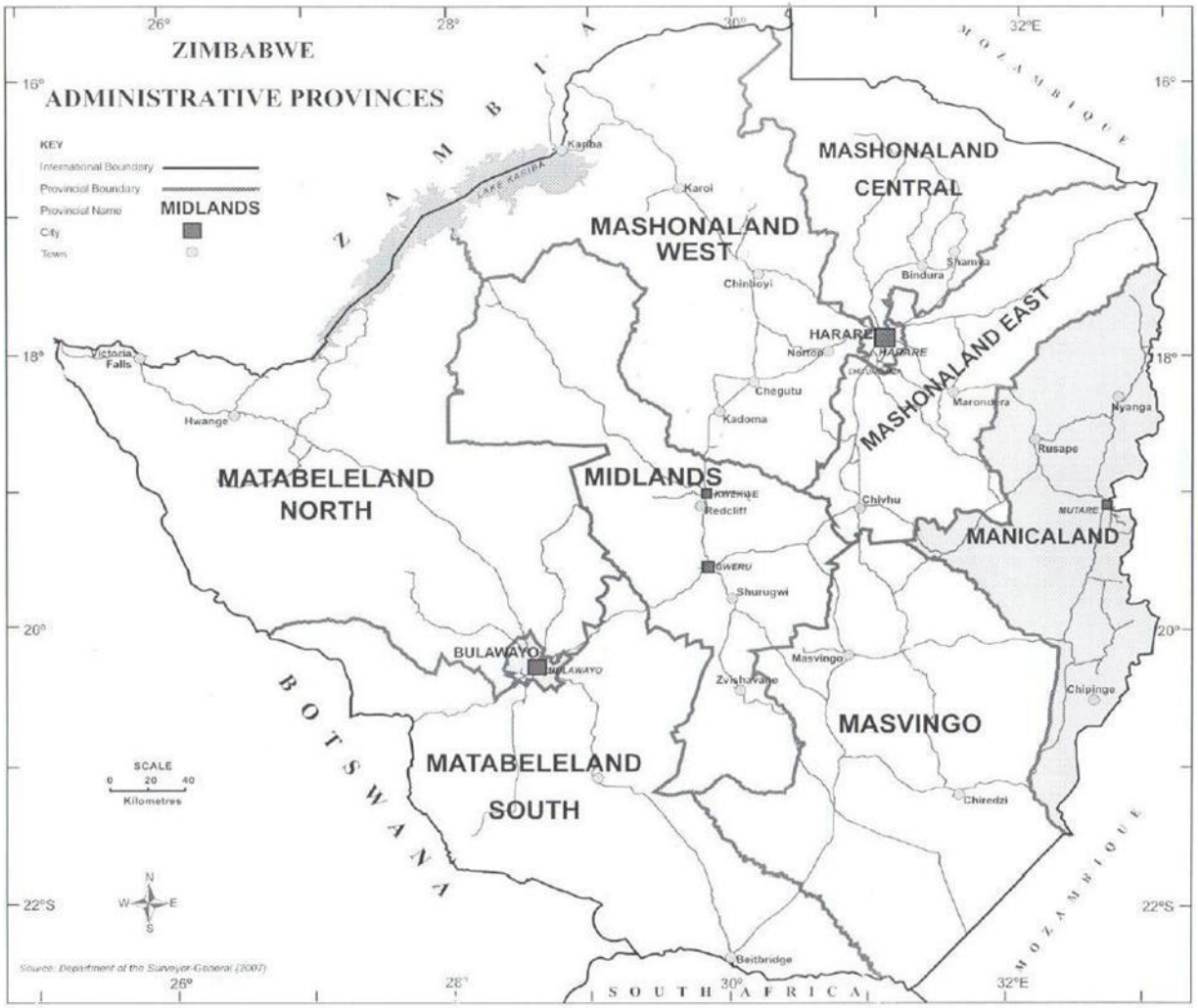
3.1 Introduction

This chapter provides for an overview of the colonial and post-independence housing situation, with the housing policies and strategies used by government before and after independence and the prospects and challenges to the delivery of low income housing in Zimbabwe. The contextual situation being discussed here provides for launch pad in the review of the implementation of sites and services schemes under discussion. This background is thus necessary to understand the approaches and concepts to site and service schemes and determine the practicality and efficacy of site and service schemes as sustainable and effective strategy to improve housing provision for the low-income groups in Zimbabwe. This section is trying to seek for the, 'historical, political, administrative and cultural contexts' in Zimbabwe which defines housing and how these factors are echoed in the housing delivery model of site and service schemes in Zimbabwe. Chirisa (2013: 98) laments on the continued, "adoption and implementation of British colonial planning practises and institution, administrative conflicts, political contestations and cultural practises" as the precipitating factors in constructing a stiff multifarious context in which the delivery of housing is highly impractical despite rapid urbanisation.

3.2 Historical background

The housing crisis is Zimbabwe is divided into two distinct historical phases which are the colonial era (1890-1980) and post-independence era (1980- present). All these time periods have shaped the housing policies, legislation and housing provision strategies in cities and towns. Chipungu (2011) argues that the colonial era created a legacy of racial segregation and racial discrimination in housing delivery in towns as blacks were allocated in peripheral zones of cities. The colonial government used strict control on the black Africans and denied them access to decent housing in urban areas and most sites were areas under restriction form the indigenous citizens. The post-independence era, has been characterised by many housing policies and housing delivery strategies which are not adequate and sufficient in improving housing by the low income in cities and towns. The government since 1980 have introduced policies which have repealed all the restrictive and discriminatory legislations which have been undermining the local people access to live and access decent accommodation in urban areas.

Figure 3.1: Zimbabwe's Provinces and Major Towns



Source: Department of the Surveyor-General, 2007

3.2.1 Pre-Independence Housing

The National Housing Programme (2012) argues that during the colonial era, there was the introduction of site and service scheme in Rhodesia (now Zimbabwe) through self-help approaches however the provision of housing finance remained an elusive dream for the non-blacks as housing finance was centrally meant for the white minority. Chaeruka and Munzwa (2009) argues that during the colonial era, the non-whites especial Back Africans were regarded as 'temporary citizens' in cities and towns. This was further reinforced by the enactment by the settler government to enforce this segregatory ideology. Legislations such as the Native Locations Ordinance Act (No 4 of 1906), provided for employment as the main factor for one's tenure in urban area, and the Land Apportionment Act which made for the provision for government to provide housing for blacks in Townships and transferred all the land to the whites. As earlier argued, that cities where areas of control and restrictions for the Black Africans, the settler government introduced legislations like Native Registration Act of 1936 and the Native Passes Act of 1937, which provided for controlled movement to and within cities and towns for the Black

Africans. Despite this, further legislation for the increased exclusion of black Africans in urban areas was reinforced through the African Urban Areas Accommodation and Registration Act of 1946.The Land Apportionment Act divided the country in two equal parts where land access and provision of housing and tenure system was now based on race. Patel (1988: 20) argues that "urban areas of Zimbabwe were considered the preserve of the white population as settlers systematically introduced schemes of preferential land division, differential property rights, job protection, economic incentives … that effectively precluded black competition".

The colonial era had restrictive laws for blacks Africans to access housing resulting, the bottleneck system to housing by the blacks Africans led to urban sprawl as many people were fleeing rural area due to war of independence which was more prevalent in rural areas. Since homeownership was restricted, the government developed massive rental housing stock for the blacks (Zinyama *et al*, 1993) for instance 'single men hostels' for migrant labourers which were developed at the urban fringe (Patel, 1988). The Government Town Planning Department produced an 'Outline Plan – 1957 which is now being used by the planning authorities in Zimbabwe to develop their master plans (Ndlovu, 2004). The Outline Plans provided for the creation of subdivision of land and this was effective in curbing urban sprawl (ibid). Chirisa (2013:101) argues that, "in 1963, the Rhodesian Rural Land Board (RRLT) promulgated the economic criteria for subdividing land holdings under title." This created a screening system to access land and only a few people met the criteria and this proved expensive as the infrastructure and utilities were benefitting a small populace (Ndlovu, 2004). This challenge of infrastructural provision emanated from this era and is a source of alarm for sustainable housing delivery and human settlements in Zimbabwe. Thus the colonial era, through segregatory housing and spatial planning policies (which were centred on racial preferential were detrimental to sustainable human settlement practices.

In 1925, the Report on Land Commission pointed out that, "the elite Africans will feel it a grievance if they are not able to acquire sites for residential purposes" and the Commission recommended that, "it is most advisable than an area should be set aside now by the Municipality on each of the township commonages as a residential suburb for the more well to do Native of the future." As a result, this led to the creation of site and service schemes for the middle class Africans in urban areas. The Town and regional Planning Act was promulgated in 1933 with the objective of curbing urban expansion (Sparrow, 1979). It further provided for, "municipalities of major towns to provide for the planning schemes for the areas under their jurisdiction" (Jordan, 1984:63). Davison (2002:187) argues that the aim of the Act was also aimed at, "preparing town planning schemes that focused on the subdivision of land and the control of development to ensure the practicable degree of economy guided by systematic standards." Thus it was through this Act that building standards were adopted in the construction and development of housing for blacks.

The need for permanent workforce in urban areas, led to the colonial government to promulgate the Native (Urban Areas) Accommodation and Registration Act (No. 6 of 1946) which required for municipalities to finance and manager urban African townships and this was watershed in the provision of housing to black Africans. Municipalities began the construction of family hostels and provide adequate housing for urban blacks with services for African being financed by township residents themselves (Raftopoulos and Yoshikimi, 1999). The standards and services became costly despite substantial housing subsidy and this called for the need to reduce housing standards coupled with the ever increasing housing shortages in urban areas. Kamete (2001b:34) argues that, "the cost of providing housing to Africans was deemed to be too high, hence the colonial government tried to increase its capacity by reducing planning standards. This change in approach led to ultra-low-cost houses constructed using standard cement-reinforced chicken wire-mesh." This strategy of reducing housing standards improved affordability and was also a mechanism which was used by the independence government of Zimbabwe in improving access to housing for low income people. For instance, St Mary's Township in Harare was developed by the Government of Rhodesia on a sites- and-services scheme to house airport employees (Zinyama, 1995). Thus towards 1979, "Rhodesian government announced that it was adopting a policy of home-ownership and tenants of local authorities were given the right to buy their dwellings at considerable discounts" (Rakodi & Withers, 1995a: 250). Muchadenyika (2013:90) argues that, "this was probably an attempt to embrace a new 'African-centred' housing policy as a reflection of a transitional coalition." This home ownership policy was the preferred policy, and the cornerstone of post-independence housing policy, as will be explained hereunder.

3.3 Post-Independence Housing

A number of policies to redress the racial and special segregatory legacies of the colonial government were adopted by the post-independence government Zimbabwe in a bid reduce the urban housing shortages. The government repealed all repressive migration laws into urban areas and this resulted in a huge migration of people into urban areas. The post-independence government prioritised the delivery of adequate low income housing and partnered with international financial institutions like World Bank and development agencies like USAID to develop low-income housing. Brown (2010) argues that from independence up to 1980, the government was the main player in the delivery of low cost housing through implementation of sites and services schemes. The post-independence government of Zimbabwe was bent on, "a free, socialist and democratic society where property as a commercial and exploitative factor will be abolished" (Nyangoni et al 1979:258). The post-independence government in providing housing, adopted "sites and services scheme" as a housing strategy because it was inclined to socialist ideologies which encouraged "self-reliance and collectivism" (Kamete, 2001:174) whilst allowing the government to grapple with the economic realities that it was failing to fund low income housing (Davies and Dewar, 1989).The post-2000, was characterised with the country sliding into a protracted socio- economic and political crisis which led to both the government and local authorities fail to continue providing low-income housing (UNDP,

2008). This led to the rise of cooperatives, private land developers and community based organisation replacing the government and becoming major stakeholders in the provision of site and service schemes. A summary of major urban planning and housing policies developed since 1980 is given in the box below.

Major Urban Planning and Housing Policies (1980- 2000)

- ***The Repeal of Pass Laws (1980)***which had been used to regulate and restrict the form and permanency of black urbanresidency.
- ***Home Ownership***which allowed house occupiers to purchase the Council/Government rental stock thereby generating funds forthe construction of additional units. This expanded colonial pilot schemes started in the 1950s (see Auret 1995).
- ***Rent Control Regulations (1982)*** to regulate the rental market in ways that offer protection to both tenants and landlords.
- The establishment of the ***National Housing Fund (1982)***used as a general development loan through which local authoritiesreceived resources for house construction and infrastructural development.
- The establishment of cost effective and labour intensive modes of house construction such as ***aided self-help***and ***Building Brigades***and the development of.
- ***The Housing and Guarantee Fund (1985-1995)***to facilitate civil servants and the general public to acquire building society loansfor home purchase or construction. The Fund was supported by, among others, the World Bank and USAID and focused on low-income residential development. There was also a component where government mobilized funds from potential home-owners inthe medium to high income brackets with a matching Government contribution.
- Implementation of ***minimum building standards, training of builders***and other ***artisans***(trade testing system) to ensure provision ofdecent and durable housing and associated facilities.
- Continuation, broadening and refining the maintenance of ***Housing Waiting Lists***.
- ***Housing Upgrading Programmes***where former „bachelor accommodation" and housing units considered unsuited to continuedhabitation in older suburbs like Mbare in Harare, Sakubva in Mutare, Rimuka in Kadoma, and Mabutweni-Iminyela in Bulawayo.
- ***Slum Upgrading***with the only large scale project being Epworth outside Harare.
- ***Promotion of Cooperatives and other community-based settlement development models***. Some of these were directly facilitatedby local authority Departments of Housing and Community Services and relevant arms of central government as well as civilsociety organizations (NGOs, CBOs etc).
- ***Introduction of rural housing and social amenities programmes***including creation of a specific Ministry.
- ***Private Sector Participation and Employment-based Schemes***where the involvement of the private sector in the delivery ofhousing has seen a number of land developers and other companies not involved in the housing sector providing housing for theiremployees while others were (and are) promoted by civil society organizations.
- ***The National Housing Policy (2000) and National Housing Delivery programme (2004-08)***.

"These policy initiatives enabled the delivery of over 460 000 housing units countrywide between 1980 and 2005 apart from introducing new home ownership structures" (GRZ 2005:11).

*Fig 3.2 Major urban planning and housing policies developed since 1980.*Source: Chatiza & Mlalazi (2009:18)

3.3.1 Legal Context

The local authority in its mandate to deliver housing, is governed by a number of statutes which includes the Constitution of Zimbabwe (CoZ, 2013), Urban Councils Act (Chapter 29:15), Provincial Councils and Administration Act, Housing Standards Control Act (Chapter 29:08), Land Acquisition Act (Chapter 20:10), Mines and Minerals Act (Chapter 21:05) and Environmental Management Act (EMA) (Chapter 20:12). The right to adequate housing and access to potable and affordable water in enshrined in Section 28 and 74 of the new Zimbabwean Constitution of 2013. This is a major development in the provision of housing as its now a basic right whilst, "the State is obliged to take reasonable legislative and other measures within its available resources to achieve the progressive realisation of this right" (Coz, 2013:38). The local authority also uses the Regional Town and Country Planning (RTCP) Act of 1996 for organised and systematic spatial planning of the local authority area by providing some specific development guidelines which much support from the Department of Physical Planning (Chirisa and Dumba, 2011; Kamete , 2009). However the Act has been criticised for being too elitist in relation to infrastructural requirements whilst ignoring the increase of informality as a result of the harsh economic conditions. The Act supports the use of high building standards which are expensive and gives power to municipalities to demolish informal or illegal buildings hence it does not consider the poor through the use of cheap building material.

The Housing and Building Standards Act of 1996 was provided for the control and management of funds meant for housing development. Specifically it was provided for the creation of the National Housing Guarantee Fund to support the government and building societies funding for low income housing schemes. Minimum Housing Standards and Revision are pronounced by the Ministry through government Circulars and Statutory Instruments from time to time in revising the housing standards as a result of the economic conditions. These minimum standards should be adopted, and enforced by the planning authorities for instance local authorities and the Department of Physical Planning. The latest being Circular 70/2004 which revised the minimum housing and infrastructural standards in high, medium and low density suburbs. The Urban Councils Act 29:15 provides urban local authorities with a wide range of powers and responsibilities for the provision of services and functions including water supply (cf. Mara and Alabaster 2008), health (both personal and environmental health including sanitation and refuse removal), public lighting, creation and maintenance of recreational parks, and housing for citizens (cf. Mhlahlo, 2004; Tevera et al 2002; Mapira, 2004). Another set of byelaws in the ambit of the UCA is the Model Building Byelaws of 1977.They cover issues on structural design and control, foundations, masonry and walling, miscellaneous materials constructions, water supply, lighting, drainage and sewerage, ventilation,

fire protection and public safety. However, the Model building bylaws has, "been considered very rigid, outdated and inhibitive to the smooth implementation of infrastructure development works in local authority areas" (Chirisa, 2017:122).

3.3.2 National Housing Delivery Programmes

Toriro (2006:1) argues that, "immediately after independence, there was a housing goal which was summed up in the slogan, 'Housing for all by the year 2000'... Although the policy position has not always been supported by actual houses being built, there has been consistency. This is positive because it indicates ready support to housing programmes in Zimbabwe since any such development is in line with an existing desire of the government." In a bid to support this policy, the Zimbabwean government used a mixture of mechanisms fluctuating between "technocratic-induced minimalist ideology and socialist populism" (Chirisa, 2013:102). This clearly shows that the state and local authorities became major providers of housing through ownership schemes and provision of site and service schemes. As time went on, it became crystal clear that the state was limited in its ability to provide public housing to the low income people. Policy discontinuities and mismatches were witnessed and Toriro (2006:4) sums up by saying,

> *"In 1980, the new policy sought to encourage home ownership.... The new government changed this in order to allow blacks to become property owners in urban areas. The policy meant that housing stock under the control of both the state and councils was significantly reduced. The government also introduced a policy to control rents, thus protecting tenants from overcharging by property owners. Under this policy, rentals could only be increased within certain regulated parameters. The reaction of property owners and property developers was to shun the rental market. As a result, very few new flats were developed by the private sector during this time. The ultimate effect of that policy was to remove other players in the housing delivery system, thereby reduced housing output. In 1992, ambitious housing standards were introduced. These put the minimum stand size at 300 square metres. The impact of this policy was to make servicing expensive, thereby limiting the ability of local authorities to provide an adequate numbers of stands or houses. The length of the road, water and sewer pipes to each stand was the major contributor to the expense."*

From this quotation, one might conclude that these policies made it difficult for the low income earners to afford owning a house in urban areas. More so, it made it unsustainable for stakeholders to provide housing as providing of service infrastructure like roads, sewer and water increased the costs of purchasing a serviced site. As a result of the problems caused by the 1992 Circular, the government of Zimbabwe repealed Circular No. 2 of 1992 and replaced it by Circular No. 70 of 2004 (Table 3.1 below) outlining new minimum standards as shown on table 1 below. This Circular No. 70 of 2004, aimed at reducing the

standards and improving affordability for the low income earners to access housing through formal and conventional means established by the state and local authorities. Marongwe, Mukoto & Chatiza (2012) argues that despite the standards reduction, these minimum standards are inadequate to elicit substantial investment in low-income housing. Thus planning through imposition of housing standards has benefitted the elite at the expense of the urban poor.

Table 3.1: Planning Standards (Circular 70 of 2004)

Category	**New standards : Area**
Low-cost/High Density	Stand size of 70-200m^2, 70-89m^2 for semi-detached buildings, 90-200m^2 for
	detached buildings. Building lines: 3, 1 and 2 metres from front, side and rear
	respectively. Road hierarchy: 12, 10 and 8 metres.
Medium Cost/Medium	500-799m^2, no outbuildings. Building lines: 5, 2 and 3 from front, side and
Density	rear respectively. Road hierarchy: 15m and 12m.
High Cost/Low Density	800-2000^2, on-site sewerage disposal. Building lines: 5, 3 and 3 from front,
	side and rear respectively. Road hierarchy: 15 and 12 metres.
Peri-urban Residential Plots	1-2 hectares
Open Spaces	Not exceeding 5% of planning area.
Category	**New standards: Infrastructure**
Roads	High Density: To be gravelled and provided with dish drains. Medium and Low Density: All
	roads shall be surfaced.
Water supply	High Density: Reticulated supply. Medium and Low Density: To the specification of local
	planning authority.
Sewerage	High Density: Reticulated system. Medium Density: Reticulated system. Low density:
	Reticulated for 800–1200m^2, on-site system for stands above 1200m^2.
Category	**New standards: Housing**
High Density	Minimum room size 6m^2 with minimum width of 2.1m. Walls to be of burnt
	bricks or cement blocks of a minimum thickness 115mm for external walls.
Medium and Low Density	As per house construction guidelines produced by each local authority.

Source: (Goz, 2004)

3.4Urban I & II

The 5 year Transitional National Development Plan (1980-1985) was aimed at providing serviced plots to the urban poor. Through the 5 Year Plan, housing was a priority and a National Housing Guarantee Fund was established to fund the implementation of site and service schemes. Ramsamy (2006: 35) argues that, "at the end of the TNDP in 1985, about 13,500 houses of the planned total of115,000 had been completed." After 1985, the government of Zimbabwe partnered with the World Bank and implemented Urban I. The main aim of the project was to "increase the

supply of affordable housing and related services to large segments of the poorer population, and to improve the system of housing finance in the four major cities of Harare, Bulawayo, Mutare, and Masvingo" (World Bank 1991: 8). Kamete (2006b: 986) notes that," USD 112.5 million funded the project which consisted of five components, namely site development and servicing, transport, institutional development, housing finance and front-end fees." 22 373 serviced sites for low costs housing development were delivered through Urban 1.

Urban II was launched in May 1989 by the World Bank amounting to a total of USD 580 million. Urban II was aimed to "expand the role of private sector financial intermediation for housing from a pilot operation in four cities, to a nation-wide sector programme" (Ramsamy, 2006: 147).World Bank (2000) reported that after the project completion, 30,000 serviced sites for low income and medium income earners were developed in twenty one cities in Zimbabwe (World Bank, 2000). It was through Urban II, that an estimated 500 sites were implemented in Beitbridge. The scheme funded the servicing of plots and construction of one roomed houses popularly known as "ZB" houses in Beitbridge. It was during this era, that there was a reinstatement, by the government, of high standards which, increased the costs of implementing site and service schemes. Thus, these projects did not benefit the target population of the urban poor, as only the middle and high income could afford to purchase the serviced sites, although the projects were centred on affordability and cost recovery.

3.5 Zimbabwe Private Sector Housing Programme

The Zimbabwe Private Sector Housing Programme was implemented with the aim of, "eliminating obstacles to sustainable production and delivery of low-cost housing in construction, building materials and construction equipment industries, land delivery system and the housing finance system" (GoZ, 1996b: 17). This programme was designed to augment the Economic Adjustment Programme and it was supported by USAID from 1992 when it commenced. It was through this programme that there was a reduction of standards (USAID Project) which improved the affordability of serviced sites and houses by 70% (GoZ, 1996b). When the programme was completed in 2000, the programme managed to achieve a target of "19,000 serviced plots, 7,500 core houses and 17,000 self-help housing constructed which were financed through loans from USAID" (USAID, 2000).

3.6 Housing and Guarantee Fund

This was a housing finance system, which was designed, to benefit government employees to purchase houses. Through this scheme, the government was a guarantor for the repayments of loans from the private sector. Palmer Associates (1995) notes that, "first phase commenced in 1982, resulting in the servicing of 11,780 low-cost housing plots and the building of 7,680 core houses and community facilities in Harare (Kuwadzana) and Chitungwiza." Palmer Associates (1995: 7) highlights that the second phase, "which commenced in 1985, serviced 19,300 plots and built 7,500 core houses,

together with community and commercial facilities in Harare (Kuwadzana II), Marondera (Nyamheni), Kadoma (Waverley), Chinhoyi (Chinhoyi Stream), Redcliff (Rutendo), Chiredzi (Tshovani), Chipinge (Gaza), Bindura (Chipadze), Beitbridge (Dulibadzimo) and Gwanda." In Beitbridge the scheme managed to fund the servicing of plots and construction of two roomed core houses. These two roomed houses are located around Mashavire Business Centre and servicing of plots around Shule-Shule Business Centre.

3.7 Housing Projects (2009-17)

According to Kamete and Mubvami (1999) Zimbabwe has adopted and implemented different housing delivery models since 1980. Since low cost housing developments are being developed on the urban fringes, their implementation hinges on sites and services schemes. The housing projects delivered includes the following:

Table 3.2 Types of Housing delivery Models implemented in Zimbabwe

Aided Self-Help Model	Local authorities provide serviced stands (with tarred roads, water and sewerage reticulation) and then individual beneficiaries construct dwellings using resources at their disposal. Low-income families have been the chief beneficiaries of this model. This is the concept which Beitbridge Town Council has been implementing. The previous schemes under layout GD254 for high and medium density stands are implemented through self-help schemes. Stand beneficiaries construct their houses incrementally as funds permit.
Pay Schemes	Local authorities do layout plan preparation for un-serviced areas and beneficiaries pay deposits for infrastructure servicing of plots before allocation and housing development. The stands are then tendered to contractors on behalf of beneficiaries, who pay up front for the necessary infrastructure. With infrastructure in place, the beneficiaries

	take over superstructure construction, at their own pace (cf. Alexander *et al* 1973). This is the best-suited model for middle and high-income earners. Developers have often been cited for misappropriating the funds once it gets into their coffers. In Beitbridge, the Beitbridge Town Council produced GD261/1 an un-serviced layout plan and partnered with SDP Africa land developers to provide service infrastructure like tarred roads, water and sewer reticulation system. More private land developers like FORIT, Mornef Investment and HawkFlight Land Developers have partnered with Council to provide infrastructure but the schemes under SDP Africa and FORIT Investments are taking time to be completed and are compounded by the lack of offsite infrastructure for instance a pump station. The developers are required to construct a new pump station.
Employer Assisted Schemes	Involves employers getting serviced land allocated to them so that they then assist their employees with the construction of houses. In Beitbridge, however there is no policy for this scheme but any employer/company is given priority whenever a new layout is produced to develop houses for its employees. Most low income houses in Beitbridge have been built in this manner.
Consortia and syndicates	Involve groups of employers collaborating and then requesting un-serviced land from the relevant local authority. After servicing by the consortium, houses are then built for workers. The model has generally lacked in popularity in the country as companies sees it being expensive to construct houses for their employees in this depressed economic environment. This model was adopted post 2000 era characterised by withdrawal of international donor and multilateral funding in Zimbabwe.
Joint Ventures	Occurs where local authorities have insufficient funds to service land; they provide land and invite other partners to provide other resources to service the land and construct the houses. Private Public Partnerships have been the other housing delivery model adopted and implemented by Beitbridge Town Council. These schemes although they are meant to service and provide housing for low income earners, their requirements exclude people who are not formally employed. ZB Bank and Alpha

	Constructions are some of the private institutions which have partnered with Council to service and construct houses for the low income earners.
Wet cores	The scheme consist of a single room, toilet and shower on fully serviced land. The scheme, which is subject to incremental development, involves especially low-income families constructing rooms at their own pace as funds become available
Rental Accommodation	It is stipulated in policy provision by government to constitute only 10 percent of the housing stock; the rest has to be for ownership (Mafico, 1991). In most low-income areas, this type of housing is in short supply. Consequently, households are strained to rent single rooms from landlords who stay on the same property. This is called 'lodging'. However the concept of rental accommodation is no longer popular amongst local authorities. Beitbridge Town Council like other municipalities, has sold its rental stock to sitting tenants in 2008.
Housing Cooperatives Schemes	These are increasingly becoming the main vehicle for low-income accommodation in urban areas. This approach "has become the principal hope for home seekers in the larger cities" (Toriro, 2006:2). However in Beitbridge, there are only a few cooperatives, one being *Mfelandawonye* (Working Together) which benefited from its partnership with Beitbridge Rural District Council and was allocated unserviced land where it was able to service and construct houses for its members

Source: (Toriro, 2006:2)

3.8 Critique of Housing Policies and Projects

The housing delivery strategies and policies supported government as the main actor in housing delivery and relegated other stakeholders to the periphery zones of housing development and provision of site and service schemes. Muchadenyika (2013:107) argues that,

> *"The omission in policy and practice has led to the suffocation of the low-income housing sector in the post-2000 era when the financial and technical capacity of both government and local authorities has diminished. Furthermore, housing policies seem to be disjointed as they do not build from each other. Policy implementation is piecemeal, with little emphasis on monitoring and evaluation, a key element in policy implementation. Suffice it to say, housing policies did not necessarily produce real changes in people's lives."*

Thus from the quotation, one can argue that the policies and strategies did not solve the housing challenge in Zimbabwe and the state role in housing provision is too much to the detriment of sound sustainable human settlement. The state has intervened in low costs housing development through *Operation Garikai/Hlalani Kuhle (Live Well)* by demolishing more than 92,460 housing units (Kamete, 2013). The demolitions of houses reduced the housing stock and increased the shortage of housing in most urban areas. Furthermore, the USAID Projects which emphasized standards reduction, access to affordable finance were hailed as critical to the success of the housing projects (Chirisa, 2012). In addition, the changing role of government to allow the private sector and cooperatives to provide low costs housing enable increased delivery, access and affordability of housing by the urban poor in cities and towns. Self-help approaches to housing delivery has not been success as a result of the lack of a policy requiring cooperatives to be allocated serviced land as this result in parallel development with people developing houses on unserviced sites. Thus in conclusion, "implementation of site-and-service schemes (providing services infrastructure) is transformational in the delivery of low-income housing. This is mainly because the provision of infrastructure such as water, sanitation and roads is often beyond the reach of self-help groups and the urban poor" Muchadenyika, 2013:108).

3.9 Conclusion

This chapter has presented the major housing polices and delivery strategies before and after independence. It is clearly seen that the provision of housing in these two eras was clearly guided by politics. From 1980 until 2000, there was large public and private sector investment in housing particularly for the urban poor through the provision of site and service schemes funded by the government and World Bank and USAID. Despites major developments in housing provision, the government has "adhered to housing policies that have made it both difficult and expensive for low-income urban residents to comply with legal housing requirements" Potts (2006: 273). In the next chapter l focus on giving a detailed description of the Beitbridge High density housing scheme case study.

CHAPTER 4

BEITBRIDGE TOWN: TOWARDS SUSTAINABLE HUMAN SETTLEMENTS

4.1 Introduction

Beitbridge has undergone rapid urbanisation since the post 2000 era. Such urban transformation has been evident primarily in housing and infrastructure development. PPPs, self-help approaches, the implementation of site and service schemes through incremental and parallel development concepts has altered the old conventional strategy of housing provision by central government and local authorities. These approaches have increased the delivery of housing through site and service schemes in Beitbridge. An estimate of more than 3000 sites has been provided for low income earners through different site and service schemes since 2010. This chapter critiques these approaches in the implementation of sites and services schemes in Beitbridge. Afesis (2017:138) indicates that there is a, "growing appetite, both within communities and within government, to seriously consider the promotion of 'site and service schemes' as a new approach to sustainable human settlement development..." Beitbridge since 2010, have been promoting 'site and service schemes' as a housing development approach especially for low income earners to access adequate housing with properly installed infrastructure and services.

This chapter critiques how Beitbridge has implemented 'site and service schemes' in a depressed economy through dialogue, engagement, confrontation and consensus-building with the private land developers, government institutions and beneficiaries in housing delivery. Contestations and dialogue have altered the top-down approaches to housing delivery, advocating for alternative forms of housing and infrastructure provision through adopting parallel and incremental development. Despite the provision of site and service schemes to low income earners, there is a general consensus (Chirisa, 2012; Gumbo, 2014; Muchadenyika, 2017) that provision of housing should lead towards the attainment of sustainable human settlements. This chapter seeks to answer the following questions: **how have site and service schemes being implemented in Beitbridge**? **What are the factors affecting the implementation of site and service schemes? How effective are site and service schemes in achieving sustainable human settlements**? This research will focus on two low income site and service schemes which are being implemented in Beitbridge through a partnership between SDP Africa and Beitbridge Town Council and another scheme implemented by Beitbridge Town Council. All these schemes are facing the same challenges and are yet to be connected with basic infrastructure and services despite housing development taking place.

4.2 Locating Beitbridge Town

Beitbridge Town/Urban is a border town in the province of Matabeleland in the south of Zimbabwe. Its operations are guided by the Urban Councils Act Chapter 29:15 and other Acts as specified by the Warrant (Revised 2003) and the Parliament of Zimbabwe. The town lies just north of the Limpopo River about 1km from the Alfred Beit Road Bridge, which spans the Limpopo River between South Africa and Zimbabwe as shown in the map below (Fig 4.1). It is located 321 km South West of Bulawayo, 16km North of Musina Municipality and 187km east of Vhembe District Municipality in the Limpopo Province of South Africa. Beitbridge Town Council is the local authority managing an area which has six wards as proclaimed by Statutory Instrument 113/2007.

Fig 4.1 Beitbridge Town Locational Map



Source: (Environmental Management Agency (EMA), 2016)

4.3 Historical Background

The Beitbridge settlement dates back to the early 20th century. Beitbridge Town derives its name from Alfred Beit a British financier who funded the construction of the Alfred Beit Bridge, which spans across the Limpopo River between Zimbabwe and South Africa. The area became a staging post for Zimbabweans leaving the country to South Africa. During the colonial era up to 1995, both Beitbridge urban and rural was administered by Mwenezi-Beitbridge Rural District Council. From

1992 upwards, there were administration problems and his led to the creation of a local authority which would provide services to the local residents. In 1995 Beitbridge became a growth point and was administered by Beitbridge Rural District Council which is divided into 27 Wards. The upgrading of Beitbridge into a growth point was declared with a view to eventually decentralising infrastructural services in place. Hence Beitbridge Rural District Council was proclaimed in 1996 to carry the above mandate. Due to urbanization of Beitbridge, the need arose to have a town council, which would govern the operations of Beitbridge urban. After the proclamation in 2007, a commission was set to run the affairs of the town before an elected body of councillors took over. The town was formed after realizing that the town component of Beitbridge was able to govern its affairs without the rural component. Several factors were considered to reach the decision to accord such status. These included revenue collection strength, structures, population and resources. Beitbridge Town Council (BBTC) is the local authority (government) managing the affair of Beitbridge urban and it reports to the Minister of Local Government.

4.4 Social Context

Owing to its geographical location and importance as a regional port of entry and exit, as well as its proximity to the economically vibrant South Africa, Beitbridge is currently experiencing a rapid population growth. The 2012 Census report shows that the population in the town stood at 42 137 (highest urban population in Matabeleland South). In 2002, the total population was at 23 456 while it was around 11000 in 1992. Thus, the observed trend is that the population has been almost doubling every ten years for the past two decades. The increase is necessitated by people who find Beitbridge a place they can reside as they embark on cross border activities, shipping, small and medium enterprises among other economic activities. At an estimated growth rate of 6 - 8% per annum, the current population is estimated at 54 821 people.

The town has been faced with challenges as a result of rapid population growth, chief amongst being a serious housing shortage, inadequate housing and pressure on the existing infrastructure which cannot sustain the growing population. A mathematical assumption of one housing unit for each household would be to estimate the total number of the housing units needed to be equivalent to the total number of households living in Beitbridge which was 11 825 according to the 2012 census. The current population of the people living in Beitbridge town is calculated at 54821, with an average household size of 3.6. This translates to 15 228 as the total number of households which is equivalent to the total number of houses required by the total population of Beitbridge. The current number of housing units available at Beitbridge is 5 416 hence this brings the total number of housing backlog in Beitbridge to 9 587.

Inadequate housing and homelessness in Beitbridge town therefore manifests itself in the following orientations:

1. Overcrowding for example a family occupying one room that is used for bedding, dining and kitchen-the worst scenario is the use of toilets, bathrooms and passages for bedding.
2. Occupation of incomplete and unserviced houses,
3. Families occupying incomplete structures meant for material storage,
4. People staying in industrial areas, and other areas or buildings not designated for residential purposes,
5. Though not very prominent, the slums, old cars and outdoor sleeping is indicative of homelessness.

4.5 Local Economic Context

Beitbridge is strategically located as a border town between South Africa and Zimbabwe. The harsh economic condition in Zimbabwe has necessitated people to migrate into South Africa with some ending up finding employment opportunities in Beitbridge. The growth of the border town is influenced by the operations, performance of the border. ZIMSTAT (2016) pointed out that 65% of the people in Beitbridge are employed in the clearing and freight sector, with 15% by the government and the remainder 20% being self-employed and the private sector. The strategic location and close proximity to South Africa made Beitbridge to improve in terms of local economic developments. In terms of housing development and construction, the residents of Beitbridge were importing cheaper building material from Musina, a municipality 23km from Zimbabwe. CAHF (2017) pointed out that building material in Zimbabwe is high above the continental prices for instance a 50kg bag of cement is US$15.00 (R212.92 as at 26/10/17) whilst in South Africa the a 50kg bag of cement is equivalent to US$5.17(CAHF, 2017:235). Hence, this led to the flooding of import products in the construction market and this resulted in the government introducing Statutory Instrument 64 of 2016 which banned the importation of foreign products. The ban led to price hikes of building material by local industries and this increased the costs of housing development. The liquidity crunch and decrease of foreign reserves has led to Reserve Bank of Zimbabwe (RBZ) prioritising foreign currency to the sectors that revive the economy for instance agriculture and manufacturing industries. This illustrates the economic implications on housing development in Beitbridge.

4.6 Town Expansion: Scope and Strides

Beitbridge Town has produced many layouts for residential, commercial, industrial and other amenities which are vital for sustainable human settlements like schools, community halls and health facilities. The residential area is sub-divided into densities. The table below shows the distribution of stands as stipulated in the master plan of Beitbridge town. The table shows the total number of stands in Beitbridge against the developed stands.

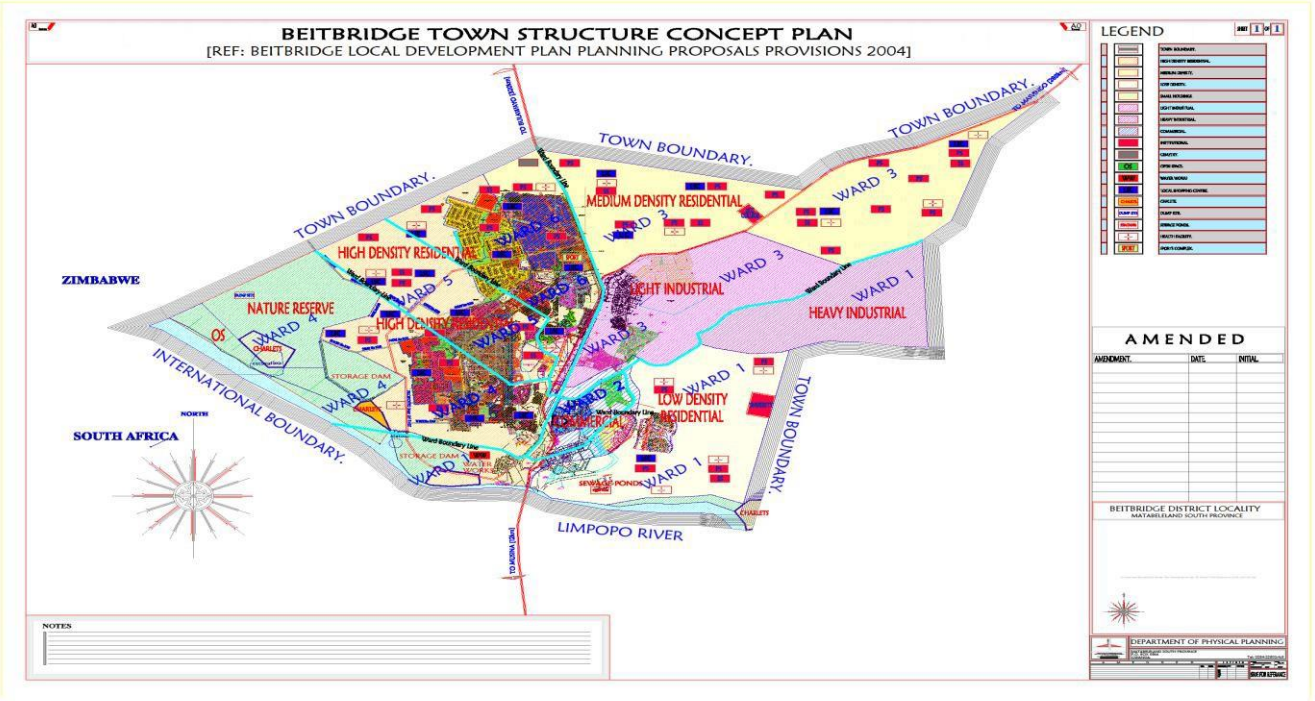
Table 4.1 Stand Data

	Residential	Industrial	Commercial	Schools	Clinics	Hospital	Funeral Parlour	Community Hall
Dulivhadzimu Township (Total)	9231	66	249	12	30	6	3	7
Developed Stands	4368	58	156	5	17	1	1	1
Undeveloped Stands	4863	8	93	7	13	5	2	6

Source: (Beitbridge Town Council- Housing Section, 2017)

The table with stand data illustrates the stand distribution in both the low, medium and high income suburbs in Beitbridge. The site and service schemes for low income earners are provided for through high density layout plan mostly implemented in the western side of Dulivhadzimu Township in Beitbridge. Since 2011 more than five layout plans for the implementation of site and service schemes have been produced as shown in table 4.2 shown below.

Fig 4.2 Beitbridge Town Council, Local Development Concept Plan.



Source: (Department of Physical Planning, 2017)

4.7 Implementation of Low Cost Housing Scheme in Dulivhadzimu Township

Dulivhadzimu Township is a high density township in Beitbridge with an estimated total of 9 231 plots and 4 368 developed plots habiting most low income earners in Beitbridge. Beitbridge up to 2005, inhibited a rural/growth point status and this influenced housing development in the Town. Kamete (1997) defined high density/low income settlement as characterised by plots of less than 200m^2 and with building built of minimum and cheap building standards. It was after 2007 when Beitbridge transitioned into a town and this resulted in large investment from both public and private players in housing and infrastructure development in the town. Such growth implies an increase in infrastructure resulting in more commercial, industrial and housing, tarmac and sewer and water reticulation systems. This large scale housing and infrastructure development has increased the development of the built environment resulting in an adverse impact on the ecology of the environment, as shown by the population increase with large-scale destruction of forests to pave way for development. More so, most of the site and service schemes are partnerships between the local authorities with private land developers as shown in the table below . The study area covers sites which are being implemented by BBTC (Layout GD254) and the other with is a partnership between BBTC and SDP Africa land Developers (GD261/1) which are both schemes for low income earners facing the same challenges. The table below shows several site and service schemes which have been implemented since 2009.

Table 4.2 Progress of S & SS implementation

Project Area	No. of Units	Players Involved	No. of serviced stands	Development Status/Progress
Dulivhadzimu GD254High Density	150	ZB Bank	150	-title survey completed -90% completion of water and sewer reticulation installation. -15% completion roads
Dulivhadzimu GD254 High and Medium Density	Total: 1 333 High: 1 038 Medium: 295	BTC	1 333	-Survey completed -90 complete water -45% sewer completed -20% Roads completed
Dulivhadzimu GE19 High Density	139	BTC	139	-50% sewer completed -15% roads completed -40% water competed
Dulivhadzimu GD261 High Density	2 100	BTC & SDP Africa	700	-title survey in progress -60% sewer completed -water not yet started 20% of (2100) roads completed
GD98 High Density	1 311	BTC & Alpha Developers	0000	-surveying in progress
Dulivhadzimu West High Density	1000	BTC & HawkFligt Investments	0000	-awaiting plan approval from DPP Head Office

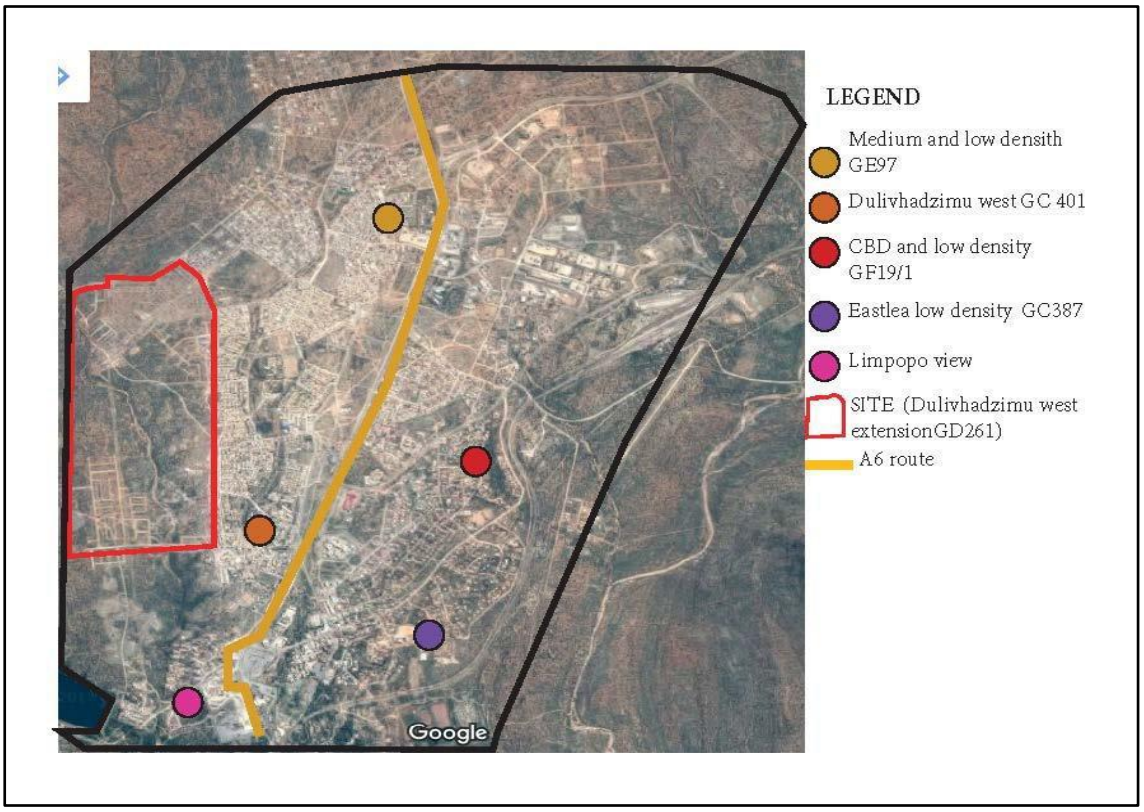
Source: (Report of the Housing and Social Amenities/Services projects, 2016)

4.7.1 Project Location

The scheme is located in the western end of Dulivhadzimu Township, behind Shule Shule high density suburb which is a distance of about 8 kilometres from the City Centre (CBD). The project under layout GD261/1 is mainly for low-income earners with a total 2,100 sites for high density plots. A population of more than 10 000 people is expected to be accommodated within these schemes. The designs of the schemes includes the provision of services such as clinics, schools and industrial layouts; community centres, commercial shops and a market place located within the vicinity. As argued earlier, more land for site and service schemes is being identified on the city periphery. As more people are located on the periphery, some are displaced from their centres of employment thereby incurring more daily expenses to commute to and from their workplaces. More so, these periphery zones, are far located far from commercial centres. This also alters the livelihood strategies for the residents of these new allocated plots. ECOSANRES (2010:1) argues that the periphery zones "… in most developing countries are characterised by rapid population growth, a mixture of planned and un-planned settlements, inadequate service infrastructures, insecure land tenure, social tension, environmental and health problems (Rademacher, 2009). These create great problems for planners, and service providers assigned to work in these areas (Christie *et al*, 2002). In addition, these areas often fall into a

responsibility gap between private land developers and urban authorities, leaving them in a grey zone of unclear legalities, regulations, and general lifestyles. This confusion leads to poor policy design and implementation, and inaccurate policy/programme evaluation." The study area is shown in the map below.

Fig 4.3. The map showing the site Location



Source: (Google Maps, 2017)

Due to the location, for instance GD261is not connected to the municipal infrastructure in terms of sewer and water reticulation system. Moreso, GD254 connection to municipal infrastructure is slow due to financial constraints. Despite delays in servicing, people are now residing in layout GD254 as most housing are at different stages of development with others already complete and connected to municipal infrastructure in terms of sewer system whilst others houses are yet to be connected as servicing is still going on. In the residential layout scheme GD261/1, servicing is being implemented with housing construction taking place under the parallel development approach. The incremental and parallel development approach is a method which both BBTC and private developers have adopted in the implementation of these residential schemes in the urban periphery.

4.7.2 Physical Infrastructure

Infrastructure is critical in housing development as it supports the new projects and relieves pressure from the existing infrastructure to sustain the growing population. Physical infrastructure

includes onsite infrastructure and offsite infrastructure. As earlier argued, the current offsite infrastructure in Beitbridge does not accommodate the new residential schemes and hence the delays in servicing and connecting the new housing schemes in the municipal infrastructure. Urban Council Act 29:16, requires local authorities to provide on-and-offsite infrastructure in housing development. However due to the prevailing economic meltdown, local authorities have been failing to maintain, upgrade or develop new offsite infrastructure. This has paved way for Municipalities to partner with the private sector in maintaining, upgrading and constructing both on and offsite infrastructure. In the new housing schemes, government has prohibited people to reside in these schemes before connection of sewer and water system. As a result Beitbridge Town just like other local authorities, have obliged the land developers to upgrade the existing sewer ponds, construct a new engineered dumpsite and a new pump station. Thus offsite infrastructure is a requirement in order to reduce environmental pollution. It is within this concept that the failure to upgrade and development new offsite infrastructure has stalled the servicing of sites in Beitbridge.

4.8 Conclusion

Beitbridge has rapidly released land for low cost housing since the year 2000 resulting in more than 5000 sites being developed. The chapter also analysed the local socio- economic context, legal and administrative context and their implication in the delivery of sites and service site and service schemes in Beitbridge. Dulivhadzimu west extension is a high density area which was formally established through town planning, in the form of layout plan GD261 and land- use planning. This is a low cost housing scheme adding to the formal housing stock in Beitbridge urban. However, despite the implementation of the scheme through sites and services, it has been marred by slow infrastructure installation and largely due to the absence of offsite infrastructure. The next chapter will present and analyse the empirical findings on the implementation of site and service schemes in Beitbridge.

CHAPTER 5

RESEARCH FINDING, PRESENTATION AND ANALYSIS OF DATA

5.1 Introduction

This chapter will presents the empirical findings collected from the structured and semi-structured interviews and transect walk observations during data collection in Beitbridge. These were with beneficiaries of the Dulivhadzimu site and service schemes and informants from Beitbridge Town Council and Private land developers involved in the implementation of the site and service schemes in Dulivhadzimu Township in Beitbridge. Due to ethical considerations and in a bid to safeguard the identity of the participants, their actual names are not used in this research report however the researcher will use pseudonyms or terms such as "respondent" and "informants" interchangeably. The chapter refers to informant as the key informants and beneficiaries as respondents.

5.2 Overview of the Dulivhadzimu West Extension Site and Service Scheme

The Dulivhadzimu West Extension (Layout GD261) project's implementation through a partnership with SDP Africa Private Limited was approved in February 2014 in both the Council Committee meeting and subsequently the Full Council although the actual implementation commenced in June 2016. According to Informant 1, (personal Communication, 2017) the project was implemented to meet the ZIMASSET (2013-2018) government programme to reduce the housing backlog. The estimated national backlog is more than 1, 25 million and Beitbridge is expected to provide 25 000 housing units through site and service schemes and or construction of core houses through partnership with private land developers as recommended by the policy document. However, the informant further mentioned that the scheme was implemented to halve the number of prospective beneficiaries on the Council housing waiting list from 11 000 to 5 500 by year 2017(Strategic Plan 2012-2016). Thus, the scheme was meant to reduce the housing backlog and improve accessibility to housing by the low income earners in Beitbridge. The understanding is that though the scheme is a Council project, servicing and installation of infrastructure like sewer and water reticulation system and road infrastructure was done by SDP Africa, a private land developer through a public private partnership with Beitbridge Town Council. The project is controlled by Beitbridge Town Council. One Key informant had this to say,

> *"This site and service scheme is a Council project, ours as a private land developer is to service and install the required basic infrastructure which includes tarred roads, sewer and water reticulation system and ensure that we comply with all Council requirements as stipulated in the Memorandum of Understanding (MOU) which was signed between us and Beitbridge Town Council". (**Informant 3, 2017)***

The Dulivhadzimu West Extension site and service scheme project aims at reducing homelessness through the provision of affordable and easy- to- access land for housing development (BBTC, 2016). As a result of the depressed economic environment, Council as the local planning authority and housing implementing agent, had to adjust, review and reduce some payment requirements and payment plans and building / construction requirements to reduce the obstacles impeding the low income earners from purchasing their site and start developing their home (Informant 3, personal communication, 2017).

5.3 The Trajectory of the Dulivhadzimu West Extension Site and Service scheme.

The Dulivhadzimu West Extension scheme has 2 100 residential stands which are being allocated to beneficiaries through the Council waiting lists. Beneficiaries were required to undergo an interview to ascertain their suitability to be given an "offer letter for the stand/site." The total service fee is estimated at US$5 391 -07 for each site and beneficiaries with offer letters are expected to pay the required deposit of US$2 700-00 within three months, which was later reduced to US$1 500-00 which will be in monthly instalments as determined by Council over a period of 24 months (BBTC, 2016). Despite the scheme being self-financing, the private developer was expected to have equity to fund the development of the whole project and later sell the serviced sites to the beneficiaries after the whole layout/scheme has been fully services with basic infrastructure (Informant 1, personal communication, 2017). This is a clear departure from the original plan where develop private developers are required to finance and install infrastructure using their capital (equity, private funds and bank loans) and then sell to beneficiaries fully serviced plots with adequate infrastructure. The deposits by the beneficiaries were intended to be a return on investment to the private developer for funding and servicing sites with infrastructure for water and sewerage, storm water drainage system and tarred roads. Allocation and housing construction was not to commence until servicing of stands was complete (ibid). However, during the initial phases of implementation, beneficiaries having funded the services were offered, shown and allocated unserviced or partially serviced sites/plots despite having paid the required deposits. By the end of September 2017, the scheme had allocated 1863 of the 2100 plots to beneficiaries (Informant 2; personal communication, October 9 2017).

The effects of the depressed economy, which is characterised by a liquidity crunch, shortage of cash, and restrictive import regulations, faced by beneficiaries cannot be underestimated, in terms of payments for servicing fees in monthly instalments (Informant 4; personal communication, October 10 2017). The shortage of cash and lines of credit to beneficiaries has caused some stand beneficiaries to be inconsistent in their payment of instalments while others have ceased making

deposits altogether (ibid). “Default rate is very high (+50%) since most of them pay when they want a certain service, for instance one would pay a certain fraction when he wants his/her building plan to be approved. Furthermore, most of the beneficiaries have only paid the required minimum deposit of US$1 500-00, to be shown the stand and then after, they stop paying instalments.” (Informant 5; personal communication, October 11 2017). The number of beneficiaries allocated stands per months in shown in the line graph below in fig 5. The graph below clearly shows that demand was high at the inception of the scheme during the year 2015, however during the period of Jan 2016 – Sept 2017, the uptake is slow due to the economic recession which has led to low uptake of plots and slow progress for servicing which has frustrated the beneficiaries.

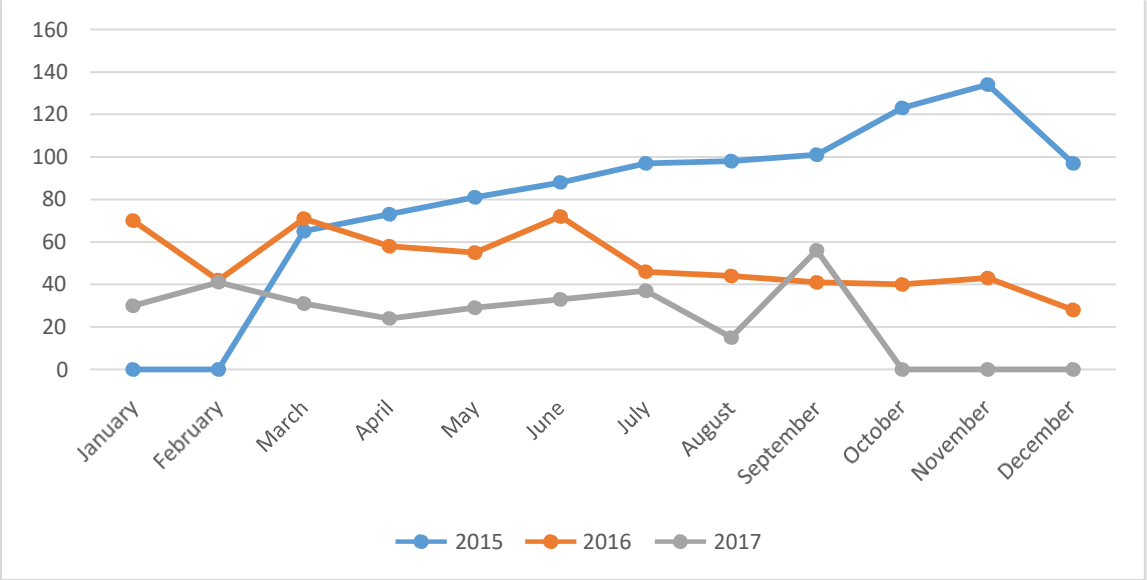


Fig 5.1. Line graph showing the number of stand beneficiaries per month since Feb 2015 – Sept 2017

The project is a self-financing scheme wholly dependent on deposits and monthly contributions by beneficiaries to finance the servicing and installation of the required infrastructure. All the key informants have mentioned that the monthly instalments and new uptakes of sites for the scheme continue to dwindle. Servicing and installation of infrastructure is being done in a slow pace due to dwindling working capital, because beneficiaries are refusing to pay their monthly instalments as a response strategy for not being allowed to complete construction of their houses. This made the local authority allow the implementation of the scheme through incremental and or parallel development. This was meant to increase affordability by the poor and motivate payments of the required amounts through monthly instalments.

> *“The Environmental Impact Assessment Certificate provided that, no construction of housing development should commence before the plots are fully serviced with sewer and water infrastructure. As there was contestation between Council and beneficiaries who argued that they will not pay the instalments until they are allowed to develop, Council gave in and*

*negotiated for an incremental and or parallel approach to the implementation of the scheme" (**Informant 6, personal com, 2017).***

Logically, incremental and parallel development is relevant in the prevailing economic environment where Council cannot afford to provide the required infrastructure at once, hence it has to provide the services in stages starting with a sewer system and water through the installation of boreholes. The project in its inception, was informed by the need for housing through the council housing waiting list. However on allocation, the target population which was renewing annually on the waiting list have not benefitted from the scheme, namely a category of poor households that were assumed to be able to make a certain level of contribution. The urban poor are currently prioritising bread and butter issues and purchasing a site/plot for housing development is not something they can do now (Informant 5, personal com, 2017). The project instead came to benefit the middle and upper class that had the funds to pay for the instalments (ibid). The informant had this to say:

"*The project has deviated from its intended beneficiaries who cannot afford the plots into allowing anyone to purchase the plots. This has led to the rise of new land barons who are purchasing sites/plots in the pretext of developing them for their employees. What is certain is that these company owners will just withhold the land for speculative purposes and sell it later when the scheme has been fully serviced. This calls for Council to devise a new strategy to benefit the urban poor who earn from a certain category to qualify for these schemes instead of accommodating the poor in the expense of the poor."(**Informant 3, personal com, 2016)***

Beneficiaries were allocated stand/plot number using the layout plan instead of allocating people on fully serviced sites. During the cadastral and title survey, some plots/sites were deemed unsuitable for housing development because of their terrain and proximity to the stream. This led to the cancellation of other stand numbers and the ultimate alteration of the layout plan. This subsequently led to the changes of stand/plot numbers which resulted in double allocation. The required survey and cadastral maps were not immediately available due to challenges connected to payment challenges to the Land Surveyor, a fact which led to the muddling of the handling of compensation claims and costs between the Land Surveyor and SDP Africa.

5.4 Administrative and Management Structure of the Scheme

The partnership is guided by the Memorandum of Understanding (MOU) signed between the two organisations.

5.4.1 Memorandum of Understanding (MOU)

The administrative, technical and financial of the scheme is guided by the MOU, which was signed by both parties for the successful implementation of the scheme in Dulivhadzimu Township. The project scheme is located within the Beitbridge urban zone although it is in the outskirts of the urban centre. The MOU outlines the significant essential obligations and requirements expected and required from both parties until the completion of the scheme. The MOU further stipulates the roles of each party entering into the agreement (Informant 5, personal com, 2017). The MOU is an important tool in the management and administration of the Dulivhadzimu site and service schemes. Despite the MOU governing the project implementation, the successful implementation of the scheme is further strained by the lack of enforcing strategies for deposits payments and also how Beitbridge Town Council has to monitor and ensure compliance by SDP Africa to complete servicing within the stipulated time of December 2017 (Informant 6, personal communication, 2017).

5.4.2 Management at Project/Site Level

After being shown and allocated the stands, the beneficiaries were supposed to submit a house plan for approval to Council and then commence development within six months. According to one beneficiary, the processes and management of the project at project level is frustrating because when you need assistance SDP Africa refers you to Council and Council will also refer you to the SDP Africa at the site (Respondent 1, 2017). I observed that allocation of serviced sites, which should have been the local authority responsibility, rests with the developers. Thus in case of reallocation and disputes for double allocation, Council is involved in dispute resolution.

5.5 The concepts and approaches to site and service schemes in Beitbridge

5.5.1 Incremental Development Approach

Incremental approach, “exists due to the inability of low income groups to purchase high quality, professionally designed and constructed housing produced through the conventional way” (Keivan and Werma, 2001:14). The approach does not conform to the local planning, development and building regulations of the town. The incremental housing approach is relevant in Beitbridge within the prevailing economic hardships characterised by default rate above 50% and delays in procurement and delivery of material for servicing the sites. Council adopted an incremental approach of providing

basic infrastructure like providing water infrastructure like boreholes and putting sewer infrastructure in phases (Informant 2, 2017). These approaches allow for people to develop their housing on sites with minimum basic services and not conforming to the infrastructure requirement stipulated by the model building by laws. Currently people are developing their houses in an area with community boreholes and sewer reticulation system (ablution facilities). This has been a bone of contention as one respondent complained that, " I have paid in full the servicing fee but we have been told that we won't be connected to both water and sewer system until SDP Africa has completed constructing the pump station" (Respondent 3, 2017). "Thus the incremental development for incremental development of structures and onsite infrastructure was meant to accommodate the poor and housing backlogs" (Informant 4, 2017)

5.5.2 Parallel Development Approach

The prevailing economic environment prompted a shift from the conventional delivery model into parallel development approach. The approach allows for housing development and infrastructure servicing to be done simultaneously (Informant 2, 2017). The approach is informal in allowing people to develop without services but however partly incremental and conventional as plans and housing development is approved and monitored by Council to ensure that they conform to the model building bylaws. The beneficiaries were defaulting as they were not allowed to construct their houses despite paying the required deposits hence parallel development was adopted to motivate payment of monthly instalments. As one informant acknowledged that,

> *"This project is self-financing. If people do not pay, there is no servicing and if we do not service there is people will not pay. Thus to break this vicious circle we had to allow parallel development. Here housing construction is done in stages depending with the level of payment with roofing allowed after you have fully paid the servicing fees"* (Informant 2, 2017).

The approach was successful in motivating payments, as people were keen to construct their houses and relocate into their completed houses. However, this approach was not planned but was adopted to balance the demands of the beneficiaries to construct and of the developers to increase revenue inflows. Through this approach beneficiaries have been allowed to build their houses to window level. Logically, the parallel development ignores the health and social issues which are important for instance people allowed developing in areas without water and sanitary facilities. "Parallel development is difficult to implement, it is not legal and it's a negotiated approach between all the stakeholders in this scheme" (Informant 7, 2017). Hence the contestations between EMA, Council and beneficiaries.

5.5.3 Challenges Experienced Due to Parallel/Incremental Implementation and its implication

The housing and infrastructure standards were set by Council to both the beneficiaries and the developer. Circular 70/2004 reduced both the housing and infrastructural standards in the high density area as shown below.

Category	New standards
Low-cost/High Density	Stand size of 70-200m^2, 70-89m^2 for semi-detached buildings, 90-200m^2 for detached buildings. Building lines: 3, 1 and 2 metres from front, side and rear respectively. Road hierarchy: 12, 10 and 8 metres.
Roads	High Density: To be gravelled and provided with dish drains.

Table 5.1. Housing and infrastructure standards for high density housing schemes.

The local economic growth in Beitbridge and the influence of South Africa's housing structure in Beitbridge cannot be under estimated. Furthermore, the standards of providing a tarred road in a high density area have been criticized for increasing the costs and the sites becoming more expensive to the urban poor. However, one respondent argued that,

> *"I chose this scheme because it has tarred roads and it is going to complement the houses which are being built here and with the increase of vehicles in Beitbridge, I wouldn't want to live in areas with gravel roads due to the dust"* (Respondent 4, 2017).

The standards matches with the needs and expectations of the residents who expressed that Beitbridge as a border town and the first port of call from South Africa should have quality houses and urban infrastructure to paint a good image of Zimbabwe (Respondent 3, 2017). Even the government planning authorities like Department of Physical Planning (DPP) are not adhering to these minimum standards. The standards were put in place to improve affordability as the minimum standards and small plot size entails cheaper and affordable building material required to develop the house. The increase in plot size to 300sqm means a lot in terms of housing development in terms of costs and affordability. The minimum standards have been criticised for encouraging sharp social divisions that are starkly etched in a landscape of quality houses and substandard houses. The scheme as earlier mentioned, was meant to be implemented through a conventional approach but later shifted into incremental and parallel development approach. The aim was to increase the performance implementation of the scheme in terms of revenue inflows, servicing and housing development. In contrast, the way in which the parallel and incremental approach is being implemented was meant to motivate payment whilst limiting the beneficiaries to complete building their structures (Respondent 1, 2017).

"It has affected us negatively as we end up taking more time on the project and spending more resources on unbudgeted expenses on security" (Respondent 1, 2017).



Fig 5.2 illustration of core house built with face bricks and standard bricks in different stages of construction and the tank used for storing water in Beitbridge (Source: Author's, 2017)

Council only allows beneficiaries to construct their houses up to window level to prevent beneficiaries from settling into the scheme before its fully serviced. The EIA Certificate stipulated that no development should commence before the area is fully serviced with sewer and water system. However, this was later changed to allow beneficiaries to develop their homes up to roof level in line with EMA specifications. In this scenario, the beneficiaries who have made a programme outline for his/her housing development is forced to construct in phases and later pay the costs for security and storage of building material and also unforeseen increase in building material at a later stage (Respondent 1, 2017). In addition, the approach has led to an emergence of informal water supply for housing development and domestic use since the area is not connected to running water. The beneficiaries are expected to hire trucks to supply them with water to be used for construction despite having paid to be connected to these services.

"There are people here whom we have to hire to supply us with water and to fill a pond they charge between R600 – R1000 depending with the number of plastic tanks they fill with water. This is really a bad situation because it is increasing the costs of constructing, whilst this should have been the Council responsibility since it cannot provide us with water despite having paid to be connected (Respondent 7, 2017).

The scheme which should have been cheap and affordable to implement, is proving expensive. Affordability and replicability of the scheme will not be successful unless bulky infrastructure is developed by the local authority/private land developer. The beneficiaries interviewed lamented that since they are renting, they expected that they will develop and settle into their new homes to thereby committing the rental fees into completing the structure. In contrast this scheme has proved

costly and time consuming (Respondent 4, 2017). “Purchasing the site is easy but developing it is difficult. Council should not have sold these stands when actually they knew that they are not ready for development” (Respondent 1, 2017). Despite beneficiaries complaining about the progress, they have been to option but to conform and adjust to the way Council is implementing the project (Respondent 7, 2017). The lack of sewer reticulation system has led to EMA stopping all developments until servicing is complete, construction of the pump station, upgrading sewer ponds and development of an engineered dumpsite. The lack of the offsite infrastructure and other factors influencing the implementation of site and service scheme will be discussed in the next section.

5.6 Factors Influencing the Implementation of Site and Service Schemes In A Depressed Economy

The factors that influence the implementation of the scheme are associated with the design of the scheme, technical factors, administrative and economic factors.

5.6.1 The Project location

The project is located on the urban fringe where the land is cheaper and accessible due to its proximity to Shule Shule Business Centre and the Dulivhadzimu bus terminus and the main road linking it to urban centre and social amenities (Informant 6, 2017). The six respondents interviewed unanimously agreed that the scheme’s strategic location to existing social and public amenities has made it appealing to them. Furthermore, the development of the town is going westwards, north and eastwards decongesting the border and urban centre and creating new communities as part of the growth plan of council (Informant 3, 2017).The location of the scheme is critical in the implementation of the scheme in terms of servicing and connecting it to existing network. Since the scheme is closer to existing urban infrastructure, it’s easy to connect it to the existing network. However, the incomplete servicing in other layout outs for instance Layout GD254 and Layout GE97 will influence the progress of providing sewer and reticulation system in these new residential settlements (Informant 4, 2017). However, the scheme is faced with the problem of relating gradient to the existing outflows and abutting projects since there is no common topography survey for the whole town. The new scheme is below the out flow sewer and there is need for a pump station to pump the sewer to the existing sewer ponds. The area is rocky and this has stalled the progress on installing the sewer system (Informant 5, 2017).

5.6.2 The Scale and Scope

The scheme has 2 100 sites for residential purposes but has also sites for a market, commercial, health and educational facilities. The scheme was developed to accommodate the growing demand of beneficiaries. “The concept of sites and services should control urban growth patterns; improving living conditions and ensuring aesthetically attractive environment” (Informant 4, 2017). The space for

public, commercial and social services is strategically located to ensure easy access and these sites are all allocated to beneficiaries (Informant 2, 2017). The project has provided adequate space for these services as they are critical in sustainable human settlement. The breakdown of the spaces allocated to the services is shown below

DENSITY	**Dulivhadzimu West Extension**
High Density Residential stands	2 100
Commercial Stands	37
Market Stands	1
Educational Stands	2
Open Space Stands	4
Institutional Stands	15
TOTAL NO OF PLOTS	**2 159**

Table 5.2 Breakdown of plots in Dulivhadzimu West Extension High density scheme.

5.6.2 The Target Population

"A site and services scheme generally considers the stratum of urban population for which the scheme is designed either for the low, medium or high income groups" (Informant 1, 2017). This scheme was meant to benefit the low income, who are on the high density Council housing waiting list. Identification of beneficiaries was done following the council waiting list, however due to the slow uptake, purchasing sites was open to the market with the beneficiary required to first join the waiting list and then purchase the stand (ibid). The approach led to a system of new people who could afford the sites joining the waiting list to purchase the sites and it led to gentrification as the high income were now purchasing sites in low income schemes. The people who were already on the waiting list and religiously paying US$13-00 renewal fee yearly could not afford to purchase the sites.

> *"The waiting list only shows the need for housing. The increase in people joining the waiting list might not reflect the demand. Demand includes need and affordability"* (Informant 2, 2017).

Since the intended beneficiaries cannot afford, new beneficiaries are just joining waiting list in order to qualify to purchase the stand. The opening of the plots to the market has commercialised the scheme, the very moment plots are commercialised, and it is assumed that the target population will be missed.

> *"People join the Council waiting list because there is a long held perception that if Council (a local authority with social obligations) is selling the stands they will do it not for profit making but to provide cheap and affordable housing. The moment a private developer or contractor is engaged, it means the stands become commercial, and once the stands become commercial, you have missed your target"* (Informant 4, 2014).

This clearly states that those who can afford, will purchase the stands but those who cannot, nothing can be done to help them. The target population has been missed, as new land barons are now emerging in the name of companies purchasing large number of stands. Although the scheme is for low income, more than 50 % of the space should be allocated to the target population and the remainder to other groups for cost recovery and sustainability in implementation (Informant, 4 2017).

5.6.3 Financial Constraints

The slow pace of development has painted a negative picture for the beneficiaries as they think the developer is not serious about development. This has resulted in them withholding their monies until they are allowed to develop. This has resulted in more than 50% default rate and also adversely impacted on the installation of the servicing infrastructure. "We have suffered cash flow constraints as a result of the beneficiaries not keeping up on the payments as agreed on the contract documents and payment plans" (Informant 4, 2017). The financial constraints have resulted in delays in the procurement of much needed servicing material since Proplastic (Pvt) Ltd has stopped providing a credit facility as a result of the economic uncertainty. Furthermore, the eroded household income has reduced the uptake of stands as illustrated in Fig 5.1 which showed the declined in stands uptake since the beginning of 2016. Break-downs of machinery is common in the construction and infrastructure planning sector. However, the shortage of foreign currency to import spare parts of excavators and front-end loaders compromises the accessibility and efficiency of operations in project implementation. The dwindling revenue has greatly affected the progress as the developer cannot purchase the required materials and hire machinery for the completion of the project (ibid).

> *"Currently we are failing to hire the needed machinery/equipment for road surfacing and excavation for both sewer and water reticulation system. This will result in a lot of compromises being done just to complete the project. We are being forced cut corners and end up having substandard things done."* (Informant 4, 2017).

These continued delays will derail the cost effective mechanisms of the project and end up incomplete or with substandard material which will be a costs to the Council in the future in terms of maintenance of the infrastructure.

5.6.4 Depressed Human Resource Personnel

In addition, the human resource aspect is another factor which has influenced the implementation of the currently scheme. The developer is faced with objective to complete the project whilst paying

the human resources personnel. The shortage of funds has also affected retaining the much needed critical skills like engineers, planners, quantity surveyors, plumbers and accountants since the company is struggling to pay them. This skills flight slows the project implementation due to shortage of adequate professionals.

> *"Even the human resource aspect has also affected us. You want to do work and at the same time the employees need to be paid at the end of the month but you are struggling to raise adequate funds. So the skilled personnel cannot stay where they are not paid"* (Informant 5, 2017).

As a result, of the critical skilled personnel leaving the scheme for better opportunities, this might end up compromising the quality, efficiency and effective implementation of the project. During the interview the informant informed the researcher that, other critical personnel left including the Civil Engineer who was the initial project manager for other opportunities. He further mentioned that currently they have retrenched some employees and remained with critical personnel to cut employee costs and ensure that the project is effectively implemented. "But the morale is low hence this ends up compromising the scheme with all the critical personnel leaving the project" (Informant 5, 2017).

5.6.5 Unavailability of Material

The Zimbabwean government through Statutory Instrument 64/2015, which was promulgated to control of goods banned the importation of builder ware products into Zimbabwe from other countries. This adversely impacted on the construction, resulting in a sharp decline in housing development and construction. The local residents in Beitbridge purchased cheap, quality building materials from South Africa, hence the ban affected the self-employed builders, artisans in connection with employment opportunities. Most suppliers of servicing infrastructure are affected by the economy in relation to foreign currency shortages. The manufacturing industry is very depressed, with less than 50% production output (Informant 4, 2017) and every supplier is importing either the raw materials or the finished products. This has led to shortages of material and delays in delivery material to customers. The reserve Bank of Zimbabwe is limiting foreign payment and currently is prioritising payment in mining, tourism and agricultural sector in terms of foreign currency payments thereby making it difficult for suppliers like Proplastic to import sewer or water pipes from South Africa.

> *"To purchase the raw materials or finished products, one has to apply through their bank and the foreign payments done by Reserve Bank of Zimbabwe. But then RBZ is prioritising payment and they are saying this is currently not the priority and priority is given to other things and you find a*

scenario where the materials become scarce and unavailable. The sole supplier being Proplastic is taking ages to meet our requirements because they are saying they are facing challenges with RBZ which is struggling to service their foreign payments" (Informant 4, 2017).

5.6.6 Inadequate infrastructure and Environmental management.

"Pollution, in its various forms (water, noise, land and air) is a matter of serious concern in a big housing project like this" (Informant 3, 2017). The sections 78 – 108 of the Environmental Management Act (EMA) provides for EIA and EIA is a prerequisite for development projects given scale and is therefore central to housing development projects. Before the project inception, the developer is required to source the expertise of a consultant to undertake the Environmental Impact Assessment (EIA). The EIA Report is a comprehensive document addressing the environmental issues and coming up with the recommendations to address the adverse impacts of the project to the environment. After the EIA is complete, the developer is issued with the EIA Certificate to ensure that it complies with the terms and conditions set upon by the EIA Report. In Beitbridge, due to high level of housing development there are increased levels of quarrying, deforestation and environmental pollution due to people habiting areas without sanitary facilities and working sewer system. EMA has stopped development until the developers construct a pump station, engineered refuse dumpsite and upgrade the sewer ponds to accommodate the increasing housing development and population.

> *"Beitbridge is in a dilemma, EMA has made it clear that no construction will continue or beneficiaries to habit in this settlement until offsite infrastructure in complete. We have noticed that during the EIA of the scheme we omitted to include the pump station hence we are required to undertake another EIA of the pump station which will further prolong the scheme as you know that to undertake the EIA is expensive and takes up to 6 months or more to complete"* (Informant 5, 2017).

The EIA is expensive costing an estimated US$155 000-00 and also the fines by EMA will further affect the cost effective mechanism of the scheme. The omission of the scheme is a cost to be incurred by the developer, and this might lead to a price increase of the plots as basic infrastructure was factored in during the costing of the stands. The fragmented implementation of the EIA per projects shows a lack of coordination in the planning of the project scheme.

5.7 Experiences and attitudes of Beitbridge residents in relation to the actual implementation of the scheme.

During the data collection, I managed to interview both the key informants and beneficiaries on their perceptions, experiences and attitudes in relation to the implementation of the scheme. These ranged from social, political and economic issues as presented below.

5.7.1Lack of Transparency and Accountability

The beneficiaries during the interviews revealed a strong perception that the management and administrative structures are not clearly defined and it lacked accountability and transparency. Beneficiaries complained that from March 2015 they managed to pay for the required deposit with some having completed with the servicing fees whilst others are still paying their monthly instalments towards their fees sewer, refuse collection and water. Respondent 2 (September, 2017) explained that beneficiaries in phase One were allocated sites in 2015, have fully paid up the servicing fee however, nothing much has been done in terms of connecting phase one beneficiaries to existing infrastructure for them to complete construction and relocate to the new site/settlement. The beneficiaries since the beginning of 2017, have tried to engage both the developer and the local authority but still no clear agreement has been reached in terms housing development, servicing and infrastructure servicing. This lack of transparency and follow-ups has led to a perception of the local authority being seen as dishonest (ibid). During data collection 17
September 2017, there was a meeting by the beneficiaries (60 members), whom I understand to be aggrieved, to resolve the scenario and as the issue of offsite infrastructure was mentioned as the only impediment to the residents competing their building. The beneficiaries out of frustration convened a meeting composed of the beneficiaries who identified themselves as the Committee for the beneficiaries who promised to defy the bylaws and complete development without both Council and EMA consent.

5.7.2 Defiance

The beneficiaries are aggrieved and frustrated with the slow progress, and they have resorted to withholding their finances until they are allowed to complete developing their houses (Respondent 5, 2017). This led to parallel development as people were now developing their houses on land without functional water and sewer system. During the project implementation, EMA directed both Council and the developers not to allow the completion of the housing development until the settlement has been fully serviced. The project could not be completely serviced without construction of the pump station, refuse dump and upgrading sewer ponds to accommodate the increasing housing development. This has led to contestation between the beneficiaries vowing to roof their houses and defy the EMA and Council regulations.

"*We now no longer interested in what they are saying. Most of us here have fully paid and we should now be living in this settlement now. Just now we are told we can't because there is no pump station. Council should have begun with this and we are going to complete building our houses and we no longer considering what they are saying now"* (**Respondent2, 2017)**

This respondent expressed concern, this shows that this project instead of enhancing housing development its now increasing the burden, cost and prolonging the duration of constructing the houses. Even though the local authority wants to quicken the process, everything now is being determined by the EIA and construction of the pump station. The combined process might take between 12 and 18 months to complete depending with the financial inflows. Hence, Council might be sitting on a time bomb, before the beneficiaries fully engage and defy its order to develop the area leading to another settlement without functional infrastructure after high density layout GD254.

5.7.3 Actions in Response to the Incomplete Infrastructure servicing

Notable with-holding funds has led to parallel development which tried to strike a balance between the requirement of both the developer and residents. As a result, of parallel development, residents have notably adopted the self-help approach. They have used concerted efforts through their Committee to push for their requirements in the implementation of the scheme. Although the scheme has surfaced roads and storm drainage, due to lack of functional sewer system they have resorted to the use of septic tanks (see fig 5.3). On the other hand, their increasing protests provide a clear illustration of their dissatisfaction with the way the scheme is being implemented



Fig 5.3 Beneficiaries using sceptic tanks for sanitary facilities awaiting installation of sewer pipes. (Source:Author's, 2017)

5.8 The efficacy of site and service schemes in achieving sustainable human settlements

The planning of the layout was done by professional and academic qualified person up to the installation of engineering services. The planning and designing of the layout plan is also assumed to control the expansion of the existing population in the settlements to avoid overcrowding which is thought to have implications on sustainability of the settlement through over-usage of the available infrastructure such as sewer, water and electricity among others (Chapman, 1987). Parallel development approach has increased housing development on settlements without functional water and sewer system. The residents will pollute the environment for ablution services and deforestation for firewood since the area has no

functional electricity lines. Although other residents use solar for lighting, but most residents use firewood. Furthermore, the scheme has led to increased quarrying, use of river sand. This increased the ecological footprints and increasing making the town/communities susceptible to diseases like cholera, TB and typhoid.



Fig 5.4. Tank used for storage of water for construction which has become breeding grounds for mosquito and trenhces used for waste disposal. (Source:Author's, 2017).

The scheme has contributed to poverty alleviation through employment opportunity for the self- employed skilled personnel. It has opened up employment opportunities for self-help artisans liken the builders, plumbers, architects (pan drawings) and brick moulders who are selling moulded bricks as shown in fig 5.4. Not only has it benefitted artisans but building inspection fees and plan approval fees are also vital revenue generation strategies for the Council. For instance, during the year 2016, plan approval fees and building inspection generated a combined revenue of US$600 000 for Council.



Fig 5.5. Bricks ready for sale and its one of the livelihood approach in this settlement. (Source: Author's, 2017).

The lack of infrastructure and social services affected the value of the building. The six beneficiaries interviewed mentioned that not only was the lack of infrastructure a health hazard, but also affected the value of their buildings. Some of the beneficiaries explained that besides them going to inhabit in their completed houses, they would also want to rent the other vacant rooms. The lack of infrastructure would force then to reduce the prices to below half the market prices of fully serviced which ranges from US$60 -$80 per room per month. This will on the other hand, deepen poverty as a result of inadequate services. Respondents further mentioned that their survival relies on multiple livelihood strategies. “The availability of services like a functional sewer water and electricity would improve the living standards of residents” (Respondent 6, 2017).

5.9 Conclusion

This chapter has given detailed presentation and analysis of data collected during fieldwork. The Dulivhadzimu site and service scheme was implemented to reduce the number of beneficiaries on the Council waiting list, provide affordable housing with adequate infrastructure and services and promote h o m e ownership. Although the scheme was planned to be delivered through a conventional approach however it was actually implemented through parallel development approach. Several factors have affected the implementation of the scheme to meet its objectives. Some of the factors includes lack of funding, the target population, unavailability of material, shortage of adequate personal and lack offsite infrastructure. The next chapter will draw key findings of the research and conclude with recommendations.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This research report has discussed issues relating to the implementation of site and service schemes in a depressed economy, with a particular focus on Dulivhadzimu Township, case study in Beitbridge. This concluding chapter will include summarises of the main aspects deliberated in the research, draws together key findings which will be used to respond to the main research question and sub- questions in the study. The chapter also concludes with recommendations based on the findings and identifies possible areas for future research.

6.2 Summary of Key Findings

Despite the scheme being implemented through partnership between BBTC and SDP Africa to improve access to adequate housing with basic infrastructural services, the scheme is struggling to provide services and infrastructure as result of the depressed economy. The roping in of a private developer was believed to bring efficiency and quality delivery of services plots, however the scheme remains incompletely serviced as the servicing is hampered by the lack of inadequate infrastructure for instance pump station, engineered dumpsite, upgrading the sewer ponds and implementation of the EIA for the pump station. The lack of infrastructure and slow pace of servicing has further increased the cost of construction a low cost house. Despite the delays of infrastructural provision, there are high levels of informality and adherence to standards, bylaws and regulations. BBTC, EMA and SDP Africa have managed to thwart a new urban informality in form of occupation of incomplete structures and habitation of settlements without functional water and sewer system.

The scheme was supposed to be implemented through a conventional approach which is mainly guided by adhering to model building by-laws, housing and infrastructural standards. However during implementation, faced with dwindling financial resources, the approach shifted into incremental and parallel development to motivate payments, service the sites whilst allowing housing construction. The shift attributed to the worsening economic crises has failed to live up to its expectations as it has adversely affected the beneficiaries. The approach has allowed the developer to determine the level of development with the monies paid whilst failing to provide sewer and water system required for beneficiaries to occupy their developed structures. While the scheme in now incremental and parallel approach, the scheme is now faced with increasing protests and withdrawals by beneficiaries thereby making the future trajectory unclear.

The implementation of sites and services scheme in Beitbridge has shown that it is yet to effectively achieve or realise its prime objectives of increasing the supply of serviced plots of land for residential development for the low income groups as quickly and cheaply as possible. The scheme has taken more time to complete than anticipated. The project scheme aimed at promoting access to adequate housing through homeownership for the urban poor through self-help and affordability. During research, I observed that some beneficiaries have withdrew from the scheme due to increased costs, failure to pay monthly instalments and as protests due to the slow progress of the scheme. The opening of the scheme to the market has commercialised the scheme thereby limiting the affordability of the poor and opening up for the high income who can afford to purchase plots in the expense of the poor. The project has led to the emergence of new land barons in the name of companies benefitting the medium and high income earners. This clearly demonstrates the scheme has deviated from its target population but an escalation in gentrification, where the high and middle income people now invade the low income residential areas. The local business owners have accumulated plots under the guise of "developing them for their employees."

The project lacked supporting possible guidelines and frameworks for monitoring and enhancing effective implementation of the scheme. BBTC does not have a Housing Policy to guide the implementation of housing projects and allocation of residential stands/plots in Beitbridge. More so, BBTC is in the process of producing the Local Economic Development (LED) Policy document to guide the development of Beitbridge. The Housing Policy should relate or feed into the LED Policy document, however the lack of these two policy documents has undermined the local authority's ability to create a conducive environment for effective implementation of housing development, attract, retain and expand investment in the town especially in infrastructure and housing provision. Since there is no Housing Policy, there are no modalities to guide the allocation of the stands for the urban poor and other for cost recovery aspect, how the infrastructure was supposed to be provided and spell the role of each stakeholder in the implementation of the scheme. There is need for a regulatory framework, guiding legislations and policies to effectively implement a housing scheme (UN, 2012).

The private sector has adequate financial, machinery and human resource personnel for the effective implementation of projects (Moyo, 2014). However, I found out that, the company solely relies on beneficiaries for the capital to service the scheme instead of it funding the whole servicing and later recover the costs through beneficiaries' deposits. Thus the completion of the scheme will be achieved primarily through ongoing struggles and continued pressure from beneficiaries in pursuit of occupying their built structures. Several approaches have been adopted through negotiation, confrontation, and defiance by beneficiaries who have compelled municipalities and central government to concede to new forms of implementation like parallel/incremental approach.

The depressed economic environment has also impacted on local authorities and government departments to reducing structural barriers to affordable housing by the urban poor. Despite adhering to planning regulations, the implementation has allowed for occupation and development of land without adequate offsite infrastructure and functional water and sewer systems. These changes in approach have managed to facilitate local concerted effort and grassroots-centred approach to housing delivery. This has called for the adoption the parallel and incremental policy in Beitbridge as these approaches are relevant in this current harsh economic environment for the effective implementations of site and service schemes in Beitbridge.

The local authority capacity is fundamental in the provision of housing and infrastructural services. However the depressed economic environment adversely affected the municipal capacity to provide adequate infrastructure to support the increasing housing developments in Beitbridge. This research has shown that, "municipal failure is a phenomenon characterised by uncoordinated housing developments, compromises to human safety and convenience, planning failure and widespread environmental degradation" (Muchadenyika, 2017:108). The causes of municipal failure are, "weak municipal systems, weak governance and administration, unethical conduct of appointed and elected officials and lack of ownership and control over land" (ibid:108). This results with the local authority being susceptible to abuse by beneficiaries, politicians and government officials and the implementation of sites and services schemes becomes haphazard and contested. The failure by the municipality to provide supporting infrastructure triggers an informal approach to implementation.

There is increased informal adoption and approval of alternatives to conventional urban infrastructure by the beneficiaries in Dulivhadzimu high density. There is increased development of septic tanks instead of reticulated sewer, boreholes instead of reticulated water, and gravel roads instead of tarred roads in Dulivhadzimu high density and medium density areas. "These practices are facilitating inclusive service delivery and planning in cities, despite such practices not yet being included in planning law" (Muchadenyika, 2017:239). These practices should be adopted to improve affordability, access to service infrastructure and the construction and occupation of housing units after completion as opposed to occupying after the settlement has been fully serviced with functional sewer and water infrastructure.

Site and service schemes improved the standards of living and employment opportunities. The scheme has only managed to open up employment opportunities for artisan builders, plumbers and carpenters. There are no industries and commercial structure which has been built although all the commercial and industrial plots have been allocated. The lack of infrastructure has impacted negative in driving investments. Poor road networks and lack of water and sewerage system had delayed the

development of commercial centres as the business community cannot risk investing their monies in a settlement without functional infrastructure.

6.3 Recommendations for Implementation

The findings have exposed the implication of the depressed economy on the implementation of site and service schemes. Through the findings, the following recommendations might be adopted for the effective implementation of the site and service schemes in Beitbridge.

6.3.1 New approach to PPPs Implementation

The local authority partnered with private developers which claimed to have adequate funds to service the plots before selling and allocating them to beneficiaries but during implementation it was discovered that the developers wholly relied on capital deposited by beneficiaries. Public and Private Partnership are critical for housing development and infrastructure provision during this period of economic down turn (ZIMASSET, 2013). I recommend that a new approach into private sector partnership as a source of investment, management expertise and efficiency should be adopted. This points to the factor that, developers should provide proof of funds in form of audited financial statements, bank statements. Furthermore, the process of choosing an appropriate developer must be done through public tendering. The process of public tendering would assist Council to ascertain the financial, management and expertise of each developer and be able to choose the one which is best suitable and able to provide the basic infrastructure for housing development.

6.3.2 Adoption of a Council Housing Policy

Beitbridge Town Council which this study focused on, does not have a defined housing policy despite the existence of the National Housing Policy (2012). Such lack of policies and guidelines results in mixed, duplication and contestation of duties in responsibilities between the local authority, developers, councillors and council officials. I recommend that, BBTC adopts Housing policy which will deal with housing allocation criteria, the parallel and incremental development and guidelines for selecting housing developers and the responsibilities of stakeholders in housing delivery in Beitbridge. This will remove confusion and allow transparency and accountability of the developer, BBTC and stakeholders. The policy document must also recognise key actors like cooperatives and other self-help groups in housing provision.

6.3.3 Construction of Adequate Infrastructure before Housing Development

Urban infrastructure especially offsite infrastructure in critical for the successful implementation of housing development. The urban infrastructure in Zimbabwe is overstretched (AfDB, 2012) and this calls for new innovative strategies to address the inadequate infrastructure in Beitbridge. I suggest that both

private and public sector initiatives must be adopted. Beitbridge Town Council must ensure that offsite infrastructure is developed first and costed in the whole project costs so that it will not affect the pricing of serviced sites. For instance in Harare, City of Harare-Central African Building Society (CABS) signed an MOU where CABS was allocated 5 000 sites for the development of offsite infrastructure which would also benefit nearby schemes. Beitbridge, since it has more than 8 land developers operating in the town, would request the developers to form a partnership and share the costs, functions and responsibilities for the development of offsite infrastructure which would benefit all the new sites currently implemented.

6.3.4 Adoption of a 70:30 Principle on Site and Service scheme allocation framework

One of the consideration of the S & SS is that the, "cost of the project must to a greater extent be recoverable" (Muchadenyika, 2017:133). Furthermore, the S & SS must benefit the target population who are the urban poor. One of the key informants proposed a 50:50 ratio for allocating sites to beneficiaries, where 50% is reserved for the target population (urban poor) whilst the other is meant for the high income and companies which can afford to pay the servicing fees. However, this ratio might end up leading to gentrification as more high income occupy the schemes meant to benefit the low income hence the 70:30 allocation ration. The 70:30 principle is premised on the notion that 70% of the sites must be allocated to the urban poor since they are the target population and majority whilst the remainder 30% must be allocated to any individual or companies which can afford paying the services for cost recovery purposes. This concept will safeguard the scheme from being hijacked by the rich in the expense of the poor and ensure that the scheme is sustainable in terms of cost recovery purposes.

6.3.5 Incorporating Social movement and community efforts in infrastructure provision

In Beitbridge, the tradition approach to infrastructure provision is dominant which assumes that only the central government is capable of providing public infrastructure. This model has failed to provide infrastructure which corresponds with the rate of urban growth. In Pakistan, the community with the management of the NGOs and CBOs managed to construct a self-built conventional urban sewerage system. This saved the costs of the project by 200% if tenders were involved (Choguill, 1992). Thus Beitbridge, like other urban local authorities for instance Harare City Council, Chitungwiza Municipality and Masvingo City Council must embrace social movements and community approaches in infrastructure construction. The communities must be involved in the construction of conventional sewerage system with the municipality monitoring and ensuring that the infrastructure is within the standards of Council. This therefore calls for the co-production and co-management of urban infrastructure between residents, local authorities and developers. Mitlin (2008: 339) defined o-production as "a strategy used by citizens and the state to extend access to basic services with relatively

little consideration given to its wider political ramifications" Co- production and co-management enables grassroots groups to provide infrastructure and curb vandalism whilst the local authority will only manage and monitor the installation process.

6.3.6. Devise strategies to enable affordability of sites

As found in the case study, affordability on which cost recovery and replicability depends is a function of so many variables. These include the number of persons per household, especially the income earners among them, minimum income per person, and then the total minimum household income. It is these considerations that allow the site and service scheme implementers to know the affordability level of each of the beneficiaries. For future site and service scheme projects, it is vital that an affordability test of potential project beneficiaries is considered very well ahead of time. There is need to reduce building and infrastructure standards for the urban poor for instance tarred road as this would be funded by grants from Zimbabwe National Road Authority (ZINARA). This is not to say that ability to pay and willingness to pay are necessarily the same. What is inferred here is that it is relatively easier to invent measures to convince beneficiaries to pay if and when they have the means or ability than to do so when they have no wherewithal.

6.3.7 Cost recovery collection mechanism

The research found that, the local authority has no mechanism to enforce payments of monthly instalments and service fees, hence high default rate of more than 50%. Service fees payments are critical in funding the implementation of the schemes. I recommend that pricing policies for site and service scheme projects must also be revised to reflect the true resource costs, that is, costing project elements such as land, infrastructure, administration, and recurring costs. To ensure efficient cost recovery from projects, collection mechanisms must be designed with community participation in mind. The local authority and partners must punish those who default on payments and have an effective debt collection system for effective implementation of the scheme.

6.4 Suggestions for further research

This research focused on the implementation of site and service schemes in Beitbridge only. The state of other Zimbabwean towns needs to be investigated further given that towns are unique historically, physically and administratively. Beitbridge is a small town that has been recently awarded a municipality status. It would be beneficial if one will study other bigger settlements. There is also need to determine the efficacy of community self-help approaches in infrastructure provision. The relationship between social movements and politics in infrastructure provision especially in a depressed economy, need to be examined.

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APPENDIX 1: Participant Information Sheet

Participant Information Sheet

Introduction and background information.

Name of Researcher: Vincent Siwawa

Programme: Master of Built Environment (Housing)

Institution: University of Witwatersrand, School of Architecture and Planning.

Title of the study: The implementation of site and service schemes in a depressed economy. The case of Beitbridge, Zimbabwe

Details of the Participant information sheet.

Greetings

My name is Vincent Siwawa. I am currently a full time studying towards a Master of Built Environment (Housing) in the School of Architecture and Planning (SOAP) at the University of Witwatersrand in South Africa. I am currently conducting a research on **"The implementation of site and service schemes in a depressed economy. The case of Beitbridge, Zimbabwe."** The aim of the study is to unpack the implementation of sites and service scheme in a depressed economy with the objective of identifying challenges and suggesting guidelines that will enhance a more effective implementation of the sites and services scheme so that they are accessible, affordable, and sustainable and benefit the target population. The objective of the study is to understand the concepts and approaches to site and servicing schemes, identify factors influencing the implementation of sites and services scheme, understand the practicality and viability of implementing sites and services schemes in a depressed economy and determine the efficacy of the site and service schemes in relation to sustainable human settlement. The study seeks to make appropriate recommendations for effective implementation of site and service schemes in a depressed economy.

I would like to invite you to be part of this study through an interview process. The interview will take no longer than thirty minutes of your time. During the interview you will be asked questions regarding the implementation of site and service schemes in Beitbridge.

The interview will be recorded using an audio recorder (should you give me the permission to do this) and hand written notes.

You have been selected to participate in this study due to your knowledge about the performance implementation of sites and service scheme in Beitbridge. Participation in this research is voluntary, you may refuse to answer any questions that make you uncomfortable, and you may withdraw at any time without penalty or loss. You will receive no payment or other incentives for your participation.

Your participation will be completely anonymous in that your name and identity will be protected although your organisation may be identified. The results of the interview and your personal views will not be linked to you in the final report (unless you give me permission to do so), meaning in the event that I use direct quotations from this interview, your identity will not be revealed. Any comments that you make that you deem off the record or similar, will not be quoted. Further, any information that you share will be kept confidential and can only be accessed by me on a password protected computer. There are no foreseeable risks associated with your participation.

The research undertaken is only for academic purposes and once completed will be available electronically and can be accessed publicly.

If you have any questions, concerns, or comments or if you would like a copy of the final report, please feel free to contact:

- **Research Supervisor:** Neil Klug , Tel: +27834242457, email: Neil.Klug@wits.ac.za
- **The researcher :** Mr Vincent Siwawa, Tel: +27626833431, email: vincentsiwawa@gmail.com

APPENDIX 2: BACKGROUND INFORMATION: CONSENT

Background Information: Consent Form For Non-Beneficiaries

My name is Vincent Siwawa. I am currently a full time studying towards a Master of Built Environment (Housing) in the School of Architecture and Planning (SOAP) at the University of Witwatersrand in South Africa. I am currently conducting a research on **"The Implementation of site and service schemes in a depressed economy. The case of Beitbridge, Zimbabwe."** The aim of the study is to unpack the implementation of sites and service scheme in a depressed economy with the objective of identifying challenges and suggesting guidelines that will enhance a more effective implementation of the sites and services scheme so that they are accessible, affordable, and sustainable and benefit the target population. The objective of the study is to understand the concepts and approaches to site and servicing schemes, identify factors influencing the implementation of sites and services scheme, understand the practicality and viability of implementing sites and services schemes in a depressed economy and determine the efficacy of the site and service schemes in relation to sustainable human settlement. The study seeks to make appropriate recommendations for effective implementation of site and service schemes in a depressed economy.

Formal (Signed) Consent Form for Key Informants: Master's Research Report-

I hereby confirm that I have been informed of the purpose, procedures and my rights as a participant. I have received, read and understand the written participant information sheet. I have also been informed about the voluntary nature of the study. The researcher informed me of the rights of refusal to answer some questions I do not feel comfortable with as well as the right to withdrawal from the study interview anytime I might feel the need to do so.

I have been informed that this interview will remain confidential; meaning nobody except the researcher will have access to it. I was also informed that my name and identity will not be disclosed at any time (unless I give permission below that my name be used), meaning the data is published in a journal or other publications without my name or disclosing my identity. I am aware that people directly familiar with the project, however might identify me with statements I make in this interview.

I agree to participate in this interview.

I agree / do not agree to audio recording during the interview.

I agree / do not agree to my name being used.

Respondent Name.....

Signature.....

Date.....

FORM FOR NON-BENEFICIARIES

Background Information: Consent Form For Non-Beneficiaries

My name is Vincent Siwawa. I am currently a full time studying towards a Master of Built Environment (Housing) in the School of Architecture and Planning (SOAP) at the University of Witwatersrand in South Africa. I am currently conducting a research on **"The Implementation of site and service schemes in a depressed economy. The case of Beitbridge, Zimbabwe."** The aim of the study is to unpack the implementation of sites and service scheme in a depressed economy with the objective of identifying challenges and suggesting guidelines that will enhance a more effective implementation of the sites and services scheme so that they are accessible, affordable, and sustainable and benefit the target population. The objective of the study is to understand the concepts and approaches to site and servicing schemes, identify factors influencing the implementation of sites and services scheme, understand the practicality and viability of implementing sites and services schemes in a depressed economy and determine the efficacy of the site and service schemes in relation to sustainable human settlement. The study seeks to make appropriate recommendations for effective implementation of site and service schemes in a depressed economy.

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I agree to participate in this interview.

I agree / do not agree to audio recording during the interview.

I agree / do not agree to my name being used.

Respondent Name.....

Signature.....

Date.....

APPENDIX 3:BACKGROUND INFORMATION: CONSENT FORM FOR BENEFICIARIES

Background Information: Consent Form for Beneficiaries

My name is Vincent Siwawa. I am currently a full time studying towards a Master of Built Environment (Housing) in the School of Architecture and Planning (SOAP) at the University of Witwatersrand in South Africa. I am currently conducting a research on **"The Implementation of site and service schemes in a depressed economy. The case of Beitbridge, Zimbabwe."** The aim of the study is to unpack the implementation of sites and service scheme in a depressed economy with the objective of identifying challenges and suggesting guidelines that will enhance a more effective implementation of the sites and services scheme so that they are accessible, affordable, and sustainable and benefit the target population. The objective of the study is to understand the concepts and approaches to site and servicing schemes, identify factors influencing the implementation of sites and services scheme, understand the practicality and viability of implementing sites and services schemes in a depressed economy and determine the efficacy of the site and service schemes in relation to sustainable human settlement. The study seeks to make appropriate recommendations for effective implementation of site and service schemes in a depressed economy.

Formal (Signed) Consent Form for Beneficiaries: Master's Research Report-

I hereby confirm that I have been informed of the purpose, procedures and my rights as a participant. I have received, read and understand the written participant information sheet. I have also been informed about the voluntary nature of the study. The researcher informed me of the rights of refusal to answer some questions I do not feel comfortable with as well as the right to withdrawal from the study interview anytime I might feel the need to do so.

I have been informed that this interview will remain confidential; meaning nobody except the researcher will have access to it. I was also informed that my name and identity will not be disclosed at any time (unless I give permission below that my name be used), meaning the data is published in a journal or other publications without my name or disclosing my identity.

I agree to participate in this interview.

I agree / do not agree to audio recording during the interview.

I agree / do not agree to my name being used.

Respondent Name.....

Signature.....Date.....

APPENDIX 4:BACKGROUND INFORMATION: CONSENT FORM FOR KEY INFORMANTS

Background Information: Consent Form For Key Informants

My name is Vincent Siwawa. I am currently a full time studying towards a Master of Built Environment (Housing) in the School of Architecture and Planning (SOAP) at the University of Witwatersrand in South Africa. I am currently conducting a research on **"The Implementation of site and service schemes in a depressed economy. The case of Beitbridge, Zimbabwe."** The aim of the study is to unpack the implementation of sites and service scheme in a depressed economy with the objective of identifying challenges and suggesting guidelines that will enhance a more effective implementation of the sites and services scheme so that they are accessible, affordable, and sustainable and benefit the target population. The objective of the study is to understand the concepts and approaches to site and servicing schemes, identify factors influencing the implementation of sites and services scheme, understand the practicality and viability of implementing sites and services schemes in a depressed economy and determine the efficacy of the site and service schemes in relation to sustainable human settlement. The study seeks to make appropriate recommendations for effective implementation of site and service schemes in a depressed economy.

Formal (Signed) Consent Form for Key Informants: Master's Research Report-

I hereby confirm that I have been informed of the purpose, procedures and my rights as a participant. I have received, read and understand the written participant information sheet. I have also been informed about the voluntary nature of the study. The researcher informed me of the rights of refusal to answer some questions I do not feel comfortable with as well as the right to withdrawal from the study interview anytime I might feel the need to do so.

I have been informed that this interview will remain confidential; meaning nobody except the researcher will have access to it. I was also informed that my name and identity will not be disclosed at any time (unless I give permission below that my name be used), meaning the data is published in a journal or other publications without my name or disclosing my identity.

I agree to participate in this interview.

I agree / do not agree to audio recording during the interview.

I agree / do not agree to my name being used.

Respondent Name.....

Signature.....Date.....

APPENDIX 5: STRUCTURED AND SEMI STRUCTURED QUESTIONS FOR BENEFICIARIES

Site and Services schemes

Interview Guide for Beneficiaries

Hi, my name is Vincent Siwawa, currently studying for my Masters degree in South Africa at Witwatersrand University. As my Participant Informant Sheet explained, this is a purely academic study. Thank you for agreeing to be interviewed. Please feel free to interrupt me anytime at any time and please let me know if you are uncomfortable with any of the questions I ask.

ALL INFORMATION PROVIDED WILL BE KEPT IN THE STRICTEST CONFIDENCE, IN LINE WITH ETHICS OF SOCIAL RESEARCH

1. Respondent Number [ ]

2. What is your house number? .....

3. Gender of respondent	a) Female	☐
	b) Male	☐

4. Age		
a) 18-30		☐
b) 31-40		☐
c) 41-50		☐
d) 50+		☐
5. Marital Status	a) Single	☐
	b) Married	☐
	c) Divorced	☐
	d) Widowed	☐
	e) Other (specify)	☐
6. Highest educational qualifications	a) Primary level	☐
	b) Lower secondary level	☐

PROTOCOL NUMBER (for office use only): _____

c) Higher secondary level ☐

d) Tertiary level ☐

e) illiterate ☐

7. How many people living in this household? { }

8. How many people in this household are employed in a full time job? { }

9. If employed what is your monthly income?

1= Below US$150 ☐

2=US$151-US$250 ☐

3= US$251-US$350 ☐

4= US$351-US$450 ☐

5= US$450- US$550 ☐

6=Above US$550-00 ☐

10. If no one is employed in the household what is/ are sources of income?
Elaborate.....
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.....

12. Does your site and service scheme have the following services?

a)	Tarred/Gravel Road	Yes	No
b)	Sewer System	Yes	No
c)	Water Reticulation system	Yes	No
d)	Security of tenure (title)	Yes	No
e)	Employment opportunities	Yes	No

Any comments:

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13. How do you describe the implementation of the site and service scheme?(satisfaction)

a. Excellent
b. Very good
c. Good
d. Poor
e. Very poor
f. Needs urgent attention

14. What are your attitudes and perceptions with respect to the site and service scheme in Beitbridge?.....
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15. Have you communicated these problems to the municipality? Yes ☐ No ☐

Please elaborate:

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Interview Guide (Focus group discussions and in-depth Interviews)

Hi, my name is Vincent Siwawa, currently studying for my Masters degree in South Africa at Witwatersrand University. As my Participant Informant Sheet explained, this is a purely academic study. Thank you for agreeing to be interviewed. Please feel free to interrupt me anytime at any time and please let me know if you are uncomfortable with any of the questions I ask.

Site and Service scheme (Affordability, Accessibility, Sustainability and participation)

1. How can you describe the sites and services scheme implemented in Beitbridge
2. Is there anything that you do not like about the scheme?
3. When were you allocated the stand in Beitbridge?
4. How soon did you intend to start developing your house?
5. What are your views on the lack is of services despites you having paid to be connected to the services?
6. What your view on the implementation of parallel development to motivate people to pay in regards to making low income housing accessible to people like yourselves?
7. What can you say on the affordability of the project?
8. In what way has the project impacted on people's livelihoods?
9. How is lack of services affecting you as beneficiaries?
10. How have you adjusted to this situation?
11. In your view, what mechanisms could be put in place to protect beneficiaries against dishonest practices where people pay for services and they are not delivered?
12. Did you participate in the planning phase for site and service scheme in your area?
13. What strategies can you recommend to ensure that sites and service scheme are successful implemented in a depressed economy?

APPENDIX 6: INTERVIEW GUIDE FOR KEY INFORMANTS

Interview Guide (Focus group discussions and in-depth Interviews)

Hi, my name is Vincent Siwawa, currently studying for my Masters degree in South Africa at Witwatersrand University. As my Participant Informant Sheet explained, this is a purely academic study. Thank you for agreeing to be interviewed. Please feel free to interrupt me anytime at any time and please let me know if you are uncomfortable with any of the questions I ask.

(*Key Informants (Officials from Beitbridge Town Council , Dept. of Public Works and Ward Councillor)*

1. What are the approaches to sites and services scheme implemented in Beitbridge town?
2. What is the costing framework of site and service scheme?
3. How has the site and service scheme benefitted the target population?
4. What factors are influencing the implementation of sites and service scheme?
5. Since there is a mismatch between standard and affordability, what measures has been taken to address this?
6. Do you think parallel development delivered on its ambitions particularly with regards to motivating people to pay their instalments and lure new beneficiaries?
7. Why is it that the development in Victoria Ranch has no basic services?
8. How do you think the resulting situation has affected the beneficiaries?
9. Are you able to share how this authority/Department is planning to address some of these obstacles which are directly linked to your Department?
10. In your own view, what could be done in the implementation of site and service schemes to make it a sustainable and viable approach that can potentially address low-income housing?

APPENDIX 7: PERMISSION TO CONDUCT RESEARCH IN BEITBRIDGE TOWN.

School of Architecture and Planning Research Ethics Clearance Application

MINISTRY OF LOCAL GOVERNMENT, PUBLIC WORKS AND NATIONAL HOUSING

TEL :(0284) 24114/22215/22454/23299
FAX :(0284) 24114/22727
Email: hsamatsouth@mlg.gov.zw
ppwdmatsouth@mlg.gov.zw

All communications should be addressed to:
The Provincial Public Works Director

11 May 2017

School of Architecture & Planning
University of Witwatersrand
Johannesburg
South Africa
Email: 869691@students.wits.ac.za, vincentsiwawa@gmail.com

Attention: Vincent Siwawa

REF: REQUEST FOR PERMISSION TO CONDUCT RESEARCH

Your correspondence of even subject dated 09 May 2017 refers

The Ministry acknowledge receipt of your letter requesting for permission to undertake research and conduct some field study in the site where you are doing your project under your proposed research: ***"The implementation of site and service schemes in a depressed economy: The case of Beitbridge, Zimbabwe."*** With the objective of understanding the current challenges in the implementation of the different types of sites and service schemes aiming at finding strategies on how sites and service schemes can be an alternative feasible and affordable housing delivery model to the intended beneficiaries within a depressed economy.

To this end the Ministry has no objection to your request and therefore you may proceed with your research and feel free to consult with the Ministry officials pertaining to the area of your study only. You can contact us for any clarification using the above noted addresses and numbers or my email: wgadzikwa8@gmail.com

Hoping the above suffice

Thank you

Gadzikwa F (Mr.)
For the Provincial Public Works Director

Cc : Mr. A Tlou –DPWO Beitbridge
: Miss I. Mangumba HSAO Beitbridge

APPENDIX 8: PERMISSION TO CONDUCT RESEARCH IN BEITBRIDGE TOWN.

School of Architecture and Planning Research Ethics Clearance Application

BEITBRIDGE TOWN COUNCIL

290 JUSTITIA ROAD
P. O Box 164
BEITBRIDGE
ZIMBABWE

TEL: (+263) 286 23365/23793/23728
23362/23367
FAX: (+263) 286 22466
E-mail: bltowncouncil@gmail.com

12 May 2017

School of Architecture and Planning
University of Witwatersrand
Johannesburg
South Africa

Att: Vincent Siwawa

REF: REQUEST FOR PERMISSI ON TO CONDUCT A RESEARCH

Beitbridge Town Council acknowledges receipt of your letter dated 03 May 2017, in relation to the above stated request. This office has no objection to your request. However you are advised that the information and research findings of this study must be solely for academic purposes.

Yours Faithfully

L. Ramakgapola
Town Secretary

APPENDIX 9: ETHIC CLEARANCE CERTIFICATE

SCHOOL OF ARCHITECTURE AND PLANNING
HUMAN RESERCH ETHICS COMMITTEE

CLEARANCE CERTIFICATE
PROTOCOL NUMBER: SOAP062/06/2017

PROJECT TITLE:	The implementation of site and service schemes in a depressed economy. The case of Beitbridge, Zimbabwe
INVESTIGATOR/S:	Vincent Siwawa (Student no #869691)
SCHOOL:	Architecture and Planning
DEGREE PROGRAMME:	Master of the Built Environment (MBE)
DATE CONSIDERED:	28 August 2017
EXPIRY DATE:	28 August 2018
DECISION OF THE COMMITTEE:	APPROVED

CHAIRPERSON _____
(Professor Daniel Irurah)

DATE: 28-08-2017

cc: Supervisor/s: Neil Klug

DECLARATION OF INVESTIGATORS

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to endure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee.

Signature _____ Date 29/08/2017