Spatial Implications of Foreign Direct Investment (FDI) on Infrastructure Delivery: A case of the City of Lusaka, Zambia

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Abstract

The is a strong belief that FDI offers possibilities towards a development that has eluded developing countries for decades. It has become a predominant feature in development policy. The influence towards this orientation to development emanates from geopolitical dynamisms that have revolutionized global production systems at the hands of globalization. Innovations in urban economic development strategies concentrate on integrating local economies into the global market through the provision of infrastructure as the operative of global capital inflows.

It is argued, however, that to exploit the full benefits of FDI, not only should the country attract the appropriate kind of investment, but its investment policy should be consistent in its interaction and engagements with the overall country's development policy regimes. Appropriateness in this argument entails that, with infrastructure identified as the primary requirement for attracting FDI, it is not only a question of being able to link the provision of infrastructure to attract investment but understanding the social-technical nature of infrastructure and its overall spatial manifestation as a function of urban form and structure. It is the spatial character underlying urban production systems, which development strategies such as FDI need to appropriately understand because it is at that interface were FDI-economic growth argument translate into economic development.

Using a formulated conceptual framework based on Socio-Technical Systems (STS) theorization, the study assessed the spatial impacts of the FDI on infrastructure in the City of Lusaka in Zambia. It identified key institutions at the fulcrum of investment promotion and spatial development planning with a focus on planning and provision of network infrastructure. It also reviewed the main policies and legislation driving the FDI-led development agenda. The findings point out that national government priorities at significantly focused on the provision of infrastructure, however, on a very selective and narrow perspective. Infrastructure provision priority is in what is termed as ‘economic infrastructure’ argued to be the missing element in attracting FDI. What was also discovered, which in a way explains how infrastructure provision is narrowly considered, is a fragmented institutional framework resulting from inadequate legislation. The inadequacies lack of recognition of the spatial embeddedness of investment in the legislation resulting in disconnection between investment strategies formulation and spatial development planning.

The overarching conclusion from the study is that to actualize the benefits of FDI substantially, the framework of regimes at the core of advancing the development goal driven by infrastructure, needs to understand the socio-technical nature of network infrastructure. A purely economic consideration of infrastructure as was discovered in the study, significantly limits FDI’s contributive value to development.

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Acronyms

7NDP	Seventh National Development Plan
CUDP	Comprehensive Urban Development Plan
FDI	Foreign Direct Investment
HDI	Human Development Index
IMF	International Monetary Fund
LCC	Lusaka City Council
LPPA	Lusaka Province Planning Authority
LWSC	Lusaka Water and Sewerage Company
MFEZ	Multi-Facility Economic Zone
MLGH	Ministry of Local Government and Housing
NWASCO	National Water and Sanitation Council
PPP	Public- Private Partnership
PSDRP	Private Sector Development Reforms Program
SNDP	Sixth National Development Plan
SPIDJC	Strategy Paper on Initialization and Job Creation
TCP	Town and Country Planning Act
URP	Urban and Regional Planning Act
WDI	World Development Index
ZDA	Zambia Development Agency

Chapter One
Background to the Research

1.0 Introduction

Over the years, the developing world has received a large volume of aid in various forms which is often conditioned to specific sectors, and in some cases linked to the donor countries' interest in the receiving country (World Bank 2008a). As the financial and economic crises of the world persisted, most developed countries began to design economic and fiscal policies that kept capital within their countries, resulting in a serious impact on the aid flows (Gohou and Soumare, 2011; Asiedu, 2006). The fall in aid flows and the conditions it came with, made it difficult to align the financial assistance to the country's broader development vision. These limitations influenced most developing countries to turn to global capital markets as an alternative finance for growth, to a point where the idea of development converged on the need to attract Foreign Direct Investment (FDI).

The argument at the core of the global capital-led development is the globalization of production systems across global geographies which promises spillover benefits into the participating country's economy. The goal for developing countries is to attain a position within the globalization circuit of integrated industrial and economic development systems (Graham and Marvin, 2001). This initiated the need improve and harmonize regulatory, institutional and policy environments to strengthen their competitiveness and ability to attract FDI (Demir, 2016). The role of the government in economic growth policy has been captured in the slogan "Stabilize, Privatize and Liberalize" (World Bank, 2008a:30).

Contestations have, however, been raised about the liberalization agenda to development, where the very sort after FDI has been questioned if it is really what it is worth. The overall liberal policy, with its nearly exclusive focus on drivers of GDP growth and relative negligence towards structural and institutional transformations that influence the extent to which growth translates into broad-based progress in living standards, has rendered itself incomplete and unbalanced (Samans et al., 2015). Stiglitz (2006) contends that economic growth alone does not entail development, but it is one of the ingredients. These propositions have raised questions on the FDI-led development policy following observed investment patterns causing spatial implications that are not necessarily in keeping with the policies and plans of the host country. The very fact that these FDI-led development approaches often depend on infrastructure, a broader consideration of the spatial manifestation of infrastructure need to be considered holistically. It is only after the understanding of infrastructure extends beyond the

narrow perception of a function to production, to include its social and cultural characteristics, will the FDI-led development approaches appropriately fit within the real developmental need.

1.1 Background to the Research Problem

Development policy in developing countries has seen an increased emphasis on strategies that facilitate integration within the global economy, which implies stepped up involvement in infrastructure, industrial and macroeconomic policies with the need to be competitive and acquire additional global capital market share (World Bank, 2008a). In Sub-Saharan Africa, FDI has become one of the "golden eggs". The importance of FDI in the eradication of poverty is echoed in the New Partnership for African Development (NEPAD) declaration with an agreement that notes "NEPAD seeks to increase private capital flows to Africa, as an essential component of a sustainable long-term approach to filling the resource gap" (Asiedu, 2004: 43). In this account of the background to the research, two perspectives are discussed. The first is on FDI, and its trend drivers in Sub-Saharan Africa and the other is on infrastructure provision restructuring that has been necessitated by the need to model the urban environment a place of efficiency to allow investment follows.

1.1.1 Trends in FDI Flows in Sub Saharan Africa

Given the unpredictability of aid flows, the low share of Africa in the world trade, the high volatility of short-term capital flows and the low saving rates of African countries, the means of growing national economies is envisaged through FDI (Dupasquier and Osakwe, 2006). UNCTAD (2008) points out that FDI continues to gain importance as a form of international economic transaction and as an instrument of economic integration between the developed and developing countries. According to the UNCTAD World Investment Report of 2015, FDI flows to developing countries have reached a record high of US$681 billion representing a 55% of the global FDI inflows. For Africa in 2014, FDI increased by 65%, at $87 billion, a 13% of the global FDI (FDI Intelligence, 2015). However, in comparison to the growth rate of 2014 and its capital value, FDI in 2015, it decreased by 24%, to $66.5 billion, a representation of 8% of the global follows (FDI Intelligence, 2016).

What is interesting, however, the rise in FDI flows in Africa is occurring while access to infrastructure is in stagnation. The World Bank (2010) reports that there has been stagnation in household access to network infrastructure (piped water, electricity, flush toilets and landline telephones) in African both in the urban and rural areas between 1995 and 2005, the same period in which FDI has been on an increase. This raises some questions in the context of Africa of how, despite being an important element in attracting FDI, network infrastructure seems not to influence the inflow of investment on the continent. Actionable suggestions have been put forward, with one pointing out that, most natural

resource-rich countries have devoted their additional wealth collected from the investments through taxes, not towards infrastructure development, but paying off their debt (World Bank, 2010).

The other, as Asiedu (2002) indicates, is that infrastructure has no impact on the FDI flow in Africa because most of it is in the extractive industry where some relevant network infrastructure requirements are self-supplied by the investing company. Most African countries have not achieved sufficient infrastructure advancement; as such self-supply infrastructure seems to be the norm for much of the investment (Estache, 2006). In recent years, however, there has been a progressive increase in non-extractive FDI across the region. The UNECA (2012) indicate that 40% of FDI flows to Africa in 2012 went into the service industry, from 24% in 2011, with private equity investment (information technology, industrial products, and telecoms, media and communication) taking a significant proportion.

1.1.2 Infrastructure provision restructuring in Sub Saharan African

There is a steady increase in the non-extractive packaged FDI flows to Africa, notably in the service industry, property development and finance and capital markets. These kinds of investment by their nature are often located in major urban centers. What is driving the location, on the one hand, is influenced by the agglomeration reasoning. On the other, it is embedded within the framing process of policies that govern investment, marked with a strong global political influence. Attracting FDI in most African cities has frequently been followed by policy restructuring and manipulation, argued as relevant enticement to agitate interest to invest.

The infrastructure sector is one of the most affected with the policy restructuring causing a profound transition in the way network infrastructure is provided and planned. The current model of network infrastructure provision in most African cities is because of the government's deregulation and liberalization policies of the 1990s which saw the privatization or commercialization of operations of most public network infrastructure entities. It was a government strategy for minimizing public fund expenditure in recapitalization and keeping the sector afloat, with the view of making it sustainable and efficient following the global economic hardships (Mutale, 2004). Estache (2006) points out that these liberal policies were responses to fiscal crises, often based on public expenditure adjustment set to address short-term fiscal concerns.

The second half of the 1990s through to the early 2000s saw a new shift in fiscal policy where resources were further rationed with the hope that private sector financing would replace public sector financing while addressing the public-sector inefficiency problem by calling for private sector investment and partnerships in public service provision (Estache, 2000). It was a deregulatory approach that unbundled

the composite municipal service supply into separate units that could be either be sold to willing investors or enter into an equity partnership limited by shares between the state and the private sector. This saw the emergence of concepts of Public-Private Partnerships (PPP) being popularized in most cities across the continent.

The policy restructuring on infrastructure sector has culminated into a new approach to the delivery of utility services characterized by a market-oriented provision model, tailored to suit profitable market (Guy et al., 1997). The utility sector, out of the liberal convention, became characterized by ring-fencing of individual utility and commercialization of services involving full pricing, shifting to profit maximization and substitution of economic of willingness-to-pay, for the ability-to-pay (Coutard, 2008). Not all regulators and policymakers chose the same side of the efficiency-equity trade-off, and the neo-liberal reforms of the 90s often made efficiency to prevail over equity (Estache, 2006).

On the infrastructure governance side, the restructuring for local authorities meant a limited to no control over the utility providers as they are either centralized publicly owned corporations or private sector run institutions (Marvin and Guy, 1997). National government often regards the weakness of the local authorities' economies and tax base as a justification for maintaining central control over key infrastructure responsibilities (Turok, 2016). With such divides, it is no longer feasible for planning at the local level to ensure that development has adequate infrastructure availability or influence equitable infrastructure provision to all.

1.2 Problem Statement

There is a strong desire by most Sub-Saharan African countries to establish themselves as a preferred destination for as much FDI as possible. Latest innovations in urban economic development strategies are concentrated on integrating local economies into the global market through the provision of infrastructure and development of incentivized spaces for investment (Clerke and Gaile, 1998; as cited in Graham and Marvin, 2001).

To exploit the full benefits of FDI, not only should the country attract the appropriate kind of investment, but its investment policy should be consistent in its interaction and engagements with the overall country's development policy regimes (Samuel, 2013). In practice, however, the process of attracting FDI is embedded within processes of social-technical and political economic frameworks, and strategies of a coalition of interests within complex geopolitical and governance systems (Graham and Marvin, 2001). National government together with municipal government are embracing the goal of mobilizing territory through a wide range of supply-side strategies that entail the demarcation, construction and promotion of strategic urban places for industrial development. It is being implemented either by full

ownership by the equity holders or private-public partnership (PPP), a models emerging as a form of "urban entrepreneurialism" (Brenner, 1998; 446). The aim is to have these spaces to seamlessly connect with the international circuit of customized space configurations that assures investment security, with special-purpose-vehicles or quasi-private infrastructure development bodies, charged with the task of equipping strategic economic spaces with high-quality infrastructure without facing onerous political challenges (Graham and Marvin, 2001).

Zambia is among the top five (5) leading countries in the Sub-Saharan Africa's Least Developed Countries (LDCs) in the FDI inflow with US$2.5 billion relative to Mozambique at US$4.9 billion (UNICTAD, 2015). FDI is strongly enshrined in Zambia's development policy as one of the propulsive element to achieve the set goal in its Sixth National Development Plan (SNDP) that ran from 2011 to 2016, anchored on three themes, namely: Inclusive Growth; Employment and Job Creation; and Rural & Regional Development. FDI influence has filtered through into the recently launched Seventh National Development Plan (7NDP) running from 2017 to 20121. There is a heavy presence of FDI in major urban centers in Zambia which is impacting urban demographics profoundly. The Comprehensive Urban Development Plan (CUDP) for the City of Lusaka, estimated the total urban population of the city to be 1,854,000 as at 2015. According to the MLGH (2014) in a discussion paper, the city has experienced a historical increase in the population from 42.2%, between 1990 (769,353 people) and 2000 (1,084,703 people) to 61.1% between 2000 and 2010 (1,747,152 people).

Lusaka Cityhas two Multi-Facility Economic Zones (MFEZ) (the Lusaka East and Lusaka South MFEZ), number of FDI-led big project such as the Roma Industrial Park, Silverest Garden Housing Complex a public-private joint venture project comprizng over 400 houses. The MFEZs together with the industrial parks, a derivative of the Special Industrial Zones (SIZs) concept, are themed premium space for investment under special dispensation or terms. They are managed by The Zambia Development Agency (ZDA), which is a special-purpose-vehicle established under an Act of parliament with the role of promoting investment and managing the establishment of these zones throughout the country.

Zambia's FDI, is what Graham and Marvin (2001) describe as ambitious project orientated infrastructure improvements within the wider packaging of the site and places to be enrolled into the uneven logic of the network society. With the reformed network infrastructure provision that made efficiency to prevail over equity as was mentioned earlier, Graham (2000: 185) presents this as "premium networks spaces". These spaces have "new or retrofitted transport, telecommunication, power or water infrastructure that are customized precisely to the needs of powerful users and spaces, whilst bypassing the less powerful users and space" (ibid). A new urban form is emerging, as a physical and socioeconomic

partitioning of the urban fabric (Graham, 2000), which are distinctively globally connected but locally disconnect (Castells, 1996).

The need to become globally competitive as a means to attract FDI, has often been pursued with little awareness of the spatial implications of the kind of investment being allowed and the pattern of its implementation departs from spatial policies and plans. It has been followed by ineffective management of consequential spatial effects and infrastructure provision inefficiencies in the City of Lusaka City. This observation questions the essence of such development policy strategies, on their efficacy of achieving economic development argued as their inherent goal.

1.3 Research Questions, Aim, and Objectives

This section outlines the main research questions, aims, and objectives. The first part outlines the main research question of the study and the follow-up section states the research questions. the third fourth parts outlines research main aim and the research objectives, respectively.

1.3.1 Main research question

The main research question of this study is stated as below;

> What are the spatial impacts of Foreign Direct Investment (FDI) on the planning and provision of network infrastructure in the City of Lusaka and how have they manifested spatially.

1.3.2 Research Questions

The research raised the following questions as for its statement of inquiry:

1. What are the priorities within the Infrastructure national development agenda of the and how is priority setting affecting the planning and provision of network infrastructure?
2. How complementary are the policies governing FDI and network infrastructure?
3. Which institutions are involved in the implementation of the policies and to what extent can they be described to be coordinating?
4. How is the promotion of FDI, with infrastructure identified as the enabler of FDI inflows, manifesting spatially regarding urban form and structure of the city and its broader functional region?

1.3.3 Aim of the Research

The overarching aim of this research was:

To assess how Foreign Direct Investment (FDI) has spatially impacted the planning and provision of network infrastructure in the City of Lusaka as well as to establish the spatial manifestation of these impacts and how the depart from the spatial policies.

1.3.4 Objective of the Research

The objectives of this study were:

- To identify the priorities within the national development agenda and investigate how the priority setting was affecting the planning and provision of network infrastructure.
- To analyze the policies governing FDI and network infrastructure and assess their complementary
- Identify the institutions that are the implementer of the policies and investigate their coordination and its effects on efficiently harness the benefits of FDI.
- To explore how the promotion of FDI, was manifesting spatially in terms of urban form and structure of the city and its broader functional region and the implication to infrastructure delivery.

1.4 Motivation and Relevance of the study

Diamond and Spence (1989, as cited in Guy et al., 1997) acknowledged that in urban processes, infrastructure provision in economic development is critical. Trends in the infrastructural sector are key influencing forces in the development process, especially those aligned to socio-spatial externalities of economic policies (Guy et al., 1997). This awareness is of significant value for planning efforts that are targeted at delivering development.

Debates and scholarly works on FDI in the Africa, and particularly the Sub-Saharan Africa have been dominated by the classical economic FDI attraction determinants such as labor, fiscal policy, taxation regimes and openness of the economy. Adams (2009) in a review of FDI and economic growth in Sub-Saharan Africa contended that it is necessary but not a sufficient condition for economic development. Akinlo (2004) arrived at a similar conclusion however with a more narrowed case of Nigeria. Maliwa and Nyambe (2015) and Dogan (2013) in their empirical assessment of the FDI on economic growth in Zambia, concluded that FDI does not have a positive effect on economic growth in Zambia, recommending that the country needed to realign its fiscal policy framework. Mwilima (2003) takes a precautionary stance on attracting FDI in the African region with an emphasis on targeted approach towards attracting investment.

Little attention seems to be given to the non-classical socioeconomic factors which usually manifest during and after the investment period. These include urban growth and form, availability and accessibility of network infrastructure, the institutional capacity to handle externalities, the power dynamics and the social politics of equity and efficiency, and most importantly their spatial manifestation and the implication thereof on service provision. The motivation of this research was the need to provide a nuanced understanding of the unexplored side of FDI embedded within socio-technical processes of urban production systems and how network infrastructure is a key determinant in these processes, and to provide an informed thought that can enhance the role of planning in the management of externalities resulting from economic policies such as FDI.

1.5 Dissertation Structure

Chapter One – Background: The background to the study is discussed in this chapter. It presented a discussion on development policy and how it has been a subject of transition due to globalization. Furthermore, it outlined the background to the research problem, research questions, the aims, and objectives. It also gave the motivation and relevance of the study.

Chapter Two – Literature Review: This chapter reviews literature that has constructed a narrative of how infrastructure is perceived and how the city in a globalizing world has responded in the planning and provision of infrastructure.

Chapter Three – Conceptual Framework: This chapter develops a conceptual framework for the study premised on the social and technical character of network infrastructure. It explores the concept of Socio-Technical Systems (STS) and its underlying theorization, which was used in the impact assessment of how FDI influences the planning and provision of network infrastructure.

Chapter Four – Research Design: This chapter outlines the research design. It presents the research methods used in collecting the data and the techniques for analysis. It also discusses the ethical concerns that were subject to the study.

Chapter Five – Data Presentation and Analysis: The chapter presents the data and discusses the analysis of the findings and interpretations thereof.

Chapter Six – Conclusions and Recommendations: This chapter presents the conclusion and recommendation of the research.

Chapter Two
Literature Review

2.0 Introduction

There is little dispute that infrastructure is essential to attracting capital investment needed to agitate economic development. Strong beliefs surround this position among policymakers and scholars. This phenomenon has been an epicenter of elaborate debates in literature.

Contestations from these debates have been raised regarding how infrastructure is perceived and provided and how it gets assimilated into development policy. Graham and McFarlane (2010) point out that thoughts about infrastructure should be within the realization that the urban fabric is not a stable material or deterministic article that can be comprehended in a linear pattern, but is a constitute of experiences of complex social and technological process in the urban environment. Infrastructure has become an influential factor in defining urban space fundamentally regarding its functions, transcending the definitive perception of physical services that aided production in the urban economy, to include social and cultural constructs of the city. The growing demand for services in cities especially in the global south, directly linked to their rapid urbanization, implies a need to be aware of the socially and culturally determined infrastructure demands. In service provision and supporting economic development, cities must have appropriate infrastructure planning and delivery frameworks which understanding the urban infrastructure demand dynamisms (Chanel, 2016; Kodongo and Ojah, 2016).

This chapter reviews literature that generates a narrative of how infrastructure is perceived and how the city in a globalizing world has responded in the planning and provision of infrastructure. The literature reveals that public infrastructure provision in resource-constrained economies and desperate to develop is likely to privilege investment return efficiency over equity. The argument advanced is that the externalities [which is assumed to be positive] from this kind of policy prioritization, filter down to benefit the social need. The observed fragmented provision and exclusive access to infrastructure disagree with the policy position.

This chapter is structured as follows: the first part gives the definition of the key terms and how they are conceptualized in this study. The second looks at the transitions in development policy Post-WWII, with a focus on how FDI came into being, and what matters in attracting FDI. The third part discusses infrastructure and how it relates to development. The discussions here are biased towards the southern perspective with an inclination on Sub-Saharan Africa. This is pure because fitting a universal view in this study was found problematic, and was more appropriate to such the southern geography due to the spatial and social specificities. It also influenced the selection of the examples discussed in this study.

Part four opens the discussion on infrastructure and the urban question, highlighting what is new in the contemporary view of infrastructure. Part five highlights the elements linking spatial planning, FDI and Infrastructure and part six present three global south development examples against which lessons were drawn. The chapter ends with a conclusive summary arguing that infrastructure pursued as an aid to FDI viewing it narrowly on its technical construct, sidelining often complex antagonistic non-technical experiences of the city, may limit the abilities of FDI as a means to development. The experiences of the city and its infrastructure by people is intertwined in a socio-technical process, which in a significant way determine urban processes and consumption patterns. Understanding infrastructure from this perspective is critical, if it is considered as an enabler of other activities such as FDI to attain the development goal.

2.1 Definition of terms and Contextual Implication

This study is built on three main conceptual terms; Foreign Direct Investment (FDI), Infrastructure and Spatial Planning. This section elaborates the different perspectives and definitions of these terms and suggests how they are implied in the study.

2.1.1 Foreign Direct Investment (FDI)

UNCTAD (2007) defines FDI as an investment involving a long-term relationship reflecting a lasting interest and control by a resident entity in one economy (foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor (FDI enterprise or affiliate enterprise or foreign affiliate). What motivates the direct investor is a long-term strategic relationship with the direct investment enterprise to ensure a significant degree of influence by the direct investor in the management of the direct investment (OECD, 2008). Conceptually, and as the perceptual definition for this study, the flows of FDI comprise capital provided (either directly or through other related enterprises) by a foreign direct investor into an enterprise or capital received from an investing enterprise by a foreign direct investor (UNCTAD, 2007).

Following from literature on aid and the developing world (Fayissa and EI-Kaissy, 1998; Albiman, 2016), the conceptualization of FDI underscores its preferences as it shows a lesser burden to the country, regarding repayment of the aid, which in most cases had to be made in forex. It imposed higher costs due to accumulated interests as a result of currency exchange rate instability prevalent in developing countries. These pieces of literature acknowledge that aid has a positive impact on economic growth and development. However, they also argue that the achievement of this positivity requires certain levels of institutional stability regarding political and governance regimes, and macroeconomic policies, conditions which are usually absent in most developing countries; at least one of the two and some cases both.

UNCTAD (1999) contends that, from a purely financial point of view, FDI as a component of capital flows may be able to fill the financial gap needed to complement domestic saving, arguing that its role as an external financier may fill the capital-investment need and provide forex to support growth and development. However, there are contestations pointed out in the proceeding section, that in the face of policy fragmentation, the chances for achieving FDI benefits are minimized.

2.1.2 Infrastructure

Kumari and Sharma (2017) define infrastructure by deconstruction its core principle concepts; 'infra' meaning below, and 'structure' meaning form. They describe it as a set of interconnected structural elements that provide a supporting framework of an entire structure of development, and as components of interrelated systems that provide commodities and services to enable and sustain societal living conditions. They further categorize infrastructure as physical and social, with the former relating to complementing production in urban systems by lowering the input factor cost and raising the productivity of labor and capital, while the latter facilitates the improvement and efficiency of skills and the decision-making. The second attribute in the definition is embedded in the services provided by the physical infrastructure assets which are all fundamental to all kinds of residentiary activities and economic production.

In the definitions above, the clarity of what exactly is infrastructure is still obscure. However, there is an inherent materiality in the conceptualization of what infrastructure is, in both. As there is no agreed definition of infrastructure in literature, Baldwin and Dixon (2008) assert that in deciding what infrastructure means, the problem has little to do with what to include in the infrastructure basket, but on deciding what is neglected and why. They argue that it will be more appropriate, therefore, to view infrastructure from a perspective of the consensus in its scholarship; it supports economic growth, it enhances the quality of life, and as a geopolitical entity, it can provide access to critical resources across geographies.

The first definition conforms with the growing debate on how infrastructure shapes the city structure even when its physical existence and operations are hidden. The second definition focuses on the key consideration in infrastructure investment decisions, from the financing models to the returns on the public investment and to whom the profits accrue – a scenario that has been a center of public policy debate. The third takes a more flexible perspective were infrastructure assumes a context specific definition. However, it points out an interesting perspective of how infrastructure can provide access to resources across geographies, a phenomenon that has revolutionized the global production systems and the overall development policy, termed as globalization. The three definitions hold relevance to the entirety of this study. As such the working definition for infrastructure is a hybrid of the three:

infrastructure has a structure and form, that is embedded in public capital investment to aid economic growth and improved social welfare of human life, which allows mobility of goods and services, and people across geographies. What is noteworthy within the three elements of the definition of infrastructure for this study is that there is a technical and social thread knitting them to form a system. Each element only attains an identifiable role in defining infrastructure when it is viewed as a part of a system.

2.1.3 Spatial Planning

Seto et al., (2014) describe spatial planning broadly a systematic and coordinated efforts to manage urban and regional growth in ways that promote well defined societal objectives such as land conservation, economic development, and social justice. They place spatial planning as a multi-level geographically occurring undertaking, where at each level, some form of land-use planning provides different opportunities to envision and articulate future settlement patterns, backed by zoning ordinances, subdivision regulations and capital improvement programs to implement the vision.

Healey (2004) presents a definition of spatial planning by deconstructing the concept. She frames the term 'spatial' to mean "'the where of things', whether static or in movement; the protection of special 'places' and sites; the interrelation between different activities and networks in an area; and the significant intersections and nodes within as area which are physically co-located" (Healey, 2004:46). Planning is highlighted firstly as a developmental movement from past to future, implying a possibility of deciding between appropriate actions now in term of their potential impacts in shaping future social-spatial relations. This future, she adds, is an image not merely a matter of short-term political expediency but with expectations to project a transgenerational temporal scale especially in relation to infrastructure investment, environmental management and quality of life. Secondly, it implies a mode of governance driven by the articulation of policies through deliberative processes and judgment of collective action in relation to the policy.

What is inherent in both definitions – the perspective taken in this study – is that firstly, they all conceptualized spatial planning as a political process of framing decisions in space and about space, which create different opportunities through the spatial programming. Secondly, they all implicitly relay a message that within the diversity of opportunity, actor interests are at play. These systems advance actor interests by utilizing spatial management tools that package investment opportunities through development rights and provision of infrastructure, to initiate an intended action. Spatial planning assumes a role of harmonizing and integrating the diverse interests set within the institutional and cultural urban landscape while aligning itself to appropriate policy instruments and specific planning

strategy in urban spaces. It hinges on the appropriate role of urban governance in urban processes on directing space production (Hall, 1998).

2.2 Development Post-WWII

Post-WWII, development has been a highly contested terrain, with regards to how it can be achieved, the nation-state level of involvement and the role the private sector, to create social and economic balance on beneficiaries. The growing gap between the rich and the poor fueled debates on the development policy in the earlier periods of its morphology. The debates culminated into the post-development ideology that called for the abandonment of the post-WWII development policy, arguing for an alternative to 'the development'. The argument by the post-development movement was that "the assumptions and ideas that are core to development are problematic and so improved implementation is not the answer" (Mathews, 2004:375). It had little to do with how the development itself was executed. Others like Kothari (1988: 143 as cited in Pieterse, 2000) even asserts that "where colonialism left off, development took over".

The post-WWII development theorization was a rhythmic pattern tied to the long-term sequence of economic and social change that occurred in the pasts of the industrialized countries and was expected to reoccur in the less developed countries if the right policy interventions were in place (Gore, 2000). What is convincingly pointed out in literature is that the development project approach was one-size-fits-all emphasized on adopting what were called best practices, which were a collection of success stories of where the project had worked, however, with differing context and specificities (Barca et al., 2012; Barca, 2011; Mathews, 2004 and Taylor 2003).

Despite criticisms, the post-WWII development policy still holds strong influences especially in Africa where its failures are even more evident than else were. Mathews (2004), points out that no matter how one chooses to evaluate the development project in Africa, it's hard to avoid the conclusion that it has failed significantly. What seems to be holding its grip is firstly the need to acquire essential resource for development by developing countries and secondly the assurance it proclaims that participation in the global economic system will open doors to investment opportunities. Within this discourse, four narratives emerge which are discussed in the subsequent sections. The first looks at the actors within the development discourse and how their interest have driven the global economic politics. It focuses on the role of bilateral agencies and the state within the development discourse. The second discusses a development policy premised on global competitiveness. The third narrative is on investment frameworks argued to bring the needed development and the fourth focuses on the actual ability to attract investments in the developing countries.

2.2.1 Bilateral Agencies and the role of the State

One perspective that explains the persistence of post-WWII development is the geopolitics surrounding the need to maintain the liberal system that constructed the global economy. It was sustained by most leading countries that significantly benefit out of the operation of the global economic system. As the system of foreign aid became professionalized with most rich nations owning donor agencies, the bilateral agreements become a conduit through which they enforced the maintenance of the status quo, through policy prescriptions which widely disseminated to the developing world (McArthur and Werker, 2016). Their actions are complementary to interests of the multilateral agencies (Berthélemy, 2006; Mellor and Masters, 1991).

The bilateral assistance is either tied or untied. In the untied case, the receiving country has the liberty to engage its procurement processes of good and services. The tied approach, which is frequently the case in bilateral agreements with developing countries as studies suggest, the agency will prescribe the procurement process of the goods and services, including the suppliers. Berthélemy (2006) found that most of the bilateral agencies have an egoistic inclination and target assistance to their most significant trading partners. Younas (2008), in another empirical study, on the determinant of bilateral assistance for 22 Development Assistance Committee (DAC) member countries of the OECD between 1991 and 2003, found that donor nations' motivation for providing aid also arose from their interest in acquiring a significant share of the recipient nations' imports. What was made apparent in this study is that economics of bilateral assistance constitutes a part of assisting countries' commercial strategy to secure a large trade benefit. Apart from pursuing political objectives, bilateral agencies use the support as an instrument for rendering goodwill while expecting the recipients to reciprocate by buying more of their products which usually are capital goods, giving the developed country's export a substantial capture of the world market share.

What is manifesting in the operation of the bilateral agencies described above and how their interest shapes their roles, is the maintenance of the global economic dominance behind a face of goodwill. Even though Hurrell and Sengupta (2012) contend that the global system is increasingly becoming characterized by a diffusion of power to include emerging economies such as China, Brazil, and India, by supplanting dominance and demanding to be heard globally, Ikenberry (2011: 57) argues that "the liberal international order is alive and well". The international liberal order has not made the state less significant, it has rather redefined its role and pursuit (Negash, 2015). Ikenberry (2011) advances that the struggle over liberal international order is not about fundamental principles or contesting its basic rules and principles. It is on gaining more authority and leadership within it, which has been the central drive for the transitions in the role of the state. It has transitioned from being about political progress

to economic position in the global economy, arising from increasing interdependencies in the global production systems (Buchanan, 2012). A framework of geopolitical regimes has indirectly prescribed the role state to embrace liberal internationalization through ideas popularized as undertones for development such as global competitiveness and creation of world class cities. Inherent in these ideologies are broad interests of preserving the global production system.

2.2.2 Global Competitiveness-led development policy

The need to be competitive and participate in the global capital market became an alternative to national developmentalism, a transition which in its most general terms suggested a commitment to free markets, private property and individual incentives, and a circumscribed role of the state in enabling private sector development interests (Gore, 2000). It was driven by a neoclassical economic model, which argued that the underdevelopment of the developing world was not a result of the predatory activities of the developed countries but rather a cause by domestic issues arising from substantial state intervention such as poor resource allocation and government-induced price distortion (Dang and Sui-Pheng, 2015). Thus, it was argued that the withdraw of the state and opening the market to the world, would allow infusion of capital, technology and boost productivity (ibid).

The policy of privatization, stabilization, and liberalization became the central element of national development agenda (World Bank, 2008a). Gore (2000) argues that in an increasingly globalized world economy, characterized by globalization of production systems, there is significant reliance on trade and availability of external flows, which have become the contemporary defining elements of the global economic order of production. This emerging world order had three inherent neo-liberal ideas; macroeconomic discipline, a market economy, and openness to the world in terms of trade and capital investments through FDI (COHA, 2005).

The acceptance of the basic tenets of this evolving world order in third world development policy through reforms and institutional restructuring, which viewed globalization as a pot of glowing opportunities and pressed for increased access, reflects the interests of most developing countries to be part of the global economic systems (Taylor, 2003). Participation in the emerging global economic system has been institutionalized in most developing countries exhibiting standard features in their policies, with highly incentivized investment framework proclamations and passing laws dedicated to the promotion of the country's favorability to investment.

2.2.3 FDI and Development

OECD (2008) posit that FDI is a matter rapidly evolving within international economic integration. Its contribution to development at first glance is direct – it increases the level of investment in the host

country which supplements productive capacity and employment, brings ancillary services in the form of transfer of technology, management expertise, and market skills – “although this is not always the case” (UNCTAD, 1999:23). In literature it is pointed out that the real benefits of FDI are mixed and unclear, with most analyses being conducted on narrow parameters, often focused on the neoclassical economic variables (Gohou and Soumare, 2011; Adams, 2009; Maliwa and Nyambe, 2015; Dogan, 2013).

According to UNCTA (1999), there are three broad factors that determine the location of FDI; policies of the host countries, the proactive measures countries adopt to promote and facilitate investment, and the characteristics of their economies. These are not only essential to the attraction of investment but also how well the host country is going to abstract benefits out of the investment to improve human welfare. Reiter and Steensma (2010) contend that FDI policy regimes and the type of FDI are key to FDI's ability to improve well-being. They argue that vast results in empirical research on the relationship between FDI and economic development do not understand the role of FDI in economic development. The predominant focus on the relationship between FDI and economic growth is overly narrow a view of understanding development and how it is achieved. However, if one looks at the conceptual construct of the FDI model, as outline in section 2.1.1, it is not surprising to see why the focus is often on neoclassical economics in its assessment and promotion. As Reiter and Steensma (2010) further argues, the purpose of development broadly speaking is to enhance people’s lives and allow for individuals to achieve their legitimate aims in life. A failure to understand this implies missing the goal of development. Dang and Sui-Pheng (2015) posit economic development is a multidimensional process that involves interaction among different goals of development and would require systematically designed policies and strategies, taking into considerations complex process with causal relationships that should not be overlooked as they lie at the center of the development process.

Designing a policy on investment needs a more nuanced approach, with human development objective as part of its core elements and not to be assumed as an outcome of positive externalities. UNCTAD (1999) indicated that FDI can become a real burden for the host economy firstly if the benefits derived are supplanted by disequilibrium in the balance of payments. Secondly, as it is firm- and sector-specific, the development of sectors of production will be left to foreigner's choices and not deliberate domestic options. This is because "FDI entails a loss of control on domestic production and even possibility of domestic development options" (UNCTAD, 1999:24). Thirdly, in the long-run, FDI can be costly as repatriated earnings and royalties tend to increase with the maturity of affiliates’ equity stocks in the host country. These three factors underscore the need for policy to better understand the impacts of the investment it promotes and it appropriateness to the country. Stiglitz (2006) argues that it requires

getting the right balance between markets and governance. The governance infrastructure here plays a major role in determining this equilibrium through the policy design and appropriately packaging factors that attract investment.

Policymakers in developing countries and international advisers have strong conviction, nonetheless, that FDI has significant potential to promote a sustained economic growth and development, under a favorable policy environment, and can serve as an important motive for local enterprise development, which can improve the competitive position of both the recipient and the investing economy (Donaubauer et al., 2016: OECD, 2008). To bring an end to these uncertainties, there is a need in scholarship to comprehensively analyze the real impact of FDI on development which should create a resource for policy. Reiter and Steensma (2010) observe that many indicators since the strong push of the free market and trade liberalization, have not been able to provide the full answer to the development question.

2.2.4 Attracting FDI: *what matters*

The drivers of FDI have been a subject of transition in regional development theory, and governance and policy perspectives. The former, has shifted from a pure neoclassical economic tradition, that emphasized the withdraw of the state and leaving the market dynamics as the primary drivers of FDI and determining the production and distribution systems, to a kind of contemporary neoclassical economic theorization. Two theories are in this theorization. The first is what Dang and Sui-Pheng (2015) describes as the new growth theory. This perspective argues that development proceeds from the efficient use of factor inputs of production with infrastructure increasing the productivity of human and physical capital, and it being a direct factor input (Guild, 2000). The new growth theory accepts that the role of the state is still necessary to intervene in inevitable market failure events and provide prerequisite conditions that facilitate production. The second is the cumulative causation theory, which posits that initial high return on investment attracts more investment and agglomeration which reinforces the territorial advantage, with the provision of infrastructure to induce production efficiency by eliminating capacity constraints (Guild, 2000).

From a governance and development policy perspective, keeping a stable macroeconomic environment as a mechanism for lowering the cost of doing business, having an open approach to world capital markets and trade systems, and provision of infrastructure, have been the drivers of FDI. Maintaining coherence across key policy categories is a primary determinant in making appropriate development decisions. The World Bank (2008a) identifies five (5) policy categories, as parameters of a coherent development policy. These are accumulation, innovation, allocation, stabilization and inclusion. Accumulation is based on strong public investments that help the economy to increase infrastructure

stock and skills needed to grow quickly. Innovation supports the national government to learn to do new things in new ways for effective and efficient economic growth and development. Allocation entails efficient distribution of capital in the economic system, allowing prices to guide resources and resources to respond to prices. Stabilization follows the need to prevent unpredictable fluctuations in the general fiscal performance through appropriate fiscal policy interventions. Inclusion is premised on the argument that policy must promote equity and equality and a growth strategy needs to keep this in perspective.

Of the five, the most influential is allocation, because it entails government investment choices which are motivated by the need to attract external capital investment, whose [intended positive] externalities feed into the other policy categories. This brings in the discussion of government priority setting mechanisms in resource allocation and questions around optimal public capital investment and efficient utilization of the investment. Bogetic´ and Fedderke (2009) points out that public capital can be readily incorporated in an endogenous growth framework, demonstrating expectations of a positive payoff from the investment. On infrastructure, they argue that the core rationale of infrastructure investment emerges from the theoretical literature that it has both direct and indirect impact on output and raised the marginal productivity of other factors of production. It can prevent diminishing returns to scale in private sector capital, raise the marginal product of the private capital and the growth rate of output (ibid). They, however, argue that an equally important message is that government intervention of this nature may lead to economic growth only within limits and can have both positive and negative impacts on growth. The point Bogetic´ and Fedderke makes here is that if the marginal product of public capital diminishes, there exists a threshold level of public capital, beyond which further increase is harmful to the economy since the tax effect tends to dominate the capital productivity effects. These dynamics culminate into a critical issue of public financing risk, which demands significant attention by the government to formulate prudent mechanisms for public capital investment based on sustainable risk management.

At the center of these dynamics pointed out above are a set roles and actors which plays an influential determination derived from the geopolitical manifestations that surround FDI. These actors are at two level; the local and global levels. At the national level, there is the state whose role often prescribed on the necessity of adjusting regulation and policies that incentivize foreign investors and setting up agencies backed by law solely tasked to facilitate and promote investment. This is what really matters for FDI. The most prominent challenge to the state is being able to frame a balanced institutional and policy regime based on nuances of the economic and social dynamics of the country while subscribing to global capital market pressures and conditions. More specifically the challenge is aligning priorities

for public investment to strategically promote FDI on the one hand, while advancing the social development agenda on the other.

At the global level are multilateral agencies with the role controlling powers surround global capital flows led by the World Trade Organization (WTO) and the so-called Quad[1] which negotiate trade policies and imposed to the rest of the WTO members (Zangl et al., 2016). These agencies hold significant amounts of power on the FDI flows which the sub-regional agencies operationalize to be implemented at the regional level by facilitating member countries attain prerequisites for attracting FDI, such as improving infrastructure stock. The proceeding section discusses this further.

2.3 Infrastructure and Development in Africa.

For growth to be sustainable, it must be grounded on a stock of well-developed infrastructure, which should continue to make existing investment more efficient while attracting new investments (AfDB, 2016). Public infrastructure provides services that form part of residential consumption bundle and augments capital and labor as an input in the production process, while access to it, promotes human development and better quality of life (Kodongo and Ojah 2016). Following from the discussion in the previous section on FDI's role in development and the need to be competitive in the global capital markets, infrastructure plays a pivotal role in fulfilling the need.

According to the World Economic Forum's Global Competitiveness Index – 2012-2013, Africa is the least competitive region in the world (AfDB, 2015). Kodongo and Ojah (2016), argue that infrastructure deficit is a significant binding constraint to economic growth and development in Africa. Such propositions are worrying considering the continent's rapid urbanization that is apace, by far, the rate of economic growth. Estimates indicate that approximately 60% of Africa's urban population live in slums with some combination of overcrowding, low-quality housing and inadequate access to clean water and sanitation (Lall et al., 2017). AfDB (2015) points out that if Africa is to sustainably reduce poverty, it must maintain a growth rate of over 5% per annum in the medium-term to the long-term, at 25% investment of the GDP ratio. In recent past, the average has been only about 18% (ibid).

For Africa and infrastructure, the problem is not only dealing with the aspect of financing the expansion but also accessibility. Drawing from the World Development Index (WDI) by the World Bank, Kodongo and Ojah (2016), carried out a comparative assessment on access to infrastructure for the world's

[1] The Quad which, as resent as 2000 when it was joined by Brazil, India and China, was a consortium of nations that dominated the WTO core decision-making process – United States, the EU, Japan and Canada (see McArthur and Werker, 2016).

developing regions from 2007 to 2013, as shown in Figure[2] 2.1 and 2.2 below. Sub-Saharan African region trails its peers on every key metric.

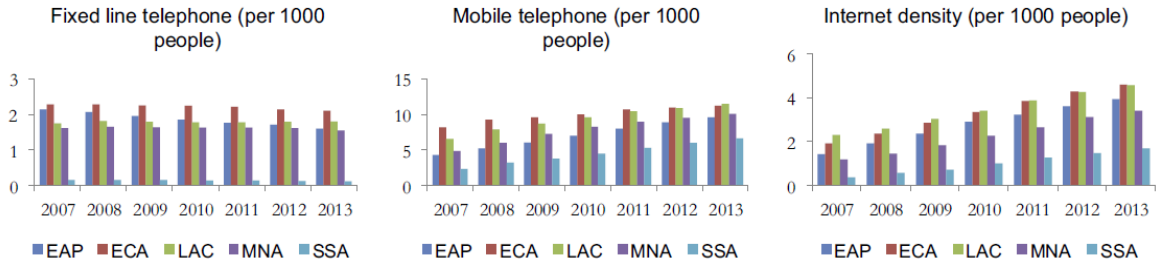


Figure 2.1: Access to infrastructure per 1000 people (Source: Kodongo and Ojah, 2015)

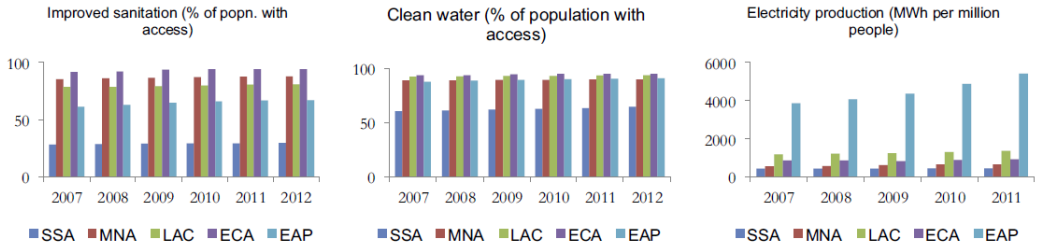


Figure 2.2: Access to Infrastructure as a population % (Source: Kodongo and Ojah, 2015)

Further, for every 100km^2 of land in Africa, there is only 13km of road which is relatively low compared to other regions as shown in Figure 2.3 below.

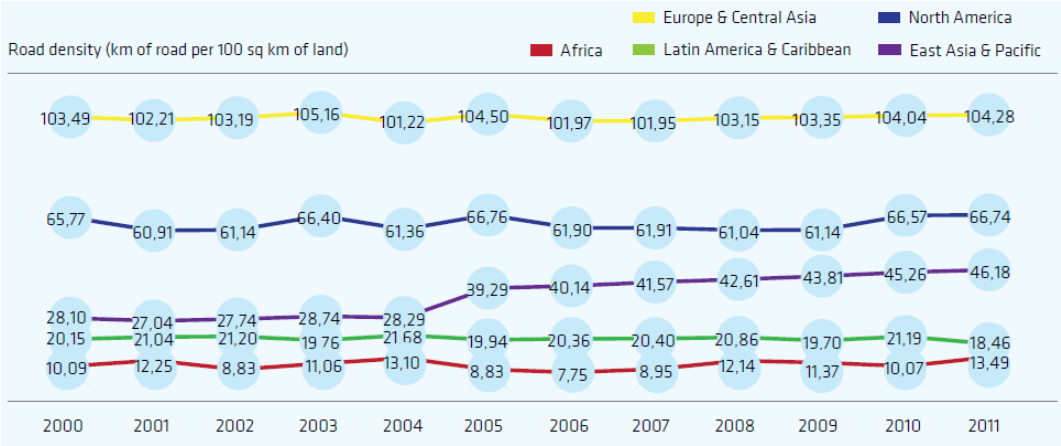


Figure 2.3: Kilometer of road per 100kmsq of land by region (Source: AfDB, 2015)

More than 50% of the citizens are without access to improved sanitation in more than 54 African countries as shown in Figure 2.4 below, which has a direct implication on human health and general well-being, together with environmental quality with regards to the handling of waste. Reasons for such trends vary, however, priority setting in resource allocation is often inclined to economic and efficiency rather than balance with social provision.

[2] SSA – Sub Saharan Africa, MNA – Middle East and North Africa, LAC – Latin America and Caribbean, ECA Developing Europe and Central Asia and EAP – East Asia and Pacific

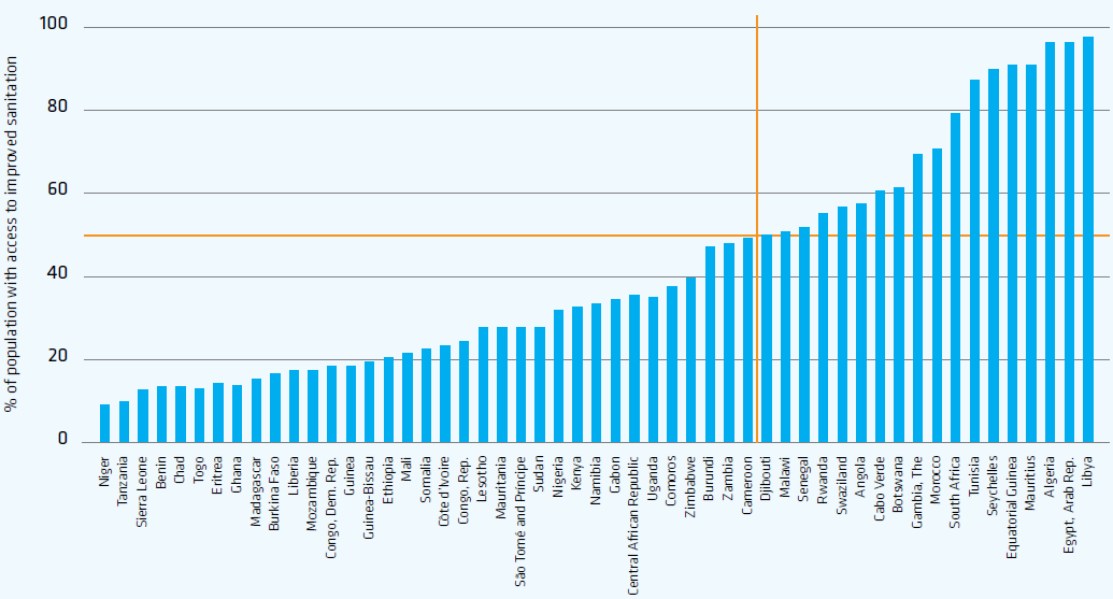


Figure 2.4: Access to improved sanitation (Source: AfDB, 2015)

To cover the infrastructure gap, the World Bank (2014) estimates that approximately USD93 billion per year is needed. In 2010 a joint initiative by the African Union Commission (AUC), New Partnership for African Development (NEPAD) and African Development Bank (AfDB), formulated a Program for Infrastructure Development in Africa (PIDA), approved in 2012, with the objective of identifying and prioritizing Africa's critical infrastructure needs to support development (AfDB, 2015; World Bank, 2014). Its Priority Action Plan (PAP) for the period 2011 to 2040 estimated the annual infrastructure deficit for the continent at USD360 billion (AfDB, 2015) with 51 projects identified in the medium term from 2012 to 2020 estimated at USD 67.9billion (World Bank, 2014) (See Figure 2.5 below).

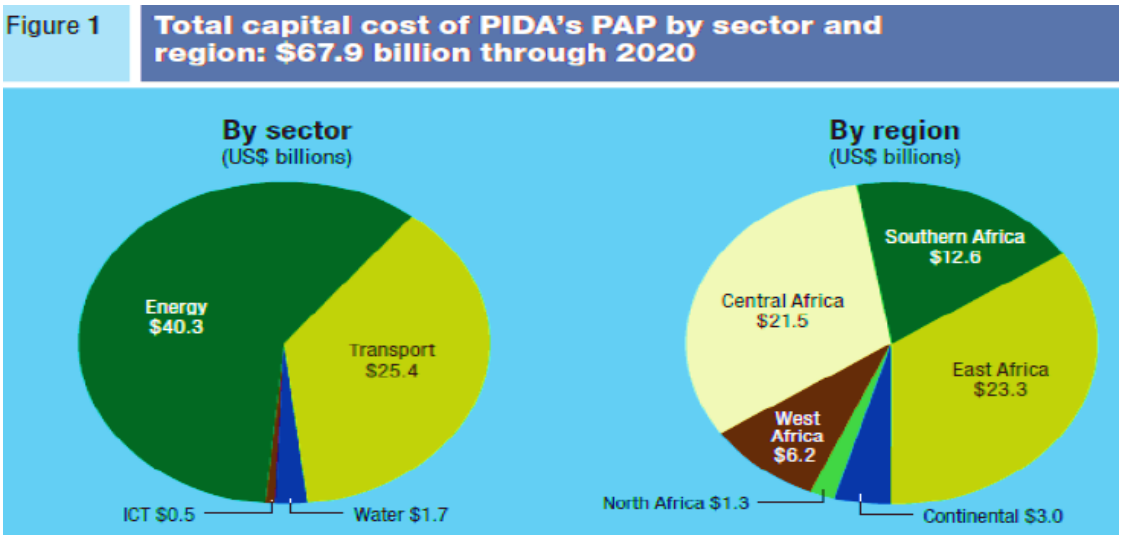


Figure 2.5: Capital expenditure in the Medium-term per sector and region of the PAP (AfDB, 2017)[3]

[3] https://www.afdb.org/fileadmin/uploads/afdb/Documents/Generic-Documents/PIDA%20brief%20financing.pdf

The PIDA Progress Report for the year 2016, outlined the hurdles facing the initiative, ranging from the need for institutional and political commitment by member countries, to issues of capacity building and private sector engagement. However, one that is of significant interest to this study, is the issue of regional policy priorities not being in line with national priorities. It implies inconsistency in policy and reconciling the gap may need critical attention to fit with the local development objectives appropriately. Francois and Machin (2013) argue that integrating into the regional development policy progression, in a case of limited resources, implies shifting those resources away from other priority issues like local institutional development and improvement of physical infrastructure.

Embracing regional policy requires a cautious approach, because progression in physical infrastructure while the human development occurs inversely, may work against the envisioned developmental progression. The planning and provision of infrastructure should also be appropriately framed within spatial development planning so that it responds to the human development need adequately. Reiter and Steensma (2010) assert that, while investment policy can play a significant role in ensuring that economic development takes precedence, without consistency with the overall local and regional development policy, it may lead to economic growth in the aggregate short-term but hamper human development in the long-term.

Across African cities, inconsistency between the local spatial development planning and investment policies is becoming a frequent observation. It is resulting fragmented and spatially disconnections urban development. The observed spatial manifestation of the investment pattern, is a push of the boundaries of the city outwards, resulting in a leapfrog development of gated enclaves back-facing the central urban core (Lall et al. 2017). Between 2000 and 2010, about 46% to 77% of new development occurred as an expansion or leapfrog with much lower of infills as shown in Figure 2.6 below.

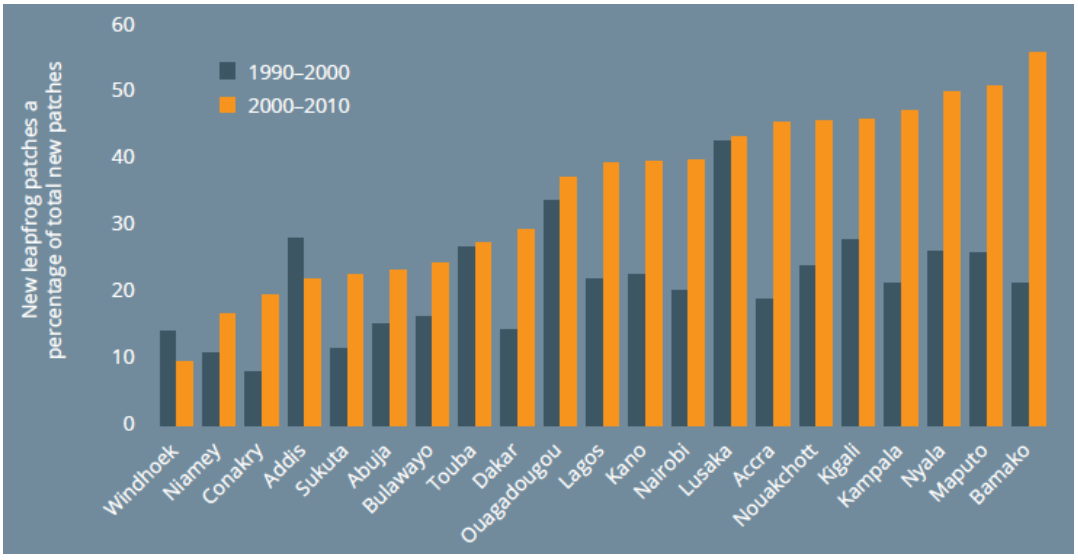


Figure 2.6: Leapfrog Development Patterns Across Africa (Source: Lall et al. 2017)

Providing infrastructure in such a setting is costly and inefficient as it fails to utilize the potential of infrastructure's "network effect" which generates economies of scale (Agénor, 2010:4), other than exacerbating further sprawl. This kind of urban form imposes living costs on workers and households resulting in indirect costs and other constraints for firms, as it implies a higher cap on the wage bill for employers, thus working against investment expectations for the cities (Lill et al., 2017).

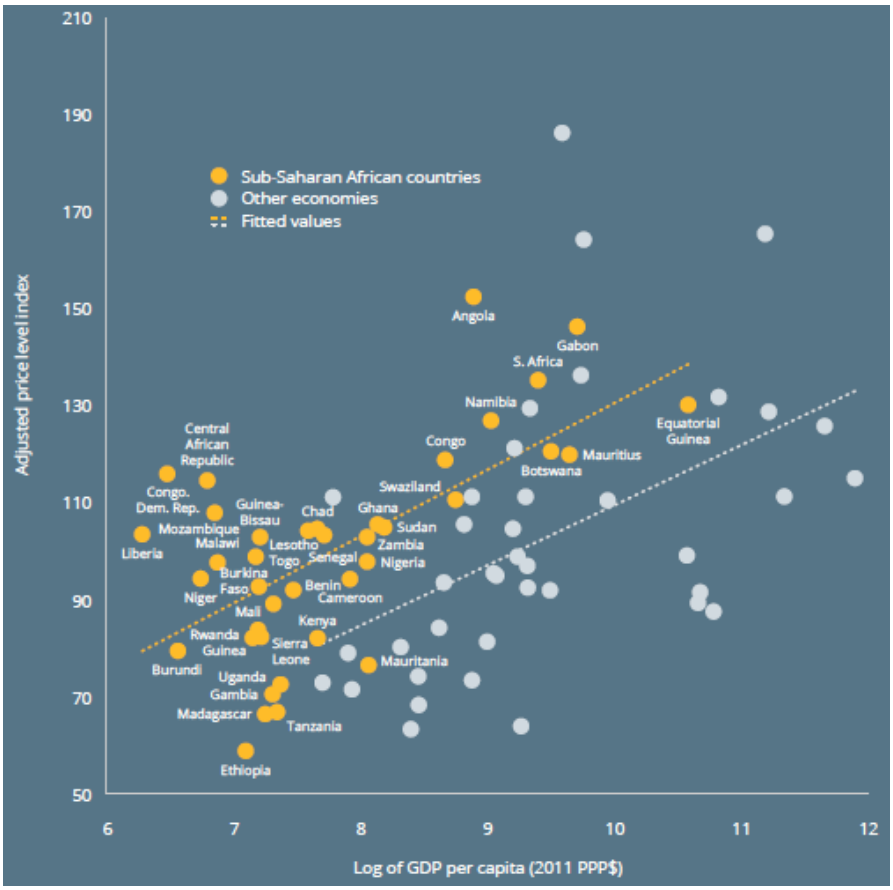


Figure 2.7: Price Level Index Regional Comparison (Source: Lall et al. 2017)

City dwellers in Africa spend 35% more on food than in other low-income and middle-income countries elsewhere (see Figure 2.7 above), with higher differentials in housing and transportation, at 55% and 42%, respectively (ibid). The development strategies advancing the private sector investment agenda, need to understand the spatial implication of the strategies and how infrastructure question comes in to being because has profound effects on the socio-economic urban dynamics highlighted above. Without this awareness the efficacy of investment promotion as a lead to development will only be an illusion. The proceeding section discusses the infrastructure's urban question.

2.4 Infrastructure and the Urban Question

Hodson and Marvin (2010) point out that a series of new social, economic and political problems are pushing critical issues of ensuring cities have secure and continued access to resources needed to sustain their ecological and social reproduction, up on the agenda of the national government. They

further point out that in a globalizing economic system, there is need to understand the contemporary pressures facing cities, through a series of interrelated issues which include attempts to maintain economic growth in a context of economic globalization, while dealing with rapid urbanization.

Following these urban issues that are now a common trait of cities in the developing world, the view of infrastructure in contemporary urban policy is not only the traditional function of a machine that is 'there' providing a service to the people and their industries. There is a realization that infrastructure has a significant influence on the morphology of the urban environment and the construction of its materiality and texture. Understanding urban infrastructure development from a broad perspective – water pipes, drains, power stations, policies, laws – offers a framework to comparatively understand the urban fabric (McFarlane, 2008). The function of infrastructure is often a multi-layered phenomenon with varying perspectives. As such effective responses to the urban infrastructure question should be perceived within multiple challenges, multiple actors and multiple levels, which requires effective coordination (Hodson and Marvin, 2010).

What has driven the realization of infrastructure's dynamic character, as literature suggests (Graham and Marvin, 2001; Estache et al., 2002; Estache, 2006; Rao, 2015), is the emerging transition of exclusive pattern of provision of network infrastructure services. At the core the transitions are two significant phenomena. The first is the financial incapacity to keep up with the rising maintenance and expansion costs due to increases in demand. The second is the priority of public capital investment in infrastructure. The latter is significantly influenced by the need to become competitive in the global economy as infrastructure sector a key driver of investment inflows. It sets the country in a dilemma of what to prioritize amid limited resources. Much of what follows in the proceeding discussion is focused on is the former.

2.4.1 The "New" in Urban Infrastructure

In the past decades, cities have been transformed in ways characterized as their re-emergence, renaissance and entrepreneurialism and infrastructure has been fundamental in shaping the transformation (Hodson and Marvin, 2010). Attempts to understanding this transformation need to be rooted in theorization that does not shadow the unique cultural and social systems that construct the urban fabric. McFarlane (2008) points out that quite often urban theorists frame the southern city through questions of similarity or difference 'to' the western equivalences. The emerging theorization of a contemporary city, as McFarlane (2008) argues, is limited in such ways that privilege Eurocentric notions of urban development, obscuring other aspects of city life synonymous with the southern city, such as the dynamic economic activities, popular culture, innovation in urban governance and the creative production of diverse forms of urbanism.

This fragmented theorization has emerged as another hotspot of debate, especially in relation to the trends manifesting in urban infrastructure, because of political-economic influences, with neoliberalism as the main focus (Furlong, 2014). Hodson and Marvin (2010) point out that what is apparent is the political and economic dynamisms that have influenced decision-making from differentiated experiences of cities and infrastructure. They argue that it merits an alternative way to constitute responses, at a city-scale, which recognizes that urban infrastructure transitions require new and effective forms of urban knowledge, interactively produced, communicated and appropriated. McFarlane and Rutherford (2008) argue that this entails a conceptualization of cities and infrastructure that recognizes their mutual constitution or co-evolution within a constant state of flux, the importance of specific configuration or agency in shaping their relationships and the political nature, and implications on urban network infrastructure.

The 'new' in urban infrastructure is that its conceptualization includes the constitutive materiality that forms as it evolves to reach a level of what Hughes (1994, as cited in Furlong, 2014: I42) referred to as "momentum", forming a kind of stable urban fabric. It implies an understanding that infrastructure means more than aiding economic production by reducing the input cost, but a definitive of urban social relations, dignity and the far-reaching concerns of human rights. An alternative way of constituting responses to infrastructure pressures, with "specificity" as Huxley and Yiftachel, (2000: 339) puts it, involves threading through the inherently political nature of urban social and spatial relations and how it all plays out within a neoliberal policy environment, an inevitable trait of the contemporary city. These are further discussed in the proceeding subsequent sections.

2.4.1.1 Politics of Planning for Network Infrastructure

The construct of planning and delivery of network infrastructure is framed on three perspectives. The first is a socio-economic perspective. McFarlane and Rutherford (2008) points out that infrastructure mediates globalization, arguing that its centrality in the construction of the city is revealed as a modern site of capitalist production and expansion, constitutive of social relations of inequality and a space of environmental transformation. Infrastructure shapes urban settlement, mobility, technological development and its application, and gives structure to the entire process of industrial metabolism, constituting one of the most important interfaces between nature and society (Monstadt, 2009). The patterns of contemporary urbanization highly depend on the functioning of infrastructure networks driving material flows in and throughout the city (ibid).

The second is institutional perspective. For Cunningham and Kwakkel (2009), infrastructure investment depends on an array of institutional actors with complex and sometimes contested, motives. On the one hand, a set of actors must comprehend with the characteristics of the infrastructure of having high

capital overlays, high asset specificity and the substantial contribution to the productive assets of society. While on the other, decision-makers must address questions of whose interest infrastructure should serve and elucidate the negotiations for the setting in which infrastructure is produced. Infrastructure emerges as a negotiated process between and among actors. Often at stake is not simply the provision of infrastructure but the conceptualization of the city within the ambit of social justice (Cunningham and Kwakkel, 2009; McFarlane and Rutherford, 2008). It is kind of negotiation that Jiménez (2013:343) argues to hinge on the "right to infrastructure" echoing Henri Lefebvre's notion of the 'right to the city'.

The third perspective is on policy decisions; In a way, it ties back to the issue of interests of the actors. However, it merits to explored explicitly because it is critical to the planning process of infrastructure. Von-Hirschhausen et al. (2004), point out that, the appropriateness of public decision-making and sector organization, on one end and ascertaining the right level of investment and the social implications of missing the target in either direction, on the other, are the most critical infrastructure investment policy concern. As network infrastructure is an investment with the view to create public capital, as was pointed out earlier, from a public policy perspective, knowing the value of the return from the investment together with the marginal benefit and how it is redistributed, is particularly important. Often such level of detail is rarely considered when making investment decisions, as there is a tendency to base the forecasting in the short-term rather than the long-term were such detailing becomes apparent (ibid). Post and Murillo (2015) reason that governments typically structured policy in this manner as an incentive to the private sector investors, to allow sufficient time for them to recoup upfront their expenditure on their investment. They, however, admit that in the face of a weak political and institutions system [as is the common case in developing countries], such a practice accentuates economic volatility and susceptibility to crisis.

Guild (2000) argues that overall, infrastructure investment needs to be oriented towards a level of desired development as well as specific project objectives. Following from theory, infrastructure investment adds to the productivity of the locale by enhancing efficiency which creates a platform to increase capital accumulation. Creating a balance between private and public capital accumulation is a significant policy challenge. Guild (2000) however, contends that it is advantageous as the imbalances lead to a kind of creative tension and induce decision making. The bigger question, however, is whether infrastructure investment should lead or follow the expansion of private economic activities, whose answer is dependent on the sequence which creates most pressure to develop (ibid).

Reflecting on the three perspectives outlined above, not only does it make apparent sense to see infrastructure and the city with fresh eyes. It is profound to realize that various interest groups socially

construct infrastructure development through an array of tensions, tactics, and complexities which are far more problematic for infrastructure provision than the technical issue (McFarlane and Rutherford, 2008). Urban infrastructure re-emerges as a political negotiation and lesser of a physical process of deploying network and services in the urban fabric (ibid). It has evolved from being traditionally a state role which developed a kind of 'natural monopoly' as the notion of universal access that drove the infrastructure provision agenda is often inconceivable by the private sector. Viewing infrastructure through such a lens [as a negotiated process] brings the proposition that Bender (2010) makes in perspective, that it is quite misguiding to assume that the city is some 'whole', a totality represented as a bounded or least an identified territorial space that gives shape to social relations. In the contemporary city configuration of infrastructure networks continuously recombine to produce new configuration of urban space (Graham and Marvin, 2001). The infrastructure dynamism that threads through the city, creating its texture, attest that it is a composite entity that is unstable and continuously being reproduced (Bender, 2010).

2.4.1.2 Delivery Model: *Shifting Roles*

How we develop, govern and renew our urban infrastructures matters significantly in the regulation of a sustainable relationship between nature and societies (Monstadt, 2009). The ongoing global transitions through institutional reform policies led by World Bank, have culminated in the transformation of urban infrastructure and governance regimes, reconfiguring power and levels of authority between local, provincial and national government (McFarlane and Rutherford, 2008). These reforms are directly impacting the planning and management of cities and infrastructure. Monstadt (2009) argues that they have radically changed how urban ecologies come into being and stabilize in two main ways. On the one hand, conditions of infrastructure provision have been altered by transitions in urban processes, a change in welfare delivery from traditionally state led to private sector participation, privatization of territorial competitiveness in the global economy, decreasing financial and regulatory resources of urban governments, and suburbanization. On the other, fundamental transitions in network infrastructure are underway linked to the rise of liberalization and privatization, and commercialization of infrastructure services.

The neo-liberal influences and cycles of the global economic recessions that straggled the aid flows became a leverage to provide compelling economic policy prescription to developing countries by international development policy advisory bodies such as the World Bank and the International Monitory Fund (IMF) (see also Barca et al. 2012). These policy prescriptions called for openness to the world, – an approach argued against in some section of literature (Estache et al. 2002; Reiter and Steensma, 2010; Barca et al. 2012) – institutional restructuring and private sector involvement. They

subsequently became institutionalized by developing countries on the belief that they render solutions to close the development financing gaps. These transitions were more pronounced within the utility sectors characterized by the ring-fencing of individual utilities, commercialization of services, privatization of companies and a change in redistributive principles, from the traditional social equity to economic equity (Coutard, 2008).

Grahams and Marvin's (2001) 'Splintering Urbanism' thesis illustrates how these transition in urban infrastructure provision moved from a universalized modern ideal, to become unbundled, with service provision encouraged to be taken on by the private sector while the state assumed a role of regulation and an enabler. It further points out that service provision is characterized by a modern infrastructure ideal with service differentiation and commodification, which it argues has exacerbated urban inequality.

The splintering urbanism thesis has, however, been criticized for having a limited applicability. Coutard (2008) argues that the collapse of the modern infrastructure ideal – one of the principle narratives in the thesis – should not entirely be placed on the splintering urbanism but needs to further analyze its historical failure in fulfilling its promise of delivering and sustaining universal affordable and adaptable services. Coutard suggests that, the evolution of an urban infrastructure crisis deserves to be unpacked and explored in more detail. Furlong (2014) advances that its departure being on a universalized network infrastructure limits its applicability to the southern experience were infrastructure exists in archipelagoes and not networks as is the case in the north. Utility services in the south have evolved on a transition from artisanal to industrial, giving way for a diversity and coexistence among service supply alternatives (Furlong, 2014). It responds to the existing spatial context and need, which the splintering urbanism argues to lead to segregation. The splintering urbanism thesis underplays the variations in how different infrastructure services are produced and consumed in the southern cities by highlighting common trends towards a more commodified and competitive framework of service provision (Zérah, 2008).

Coutard (2008) questions if it is always the case, as the splintering urbanism thesis implies, that increased service differentiation aggravates socio-spatial discrimination. The thesis argues that differentiation of local services and compartmentalization of the city is a driver of further inequalities. Jaglin (2008) contends that differential provision of infrastructure does not automatically result in splintering urbanization but has a progressive potential to respond to contextual urban diversity. This supports the argument Furlong (2010) make that infrastructure in the southern city is about custom and coping not as programmed as the northern experience. Infrastructure service provision in the south is up against the question of not only how to redress inequalities but also how to sustain accessibility and

affordability by adapting the service to the demands and needs of the people in the face of unemployment, high vulnerability and variability of household income (Jaglin, 2008). The one-size-fits-all thinking, which is a domain of the splintering urbanism does not adequately fit in the diversity of the southern city and may miss salient processes critical in the construction of a southern urbanism (Jaglin, 2008; McFarlane 2008). Zérah (2008) adds that the recent infrastructure reforms need to be evaluated in context and its fragmentations should not be taken as a given but rather as a relevant exploratory tool to understand the urban processes.

Overall, the splintering urbanism narrative of a universalized provision of infrastructure does not accurately fit in the southern experience. Infrastructure service provision in the southern urbanism has often been a process of co-production, with a host of actors distributed across the public and private sectors, the civil society, the citizenry, financiers, and multi-lateral and bilateral agencies, which all together form what Cunningham and Kwakkel (2009) called as the key actors in infrastructure provision.

Nonetheless, the actors and how their role come into being in infrastructure provision is increasing subscribing, to the splintering urbanism thesis's prediction, that urban politics and urban social movement will become the center of the struggle between the geopolitical attempts of boundary control and the customization of premium urban spaces, and the need for more egalitarian practices and principles towards development. It is a manifestation of what Graham (2000:192) termed as new "infrastructure consumerism", where firms or quasi-firms use consumer segregation and geodemography targeting in the construction of diverse infrastructure. This situation is driven by a coalition of state's interests while subscribing to the geopolitical preconditions of accessing the global capital markets, embraced through the design of urban spaces. It is a stronger force at the core of FDI, which has been taken as the inherent role of the state, to provide infrastructure tailored to the needs and desire of the investors. It is more likely to take policy priority at the expense of the social need, even when the social and ecological cost is so significant that it can defuse the perceived benefits of FDI in the long-run.

2.5 Spatial Planning, FDI and Infrastructure: *The Interface*

As spatial planning is a way of defining space which is part of urban production systems, through land assemblies, it is a function of both FDI and infrastructure. Spatial configurations hold a superior influence on how interests of different actors are set in the production systems. The link between spatial planning and urban productivity factors – FDI and infrastructure – and its manifestation regarding the urban form and structure, expresses the extent to which coherence within spatial and economic policies exists.

Hall (1998) argues that within urban production systems capital flows into the built environment re-order localities so that additional production and consumption can occur more profitably, which offers an explains to why urban economies reliant on market mechanisms of exchange are characterized by fragility. This market fragility which often leads to decline in any area may have historical precedent, however it has linkages to the global investment process whereby flows of finance capital move around the world in a "herd mentality" to the next hot city to increase value (Hall, 1998:329). The preoccupation of policymakers is to find ways of presenting the urban landscape as the next preferred destination of the finance capital herd. Among others, land and its assemblages are the factor with profound influences the flow of this capital investment or FDI.

Spatial planning is often the apparatus policymakers fall on to drive the city towards becoming the next destination for FDI. They are many roles that spatial planning plays in facilitating the flow of FDI into a specific geography. However, its central role revolves around parceling of development rights, the modes of distribution of the rights and regulation of land-use attached to the rights. The development right is the leverage that city or national government uses to tap into the capital investment flows, using spatial planning to package land towards private sector interests. Seto et al., (2014) argue that spatial planning in framing development rights, relies on a host of policy instruments applied to different spatial strategies and the effectiveness of a particular instrument depends on the legal and political resource at its disposal. They contend that infrastructure provision and market-based instrument such as taxes are more likely to influence spatial planning. This explains why such instruments often fall into the government priority pockets quite easily because infrastructure is the underlaying element of support and assurance of increased productivity and returns on investment.

The convergence of spatial planning, FDI and Infrastructure is reflected in the proposition made by Hall (1998) that the mutuality between public and private relationship are on an arguably joint interest of the state and the private sector. The private sector has an aim of adding value to their capital through project implementation that will meet a commercial need. While government focus is on securing jobs and electoral support. Commercial value for private development is added through the creation of a level of certainty by the state firstly through creating quality environments in which development can take place and secondly managing the regulatory process so that quality development is secured in cost-effective ways. The role of development rights and incentivized production opportunities through the provision of infrastructure, are vividly prominent at this interface.

What has been observed, however, as Hall (1998) points out and other scholars (Estache, 2006; and Coutard, 2008), is that governments in pursuit of economic efficiency uphold the technical argument of cost-benefit analysis, economic efficiency and environmental impacts while downplaying the more

subjective people's valuation of their lived-in environmental experiences. The proceeding section explores some examples looking at how private capital investment has been handled and the extent to which it had impacted the respective country's development.

2.6 Examples

The discussion thus far has looked at the theoretical positions of infrastructure and FDI, with the aim of understanding the complementarities between the two concepts and their embeddedness in spatial planning. This section discusses examples drawn from three regions of the from the developing world; Sub-Saharan Africa (Ethiopia), Latin America and Caribbean (Argentina), and East Asia and Pacific (China). Ethiopia, was selected because of its exhibited impressive growth performance frame on publicly financed strategic infrastructure investment. It draws specific attention on the importance of public investment risk management. Interest for Argentina out of its rich experience in private sector involvement in infrastructure services provision. For China interest was in its implementation of the FDI policy and leveraging infrastructure provision for the private sector investments.

2.6.1 Ethiopia

Ethiopia's growth performance over the past decade has been one of the most successful among low-income countries, with economic growth averaging 10.9% in 2004-14 period as shown in Figure 2.8 below (Moller and Wacker, 2017). Wangalwa (2014) reports that Ethiopia is Africa's fifth biggest economy but is at the focal point of emerging economies' interest with various delegations of foreign investors seeking investment opportunities. Ethiopia's economic growth is an intense government project with the vision of becoming a middle-income country by 2025. Poverty fell from 45.5% in 1995 to 27.8% in 2011 with an HDI averaging at 3.49% (Salem, 2014). Between 2013 and 2014, GDP was about 10.6% trailing its sub-regional peers Rwanda at 7.9% and Kenya, at 4.8% (Wangalwa, 2014).

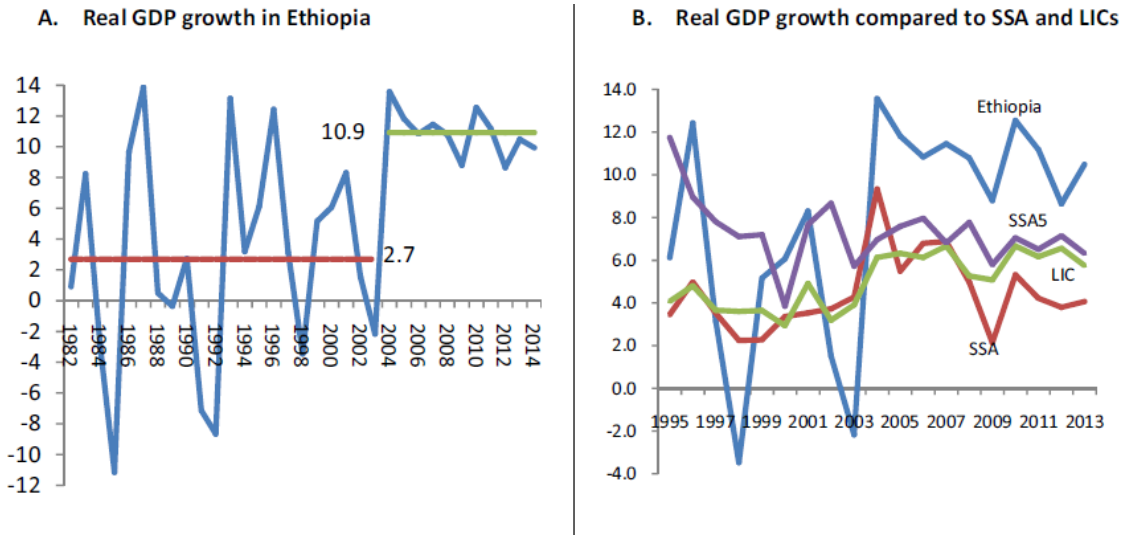


Figure 2.8: Ethiopia's GDP Growth Trends (Source: Moller and Wacker, 2017)

Ethiopia's growth strategy has been based on a strong emphasis on public-led infrastructure investment, supported by heterodox macro-financial policies. The public infrastructure investment rate rose from about 5% of the GDP in the early 1990s to 18.6% of GDP in 2011, making it the third highest in the world (Moller and Wacker, 2017).

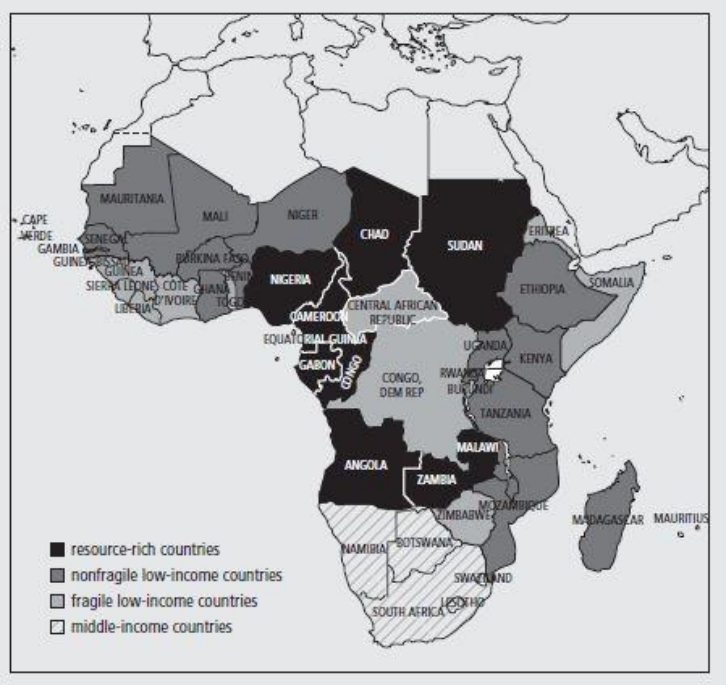


Figure 2.9: Sub-Saharan African Sub-Regions by Character (Source: World Bank 2010)

Moller and Wacker (2017) point out the three key factors that led to Ethiopia success story. The first is that the financing of public infrastructure investment projects drew upon a range of heterodox policy arrangements. Its growth experience stands out from a group of other high-performing and non-resource-dependent (see Figure 2.9 above) regional peers, the so-called the SSA5 [4] whose growth strategies have largely been driven by improving macroeconomic policies combined with structural reforms and relying on external financing. Ethiopia fits into this narrative only partially. What sets Ethiopia apart is its emphasis on a public financed model of development and the absence of structural economic policy reforms.

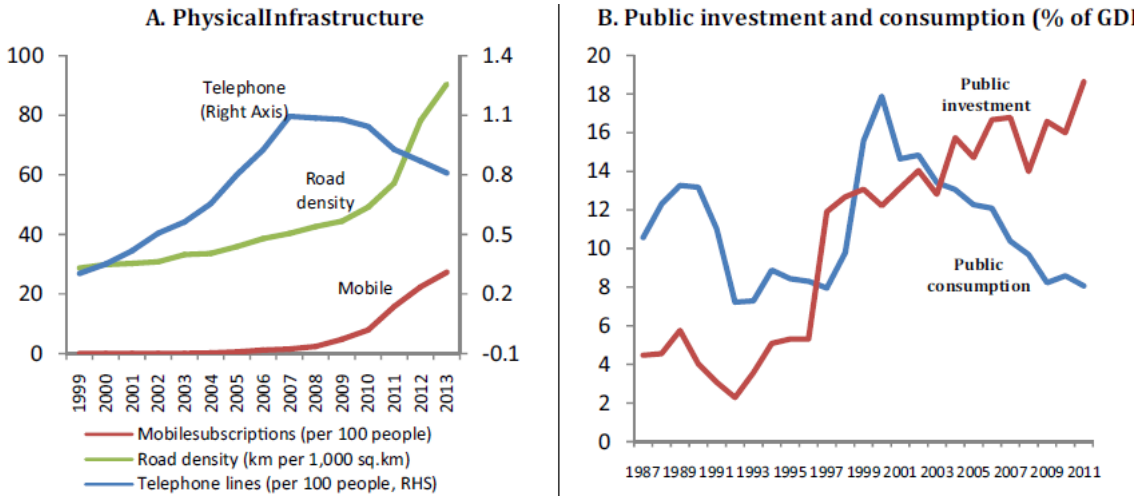


Figure 2.10: Ethiopia's Infrastructure Investment and Government Consumption (Moller and Wacker, 2017)

[4] These are Burkina Faso, Mozambique, Tanzania, Rwanda and Uganda

Public infrastructure investment was given an overarching priority, as shown in Figure 2.10(a) above, financed firstly, in part by restrained government residentiary expenditure, as shown in Figure 2.10(b) above. This expenditure policy was based on keeping state consumption including the public wage bill low, which is in sharp contrast to many other African countries (ibid). Secondly, the reduced expenditure on security was a peace dividend following the end of the 1998-2000 war with Eritrea, which made more finances available for infrastructure investment. The third factor is Ethiopia's policy mixes. Besides infrastructure prioritization and reduced government consumption, financial repression proxied by a low expansion of private credit sets it apart in a statistically significant way. It reduced the infrastructure investment risk through ensuring government debt is kept at a minimum as shown in Figure 2.11 below.

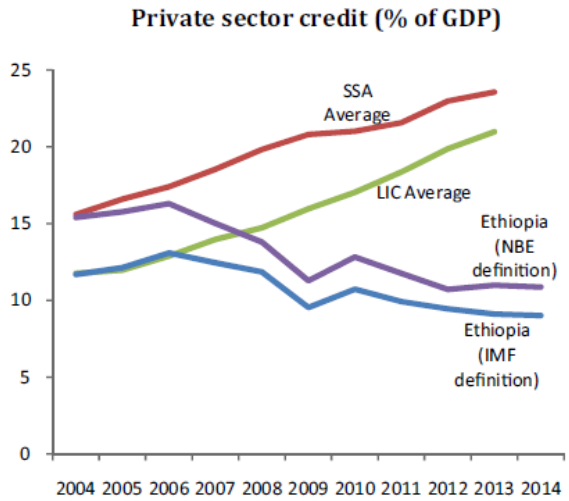


Figure 2.11:Private Sector Credit Repression against the GDP (Moller and Wacker, 2017)

The fourth factor is that, alongside the impressive public infrastructure investment policy, Ethiopia implemented an education reform program that ran from 1997 to 2003. According to Sait (2004), it increased tertiary education enrolment from 43,843 to 147,954, with an annual rate of 28%, which became the highest in the world during the period. With over 60% of the population that is uneducated, investment in the education sector become a priority, premised on the need to improve the human resource quality. This was a lesson drawn from its earlier experiences of the 90s when the country recorded jobless economic growth (Islam, 2004).

2.6.1.1 Lessons

The Ethiopian example brings out the following lessons;

- Ethiopia experience agrees to recent theoretical and empirical arguments that economic and institutional reforms matter less in specific context of developing countries (see Barca et al. 2012). It is a testament that substantial growth is possible with modest reform efforts in short to medium term stages of development, if it is supplemented with a cautious policy approach.

- Repression of government consumption to finance productive public infrastructure investment is significantly sustainable. The state can return funds and reinvested to grow other sectors, which would have been lost in financing interests if the investment was financed through loans.
- As a general relevance to other developing countries, as Moller and Wacker (2017) suggests, the Ethiopian case is a lesson that growth can be achieved with second best heterodox policies, if they channel resources to socially productive purposes, for as long as the resulting macroeconomic imbalances do not grow exorbitantly large. Keeping public investment risk as low as possible, by maintaining public debt stock at the minimum, is central to this approach.
- Ethiopia's growth acceleration driven by a combination of policies in several dimensions raises the question of sustaining the growth. Continuous infrastructure improvement offers the best single possible growth prospects. However, microeconomic policies face increasing tradeoffs between public investment, private sector credit and limiting government consumption, and maintaining stability around such a policy mix, imposes significant challenges to policymakers. Especially if government consumption expenditure has a strong foothold on the microeconomic or residentiary expenses, where such restriction may cause economic disequilibrium. However, coherence in policy and integration in the implementation can offer a sustainable solution in the long run. Ethiopia's policy orientation of advancing an economic growth goal along-side a social development strategy, offer a higher chance of sustaining the growth in the long-run because it is not only building physical capital but also human capital. It raises the economic growth potential and resilience as education improvement may follow creativity and entrepreneurship.

2.6.2 Argentina

The Argentine example looks at how infrastructure provision decision in the face of liberalization, can be grounded on practicalities when involving the private sector, regarding what matters to them and what scenarios policymakers should simulate to provide affordable and accessible infrastructure services. It follows the 2002 Argentinian economic recession and the countries fiscal reforms used to attain macro and microeconomic stabilization.

From about 1980 through to the 90s, Argentina outperformed most countries is the Latin America and the Caribbean in terms of economic growth and performance (Rabobank, 2013). Much of this macroeconomic excellence was because of its implementation of a currency convertibility policy, which the government committed to, of keeping the Peso at one-to-one with the dollar, maintained by increasing international borrowing (Gray, 2001). Macro and microeconomic pressures that arose out of the debt-financed fiscal policy, led to privatization of many public infrastructure services, with most

utility's operations transferred to the private sector (Harris, 2003). Since privatization, the performance of most utilities improved with significant benefits transferred to the consumers.

However, after the 1990s, Argentina's hard peg on US Dollar, pro-cyclical fiscal policies, and extensive foreign borrowing, left the country unable to deal with the number of economic shocks resulting in currency and sovereign debt, coupled with a severe banking crisis (Rabobank, 2013). By about 1998 to 2002, a recession set in, during which Argentina lost 20% of its GDP and poverty rate rose from 18.2% of households to 42.3% (Gray, 2001). It failed to sustain the convertibility policy which left an unsustainable public debt burden, resulting in austerity policies that led to large-scale protests and significant contractionary effects following the devaluation of the peso (ibid).

Following this crisis, the national and provincial government decided to suspend existing contracts in electricity distribution, and water and sanitation sectors in 14 provinces for electricity and 13 for water and sanitation (Post and Murillo, 2015). It was because of the tariff increases by the concessionaires which were politically unacceptable to the ruling government as it was trying to gain public support following the widespread protests. The privatization followed a common policy template of concession contract that kept infrastructure assets in the state's hands while assigning private sector operators investment and operational responsibilities, (ibid). Post and Murillo (2015) notes that the affected companies sought to negotiate to relieve them of the burden of post-crisis cost adjustment and some considered exit when agreements were not forthcoming.

Most concession contracts included exchange rate guarantees that would have triggered a substantial increase in consumer rates, as the devaluation of the peso affected the value of concessionaires' revenue by two-thirds relative to the dollar (Artana et al., 2010). The sector was only able to attract domestic investors who could easily adapt to the local dynamics or be able to renegotiate for favorable contract terms.

2.6.2.1 Lessons

The Argentinian example was based on a study of 53 investor contract in water and sanitation infrastructure, conducted by Post and Murillo (2015) and the following lessons are drawn from it;

- Post and Murillo (2015) points out that investors in capital-intensive sectors face a bargaining power struggle, set between government's propensity to reverse contractual commitments after private investment in fixed capital and the investor's ability to influence policy. The point here is that for infrastructure provision through private sector participation, framing policy needs to clear such entanglements through adequate regulations and effective institutional baseline from the onset, such that in times of economic crises, a safety net for all actors within

this sphere will be created. Such clarities reduce uncertainties which are usually the primary sources of financial risk for private investments in the public sector.

- It also lends a lesson for corporate risk management strategies in developing countries that should be at the center of public policy investment in a liberalizing economy. Risk management is essential in guarding against investment losses and can avoiding cases of cost burden transfers to consumers in service provision resulting from poorly formulated infrastructure provision policies that lack fiscal resilience.

2.6.3 China

This example focuses on appropriate approaches to FDI promotion and optimal infrastructure investment strategies to attract FDI effectively and efficiently, that China used from three perspectives.

The first perspective is on China's FDI policy reforms. In its attempts to drive the economy towards a new growth direction under a socialist market economy and to sustain the growth, China's initiated an economic opening policy in 1979, which established Special Economic Zones (SEZs) in 1980 (Ng and Tuan, 2001). China maintained a 9.6% growth rate from 1978 to 2004, through its SEZs premised on FDI inflows (Tuan and Ng, 2006). In its institutional reforms to create an enabling environment for FDI inflows, China's most significant strategy of how it opened to the world, which was consciously implemented. Tuan and Ng (2006) record that the reforms occurred in two stages. The first set occurred during the first half of post-1980 economic opening (1983-1992) era. Implementation was based on a regional investment preferential policy, that ran on a trial basis as a springboard for mobilizing FDI interests (Ng and Tuan, 2001). The aim was to establish and enhance the growth of production centers under strategic and specialization approaches, which foreign investment interests had to respond to (Tuan and Ng, 2006). The second set of reforms was after 1992 when China implemented its fundamental economic policy of further opening, with an additional set of strategic reforms in which it reconfigured its interest of FDI to be of diversified origin. Tuan and Ng, (2006) indicate that this approach to FDI, allowed China to form sustainable production clusters and development of new industries enabling it to uphold its leading role in export and output production. The cautious approach towards opening its economy created a level of macroeconomic resilience such that even after the 2000 Asian economic recession, it still returned significant investment confidence to attract more FDI (Ng and Tuan, 2001).

The second perspective looks at private sector participation in urban infrastructure as a way of making infrastructure provision effective and efficient. The new growth investment policy reforms, discussed above, occurred along-side institutional transformation in the infrastructure sector. The sector governance system was one area subjected to institutional reforms. Beginning with the SEZs and then

moving on to other coastal provinces, local authorities opened their infrastructure to the market, allowing private sector to play a more significant role in mobilizing financial resources for key urban services (Zhang, 2014). The drive here was the argument that private participation is a way of increasing efficiency in service delivery, improved quality of operation and management, facilitation of the transfer of technology and management know-how and enabling local government to use private resources to meet the growing needs for investment in infrastructure. The rapid economic growth that Chine experienced assured high dividends on private sector investments in urban infrastructure. Foreign and domestic investment accounted for between 20% to 40% of the investment in urban infrastructure between 1991 to 2000 (Zhang, 2014).

The notion of private participation encompasses many forms of contractual arrangements in which a government and a private entity, for profit or nonprofit, jointly perform to undertake an activity that is traditionally performed by public entities. Appropriate regulation premised on contextual knowledge is essential in this regard. What is worth the attention, in this case, is the structure of the guidelines on private sector partnership agreements. Zhang (2014) accounts that during the reforms, the directives from national and provincial government was to set clear policy guidelines that articulated the goal of the liberalization reforms and specific economically and politically acceptable policy options. These reduced uncertainties associated with liberalization reforms and encouraged local government to choose appropriate liberalization model that fitted their situation rather than merely emulating the choices made by their peers (Zhang, 2014).

The third perspective focuses on optimal investment in infrastructure for a set level of development. Shi and Huang (2014) point out that a policy of increasing infrastructure supply as a way of stimulating economic growth, although reasonable when infrastructure is the bottleneck of economic development, should not be taken without caution by policymakers. Their reasoning is that to evaluate how much more to invest in infrastructure at a point, given the budget constraint and the existing stock of infrastructure and private capital, is important in maintaining macroeconomic stability. It is also worth noting, as Estache and Fay (2007:15) indicate, that among the empirical studies that find positive correlation between infrastructure and economic growth, the actual magnitude of the effect of infrastructure on economic growth varies considerably, and much of this variation arises from not carefully navigating the potential "empirical and econometric pitfalls posed by the network effect".

As part of the economic strategies to sustain growth, the Chinese government enacted a large-scale investment package in infrastructure to avert the impact of the East Asian financial crisis, which

translated into a very low private capital growth during 1998-2001[5] (Shi and Huang, 2014). For example, as Shi and Huang (2014) accounts, in the Western Province region during the period 2001 to 2011, the percentage of the real infrastructure investment increased from 25% to 33% while real private capital investment increased from 19% to 21%. This implies that during the period, although infrastructure investment was used as an important policy instrument to stimulate growth, the crowding-in effect of infrastructure on private capital was very limited. Shi and Huang (2014) point out that the relatively greater infrastructure investment in the Western Province region and its limited crowding-in effect on private capital led to underused infrastructure and caused a loss in GDP. They argue that it was due to misallocation between infrastructure and private capital increased from 1.31% in 2008 to 1.85% in 2011 as shown in Figure 2.12 below.

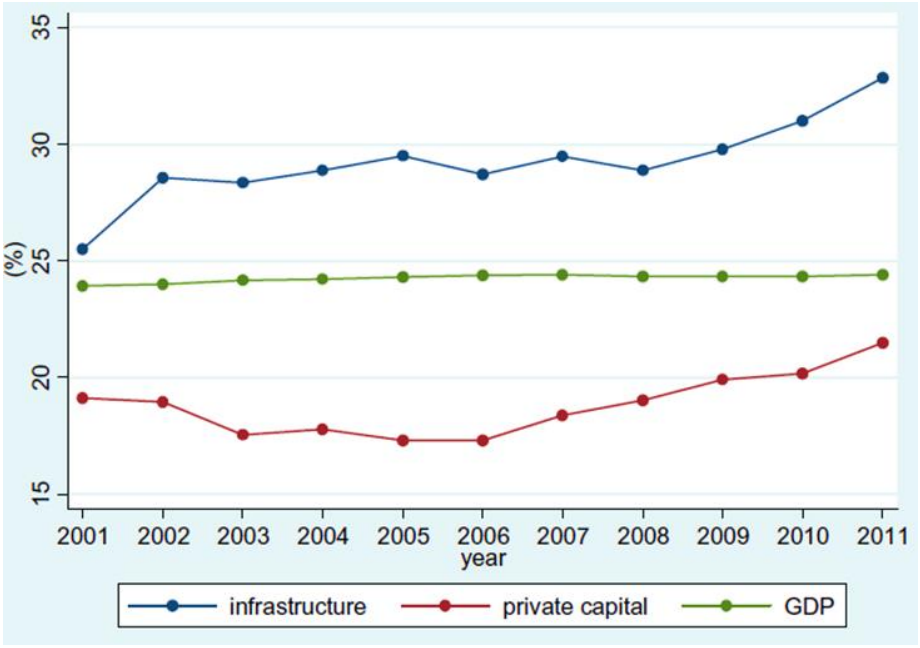


Figure 2.12: Infrastructure, GDP and Private Capital Growth Trends in China's Western Province (Source: Shi and Huang, 2014)

Such outcome, as Shi and Huang (2014) concluds, calls for attention from both economists and policymakers to evaluate not only the GDP loss but also the government fiscal risk due to the relative oversupply of infrastructure, especially when a significant proportion of the investment is financed through government debt.

2.6.3.1 Lessons

The lessons to draw from the Chinese example are that, from the first perspective, China's conservativeness in its FDI policy regimes, turns out to exhibit more sustained growth, as Reiter and

[5] Compared to 1997, the real investment in private capital over 1998-2002 increased only by 0%, 2%, 12% and 38% respectively, whereas the real investment in infrastructure increased by 35%, 43%,57% and 66% respectively (see Shi and Huang, 2014)

Steensma (2010) also contend, compared to countries with liberal FDI policies allowing foreign investors to pursue their objectives unhindered. The World Bank (2008a) argues that governments may fail either because they do too little or too much. It advises that when government embarks on a policy on development, it is important to question the worst that could happen, highlighting that small experiments are usually less damaging and less risky in public policy, which is the most efficient way of risk management.

On the second perspective, setting up clear policy guidelines and coherence between policy regulation and implementation between government tiers is important, for private sector engagement in the provision of public services. It allows for appropriate policy formulation that fits the context within which the private sector can be engaged adequately.

On the third perspective, it is important to evaluate the macroeconomic risk that the stimulus package may bring to the local economy. The policy must be cautious not to over-rely on infrastructure investment as a means of reviving the economy, especially in the absence of due knowledge of impacts the investment in the infrastructure may bring.

2.6.4 Synthesis from the Examples

To synthesize the examples discussed above, the funding for infrastructure matters more than the argued for institutional reforms. Whichever funding model a country selects for financing public infrastructure, the fundamental consideration is sustainable cost management. It entails that corporate risk management should be prioritized in public finance policy as it not only guards against public investment losses but avoids a case of cost transfer to the consumers. Keeping the public debt stock at the minimum is a significant incentive to effective and efficient sustainable cost management.

Further, engagement with the private sectors in infrastructure provision is only effective in the presence of clarity in the policy and regulation. It contributes to keeping the financial risk lower hence providing a safety net for all actors in the infrastructure provision process. Also, there are some benefits for having a restrictive approach to how a country opens to the world, and being cautious in the formulation of the overall investment policy pays some dividends to the nation. Most importantly, however, coordination between tiers of government is essential as it allows appropriate policy implementation with coherence, which culminates in attracting suitable investment suited to the context and directed in an appropriate location.

2.7 Chapter Summary

There is consensus in literature that infrastructure as an FDI initiative can facilitate development in the developing countries advancing the FDI idea. The low levels of evident development in these countries

is however becoming a source of concern regarding accessibility, availability, and affordability of infrastructure and the overall spatial impact the phenomenon is imposing on the urban form. Drawing from the discussion in this chapter, infrastructure has been exposed as a dynamic entity, moving from being a policy issue to institutional, and from a factor of economic productivity to social production. It is a constituent of a multi-layered entity within the urban social and economic production systems. It is not just the physical objects, but a conglomeration of technology and its application to the social need of humans, and how this technology is appropriated by the constitutive societal needs of the locale. Spatial manifestation of infrastructure reflects society's production systems, its consumption patterns and behavior.

These emerging infrastructure dynamisms has been central to the recourse of how infrastructure should be perceived; as a process involving social and technological entities whose interaction reconstitutes what infrastructure should mean to different actors in a particular landscape. It is a vast collection of social and technical actors blended as social-technical hybrids that support the construction of an urban materiality that defines the social, economic and cultural fabric of the urban landscape. The point worth the emphasis here is that, the very fact that infrastructure relates appropriately to the notion of the ‘social', as a prerequisite, the role of bodies such as regulators, local authorities and government, should base action and decision-making on nuances of the dynamics of socio-technical processes inherent in urban infrastructure.

The argument being advanced in this study is that infrastructure investment to attract FDI on the pretext that it will achieve the development goal, purely from a material and/or financial point of view is not good enough. Infrastructure has a deep-rooted socio-technical phenomenon with significant spatial manifestations that may needs to be adequately understood. Socio-Technical theorization offers a befitting framework for understanding these urban infrastructure dynamics and its socio-spatial manifestations. This set the motivation to base the conceptual framework of this study – presented in the proceeding chapter – on the Socio-Technical Systems (STS) concept because of its efficacy in providing means of understanding often complex and unstable urban process and formulate a valuable resource of knowledge to inform urban development policy.

Chapter Three
Conceptual Framework

3.0 Introduction

Literature from the previous chapter revealed that network infrastructure is a dynamic phenomenon characterized by different actors at different levels. It was established that there is an interdependency among the actors [human and non-human] which determine infrastructure's role in urban production systems. What makes give infrastructure meaning and purpose, the interaction between the human actors (the social entity) and non-human actors (the technical object). Attempts at infrastructure planning and provision need to be acquainted with this interdependency which gives network infrastructure a social and technical character. This is particularly important when dealing the cities in the global south where infrastructure provision is through custom and copping, characterized by complex cultural, political and social relationships. Network infrastructure, evolves through a diversity of differentiated means of production and distribution. Conceptualizing planning for network infrastructure, let alone modeling its provision within the southern urbanism, therefore must be approached with specificity.

This chapter develops a conceptual framework for the study. It explores the concept of Socio-Technical Systems (STS) and its underlying theorization, which was used in the spatial impacts of assessment of how FDI on planning and provision of network infrastructure. The main reason for opting to use the STS concept is the utility it renders in understanding complex multi-dimensional phenomena, such as that of infrastructure in the southern cities. The first characterized network infrastructure as a Large-Large Technical System (LTS). The Multi-Level Perspective (MLP) concept was explored in the second part to gain an understanding of the materiality of network infrastructure. The STS which is a sub-concept of MLP is also discussed in depth in the second part. The third part conceptualized the provision of network infrastructure further explores the finance and accessibility aspects of network infrastructure. The fourth part presented the study's conceptual framework and the operationalization of elements of analysis within the framework. The chapter ends with a conclusive summary reflecting on the overall conceptual framework.

3.1 Network Infrastructure as a Large-Technical System (LTS)

There are differing perspectives surrounding the role of network infrastructure in the urban processes. Kooy and Bekker (2008) reflecting on their work in Jakarta on infrastructure, assert that network infrastructure has a definitive role within the concept of citizenship. They indicated that it is embedded within the contingency of “one’s identity as a modern citizen” idealized as an affirmation of citizenship,

an act tracing back to the colonial times were having access or being connected to the infrastructure determined one's identity and belonging (Kooy and Bekker, 2008:385).

The roles of network infrastructure vary across geographies. What stands with little dispute, however, as Monstadt (2009) points out, is that network infrastructure is both society shaping and shaped by society. The techno-structure of infrastructure shapes the practical orientation and the interaction of the users as well as the corporate and regulatory structures that define corridors of human action (Monstadt, 2009). The determination of infrastructure's role is based on how it becomes embedded in a system of different actors with differing interests. When it all comes together, as Geels (2004) contends, it forms a material aspect central to the conception of infrastructure with a wider extension characterized by not only physical artifacts but organization, natural resources and legislative entities. It is this extended materiality of network infrastructure linking physical technological artifacts, its organization and supporting scientific practices, as Hughes (1983; as cited in Monstadt, 2009) points out, that makes it a Large Technical System (LTS).

Inherent in LTS are sets of hierarchical differentiated dynamic interactions. These dynamisms are instinctive not only in the fixated, durability and enormous sunk cost of the techno-structure, but in the interest and interactions among the various social groups which have invested financial, labor, research and knowledge and skills in its functioning (Monstadt, 2009). It is a prism of political, complex – and at times antagonistic – interactions that create a form of agency that determines the development of the network infrastructure as a system (Fuenfschillinga and Truffer, 2015). To understand this nested construct of network infrastructure and the systems within which it evolves, the study looked to the Multi-Level Perspective (MLP) concept because, as Hodson and Marvin (2010:479) puts it, it provides an attempt to develop an understanding of systems by situating "technological transformation in relation to wider socio-political economic systems", which are embedded deeply in network infrastructure. The consideration of MLP is also in its ability to encompass the totality of relevant actors within a system (Fuenfschillinga and Truffer, 2013).

3.2 Network Infrastructure through a Multi-Level Perspective (MLP)

With the basic otology behind MLP stemming from the sociology and technological studies, Geel and Kemp (2007) assert that there are three important inter-related dimensions to MLP. These are the Socio-Technical Systems (STS) a constitute of tangible elements needed to fulfill societal functions, the social groups who maintains and refine the elements of STS, and the rules understood as the regimes that guide and orient activities of social groups (see also Geel, 2004).

In the conceptual illustration of MLP in Figure 3.1 below, Geel and Kemp (2007) explains that each dimension is influenced and equally influences the other as depicted by doubled sided arrows. With all the elements in each dimension argued to be co-structuring, they illustrate that firstly, actors in social groups do not act autonomously but in the context of social structure, regulative, normative and cognitive rules. These are the internal structuring sub-elements within the social grouping.

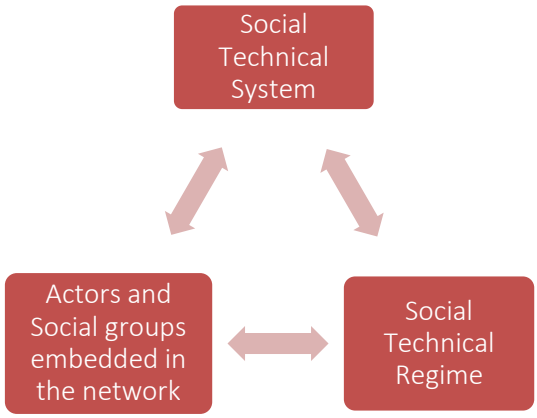


Figure 3.1: Three inter-related dimensions of MLP
(Source: Adapted from Geel and Kemp, 2007:442)

Secondly, there is a regime notion framed within the Socio-Technological process, which is, as Hodson and Marvin (2010:479) points out;

> "[…] seen as socio-technical in that technologies and technical functions co-evolve with social function and social interest where technological development is seen to be shaped and potentially shaped by a broad constituency of not only technologists and engineers but policymakers, business interests, consumers, NGOs, where interrelationship of these interest through regulation, policy priorities, consumption patterns, investment decisions, hold together to stabilize socio-technical regimes […]"

It is this inter-group coordination that defines the concept of Socio-Technical regimes. Regimes occur in a nested hierarchy within a system of structures based on a concept of institutional work. Thirdly, the Socio-Technical regime accounts for the stability of exiting Socio-Technical System (STS) by the roles, routines, and ways of thinking, which are determined by a rule-system. The alignment between the three dimensions to attain momentum and stability centers on the critical idea of interdependence within the STS concept, which is worth devoting some attention and unpack its framing. The proceeding subsection aims to fulfil this need.

3.2.1 Socio-Technical Systems (STS)

According to Klein (2013), the principle inherent in STS is the interdependency, which implies that technology affects the behavior of people and people affects the working of technology. STS concept

has two underlying theories which are the General Systems Theory and the Socio-Technical System Theory, which draws on the general systems theory as its structuring framework.

3.2.1.1 General Systems theory

This theory originates from Aristotle's concept of *Holon* which means "the whole", whose principals were infused in systems thinking, which holds that the whole is characterized not only by its parts but by the relations between the parts (Ropohl, 1999). Ropohl, (1999) accounts that the systems theory has three basic concepts and four laws. Of the three concepts, the first – structure – holds that a system includes a set of elements and a set of relations between these elements. The second – function – views the system as an entity that transforms inputs into outputs through a transition called the function. The third – hierarchy – occurs when structure is regarded as a system, within which substructures and hierarchies can be open in either direction. The four laws of the general systems theory are firstly, the system is more than the set of its elements as the set of relations between elements determines the system characteristics. The second is that the structure determines its function. The third is that the function of the system may be produced by different structures and the fourth is that the system cannot be described completely on one level in the hierarchy.

3.2.1.2 Socio-Technical Systems theory

The over-arching philosophy, within the theorization of STS, is the embracing of the joint design and optimization of organizational systems, incorporating both the social and technical, as a maintained relevance to its practical application (Davis et al. 2013). Ropohl (1999) asserts that for STS, in theory, there is an active entity called an action system, which when the four general systems theory laws discussed above are applied, a hierarchy of action systems is formed which can only be understood by adding a social structure. With regard to the first law, what Hodson and Marvin (2010) call a socio-technical transition predicted on an interrelated three-level framework of macro, meso, and micro, is formed. This is discussed further later in this chapter. In relation to the second law, the substructures become the operatives of the action systems. The execution substructures transform matter and energy, while information substructures define the action system with a set of guidelines for communication and work.

On the account of the third law the STS forms an action system that relies on human and technical function carriers. However, each single action will be performed by an action system or subsystem within a specialized framework. It forms a socio-technical division of work with sub-functions being realized either by humans or by technical object system (Ropohl, 1999). The abstract action system transforms into an STS, in which action systems possess a definitive identity for their specific roles within the hierarchical structure. Thus, and with respect to the fourth law, the action systems cannot be

defined in isolation in determining their roles or purpose, only when they are viewed in the context of the supra-system or the sum of all other parts.

3.2.2 Conceptualizing STS within the context of Network Infrastructure

Putting STS in the context of network infrastructure, it is simply a framework of institutions and actors that are party to a system based on relations that accentuates their interests, which they may not have if they were not part of the system. Cunningham and Kwakkel (2009) adopts the cooperation game theory to illustrates the actor-centered institutionalist approach of contextualizing infrastructure, which recognizes the importance of both actors and institutions. The basic components of this theory are actors, coalition, and value and holds that coalition formation by actors and the proceeds from these coalitions dependents on the interest of actors, which determines the value of benefits. This is illustrated in the conceptual diagram in Figure 3.2 below. Values act as the sieve and determinant of the formation of coalition.

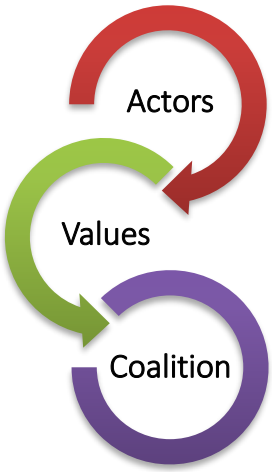


Figure 3.2: Conceptualizing Actor interaction in infrastructure through Cooperation Game Theory (Source: Formulated by Author, 2017)

Within the framework, actors are subject to a set conditions within a rule-system, which may be negotiable or not negotiable. Among the actors, access to network infrastructure, for instance, will be determined by the interest they have in infrastructure based on their needs. At the core of the needs are inherent norms and values that set the urgency with which they will need to be connected to the network, which in turn influences their need to be in a coalition.

Similarly, providers of infrastructure also respond to an influence of interest derived from the perceived benefit for investing in infrastructure. The value of the returns will be the definitive factor of needing to be in the coalition. In either cases actors pay allegiance to rule-system within the STS, which determine the attainment of value when making the choice to be or not to be part of the coalition. The rule-system is co-constructed through institutions within the systems and the network based on principles that can

either aid or inhibit actors to attain value by being part of the coalition. This institutionalization concept, which explains how interests of actors get to be infused from sub-structure elements or action systems into the supra-system and the inherent parameters of the institutional structuration, is discussed below.

3.2.3 Concept of Institutional Work in STS

This concept is drawn from Lawrence et al. (2009). It highlights the intentional actions taken within institutions within STSs, as the day-to-day adjustments, adaptations and compromises of actors, to maintain institutional arrangements aligned to their interests and values. In this institutions system, Fuenfschillinga and Truffer (2015) argue that while actors can engage in purposeful behavior in their institutions, the result of their actions does not necessarily coincide with their intentions, but the institutional environment. The argument they make here is that the operations of institutions are premised on two standpoints. The first is the institutional practices aimed at mobilizing resources, and while the second is the (de-)construction of the rationale. The former is based on an application of resources such as political power, money, knowledge, or social capital, with the aim of gaining greater comparative advantages. Actors hold specific positions within the institutional practice, which legitimates a kind of authority to create rules as well as rewards and sanctions that enforces the rules.

The latter on the other hand is characterized by a more cognitive nature, influencing the process of de-institutionalization through the shaping of discourse. Its concerns are on legitimation of innovation through the development of a narrative that establishes a normative position within the institution, based on values and moral judgment. Apart from being an immensely politically motivated institutional environment that brings about new regulations and policies, it also aims to configure privileging beliefs and meaning systems to change the normative and cognitive environment so that it supports its intentions.

The first perspective does not quite fit in the framing within which this study is situated, as it asserts a predetermined position of actors. The STS theorization fitting this study is contextually situated within a southern perspective described by Furlong (2014) to premised on coexistence within the system. The southern theorization of STS aligns with the second perspective which is expressed as a process of construction and deconstruction of the system until momentum and stabilized is attained through the interaction of actors within the system. The process leading to stabilization despite being a negotiated process, it is masked with some power privileged actors influencing the formation of regime systems that advance their interest.

3.2.4 STS Conceptual Framework

From the discussion above, the southern transition towards system stabilization of the STS in infrastructure inclined towards (de-)construction perspective, where the system graduates through hierarchies to attain a stable position. This occurs through co-construction between and among actors within formed coalitions based on their interests. The co-construction process responds to a rule-system within which STS enforce institutional coordination.

Geel (2004) outlines that there are three system rules embedded in STS. The first is regulative rule system, which is usually government regulations that structure the economic process, and are embedded in the institutional legal framework that grants rewards. The second is the normative rule system that confers values, norms, roles, expectations, duties, rights and responsibilities. The third is the cognitive rule system which centers on defining the right way of constructing institutional processes and systems. These rules, further fall in another tier of a rule-system within the socio-technical process, earlier mentioned as the notion of regimes. It collectively forms a Socio-Technical regime as illustrated in Figure 3.3 below. These regimes set parameter for coordination and transitions of action to which the system and actors observe and respond.

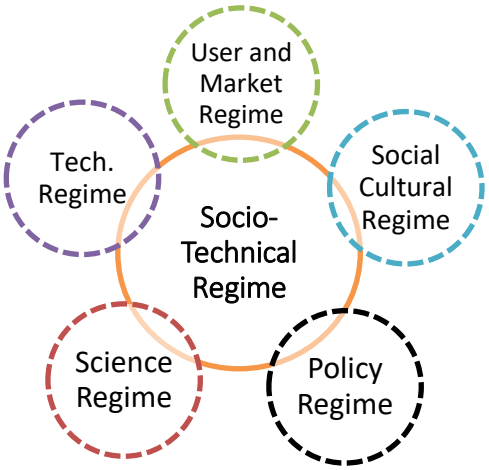


Figure 3.3: Meta-Coordination Through
Socio-Technical Regimes (Source: Adapted from Geel, 2004)

As the STS is a sum of action systems nested within a hierarchy of structures, rule-systems occurs within this socio-technical transition predicted on an interrelated three-level framework of the landscape (macro), regime (meso) and niche (micro) (Hodson and Marvin, 2010). Geel (2004) conceptually illustrate this three-level STS framework as shown in Figure 3.4 below.

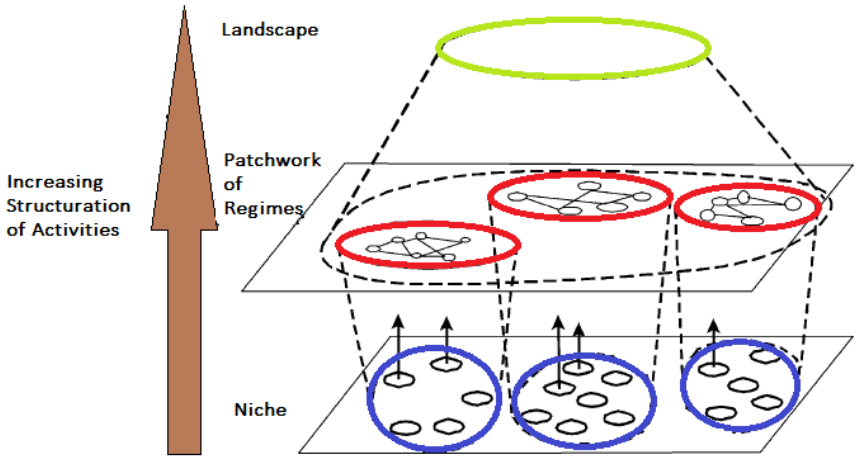


Figure 3.4: Three Level STS framework
(Source: Adapted from Geel, 2004)

The metaphor of landscape is used because of its literal connotation of relative hardness and to include the material aspects of society that are beyond direct influences of actors, which cannot be changed at will. It operates at the macro level, focusing on issues such as political, cultural, economic growth, macroeconomic trends and land-use (Geel, 2004). Hodson and Marvin (2010) point out that landscape is characterized as external pressures with potential to impinge upon but not directly determine abilities of the niche, but creates a broader context of opportunities and constraints. They emphasize the importance of understanding these broader conditions within the system, as they exert significant influence on actors' interests and actualization of value within the interrelated nested hierarchical substructures, through a patchwork of related regimes at the meso level, such as science, policies, and technology.

At the micro level is the niche. Geel (2004) argues that niches are important because they provide a location for learning processes. It is the location where it is possible to deviate from the rules in the existing regime through "mindful deviation" as Geel (2004:912) puts it. The role of the niche important as it is the precondition under with positive value can be derived from opportunities created at the landscape level. The niche deviation, however, may only be from the technical rules. They stay close to existing social rules with regards to users and behaviour (ibid). This is because within the niche, which may be likened to social groups, are regime rules developed from layers of cultural institutions embedded within societal norms and values over time and may not easily be changed or transformed.

Relating this framework to the study and specifically network infrastructure, an initiative to attract FDI within the goal of growing the economy, it is important to identify these nested systems within the urban production systems. Hodson and Marvin (2010) points out that it is important to know where the city's urban system fit within a multi-level perspective and locate where and how the city is positioned

within the landscape-regime-niche hierarchy. This is important for the appropriate placement of development policy in the most appropriate fashion. Inherent within these hierarchies are nuances that should inform the formulation of targeted development objectives.

3.3 Conceptualizing Infrastructure Provision

Following from the point raised in the previous section, it is important to know the regime systems within the urban production system. However, understanding the specific position that network infrastructure holds in these urban processes and the governance envelop around it, is even important.

Pointing out three key factors that should inform conceptualization of urban infrastructure, Monstadt (2009) argues that the concept of governance is significantly relevant to the understanding the urban infrastructure processes, especially as the sector moves away from the traditional model bounded by local monopolies, single services providers, public ownership and captive customers, towards market-oriented approaches. Of the three factors the first is public and private sector interaction in attaining the collective goals of urban infrastructure provision. The second is the shift towards entrepreneurial, project driven and collaborative modes of infrastructure governance and the third is a contemporary spatial context of governance pertinent to the analysis of the governance of the urban infrastructure. Even though this is not in the ambits of this study, it is worth mentioning that within the contemporary urban infrastructure governance regime in the global south, there is an observed increased involvement of the civil society, with participation ranging from directly funding community-based water and sanitation supply mechanism, to facilitating formation of water trust schemes to which they offer direct technical and financial assistance.

Figure 3.5, below illustrates the linkage between the three factors within the urban infrastructure governance transitions. The transition from the public monopoly to public-private interactions has manifested into a characteristic transformation that Hodson and Marvin (2010:477) referred to "entrepreneurialism". Network infrastructure is now within three delivery options. The first is commercialization, where user fees are set reflective of the cost of production, whose policy argument has been tagged against the need to attain financial sustainability and long-term effective and efficient service provision.

The second option is project-based service supply were network expansion is selectively targeted at a specific project where infrastructure financing for that specific project need is made available by the actors with inherent interest in that particular project. The ideally infrastructure provision should be a comprehensively undertaking responsive to spatial development need, where infrastructure set the propensity of urban spatial growth. The third strand, collaboration, is what is being popularized through

the notion of Public-Private Partnership (PPP) which has its unique set of preconditions to be effective. Across all the three, there interaction between the technical and the social systems which are mediated through the urban governance infrastructure (policy and regulations regimes). Thus, to understand network infrastructure these dynamics may need to be explored.

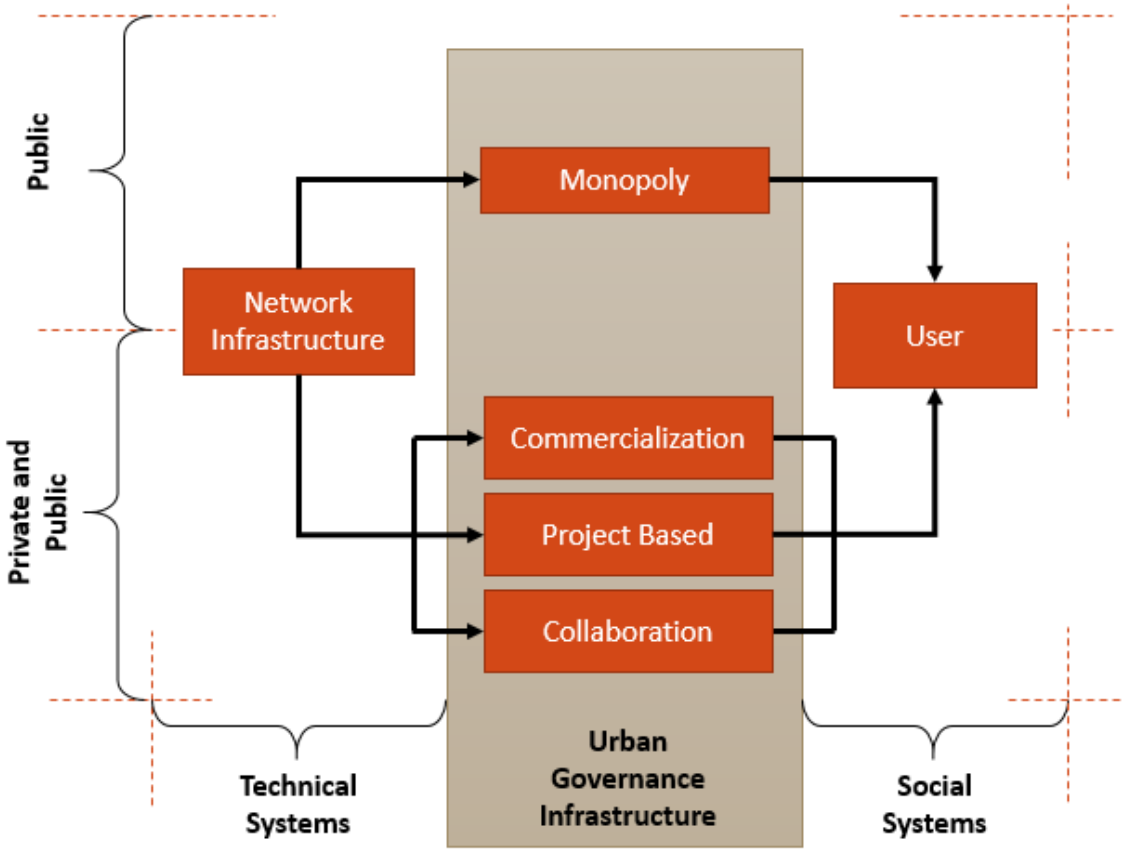


Figure 3.5: Concept of Urban Infrastructure Governance
(Source: Formulated by Author, 2017)

Further, beyond the comprehension of the urban governance aspect of infrastructure, attempts to understand the urban processes that affect network infrastructure, Monstadt (2009) suggest a set of factors that should be adhered to when conceptualizing urban infrastructure provision. These are:

- The existing techno-structure used in the production of infrastructure services (technical styles and spatial structure of physical infrastructure facilities and networks)
- The resource flows mediated by them (ecological quality and quantity of the resource flows)
- The existing built environment and the physical geography or the urban region (settlement structure, density, and resource availability)
- Social factors like the social organization of the urban production and use of infrastructure services (vested interest, resources, knowledge, and practices of different providers of infrastructure services, technology ventures and users/user group)

- Institutional and spatial governance structure of urban infrastructure (regulators, planning, interaction with users and interest of the users)

Figure 3.6 below is an interpretative illustration of the interaction of the conceptual underpinnings of infrastructure that Monstadt suggests. On the first factor, *existing technical structure*, the technical style and the technology used determines the effectiveness and efficiency of the provision of infrastructure services. Similarly, the spatial structure of the network also dictates how users can easily get connected and the implied cost to the service provider in terms of network expansion.

The second factor, *resource flow*, is even more relevant to infrastructure provision, when one makes a relation to climate change. Ecological quality and quantity hinges on the environment's ability to provide its ecological services, which are the input factors in the infrastructure supply system. It is one of primary determinants of the supply capacity of the network infrastructure system in response to demand. The third factor, *existing built environment and the urban form*, considers the settlement pattern, its density and the resources available. The settlement pattern of either compact or sprawl has implication on the cost of service provision in terms of laying out the infrastructure network and the resources available to meet the demand.

The fourth, *social factors*, have a significant bearing on network infrastructure provision especially if the accessibility perspective is brought to the discussion. Urban production systems are organized based on the social and economic needs of the society. Infrastructure understood as an aid to the production of physical and social goods, needs to be aware of the structuring elements within the urban production systems, how they are determined and their nested arrangements.

The fifth factor is *institutional and spatial governance structure,* which essentially sets the overall socio-technical regime. It determines the terms of engagement in the network infrastructure system. Regulations are the parameters that actors follow as they advance their interests in the network infrastructure system. Planning for infrastructure responds to existing regulations and spatial policies and feeds on the interests of the users through interactions. Within the institutional and spatial governance structure's underlying factors a more influential element, worth the including – which Monstadt's (2009) suggested factors did not include – is the state's 'development goal', highlighted in the formulated infrastructure conceptual framework in Figure 3.6 below. The government development goal influences the funding mechanisms and the priorities to which the mechanisms respond.

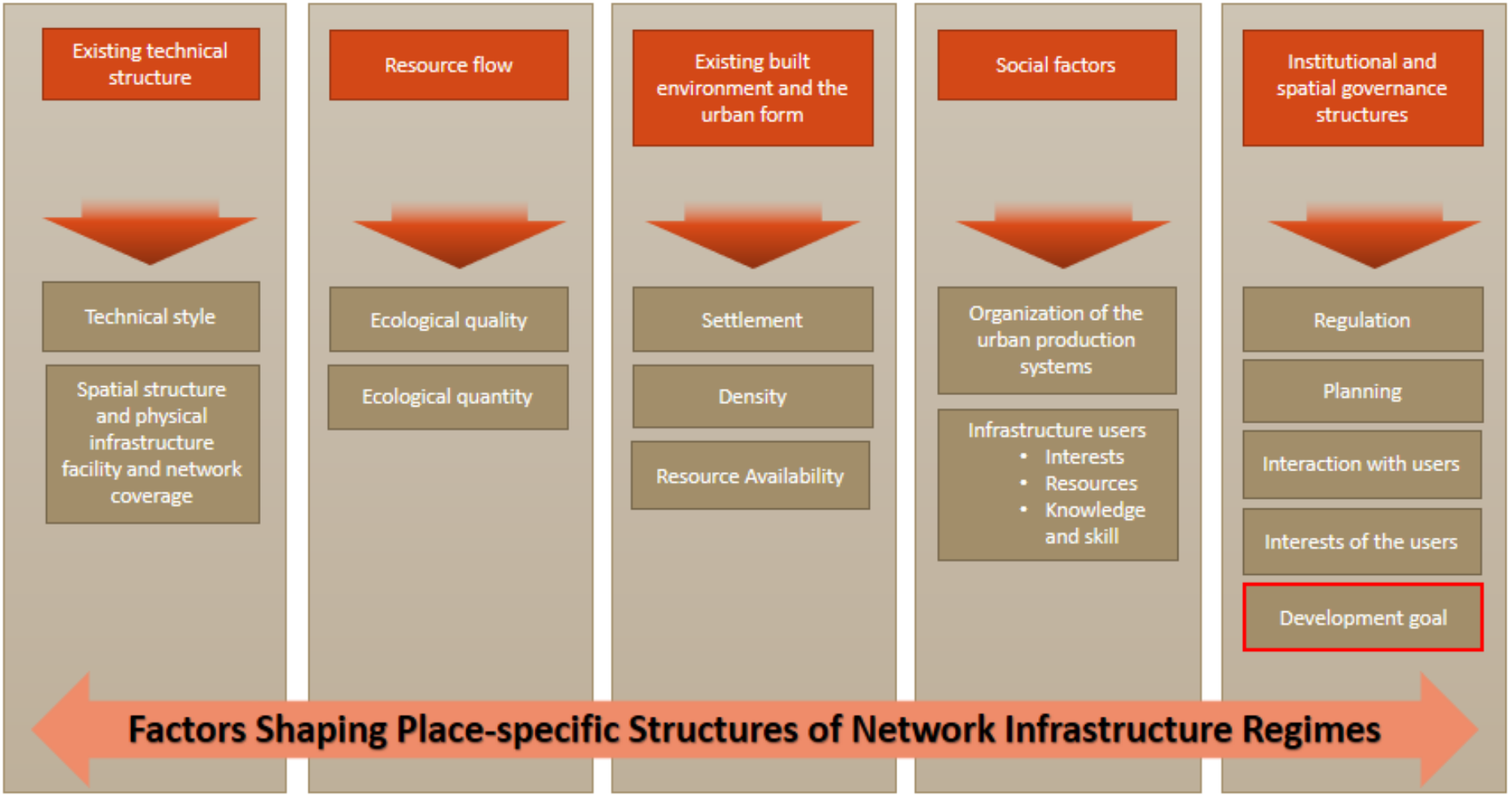


Figure 3.6: Factors in Conceptualization of Infrastructure Provision
(Source: Formulated by Author, 2017)

Within the planning and provision of network infrastructure, what is significantly dependent on the government development policy is the infrastructure financing mechanism. How infrastructure is financed implications on its affordability and accessibility. The concept of infrastructure finance, and the decision that follow from it, is layered at two scales; macro and micro. At the macro scale, the focus is on balancing the financing aspect within the fiscal stability parameters, regardless of which actor plays the most influential role; the users or the providers. The micro scale on the other hand, focused on residentiary[6] elements that not only determine the user propensity to spend on infrastructure but the actual ability to pay for it, at a determined tariff. In the proceeding subsequent sections, dynamics surrounding infrastructure financing decision are discussed in the first, while the aspect of accessibility is discussed in the second.

3.3.1 Financing

Infrastructure having three critical roles of delivery of growth, reducing poverty and addressing the broader development goal, as the World Bank (2015) puts it, decisions on how it's provision it is financed have a strong bearing on the attainment of the three above. Modeling infrastructure financing direct implications on how accessible and affordable it will become to users, and how the service will be sustained by the providers. Achieving balance through these antagonistic dynamics is not an easy task especially for policymakers, who must keep in perspective the macro and microeconomic implications of such decisions.

The reality with infrastructure provision undertakings is that it has winners and losers and there are genuine choices that must be made between infrastructure investment that impact growth and the investment that impacts poverty reduction (World Bank, 2005). How tradeoffs are made is the most important consideration. The World Bank (2005) contends that ultimately there are only two ways in which infrastructure is funded: by consumers through user charges and by taxpayers via subsidies. It argues that other mechanism such as loans eventually need to be paid back or remunerated, which will generally rebound on to taxpayers or consumers. This circular interaction between these funding mechanisms is illustrated in Figure 3.7 below.

[6] Here the term residentiary is used to imply the decisions made at household level on income expenditure for a service needed. It is a concept that draws from the economic base theory which argues that the economic base of a locale is not only based on the interaction between locale and those spatially adjacent to it but also the decisional made within it, at local level with regard expenditure decisions are made, because such decisions also affect the supply and demand of commodities within the production system (see also Schaffer, 2010).

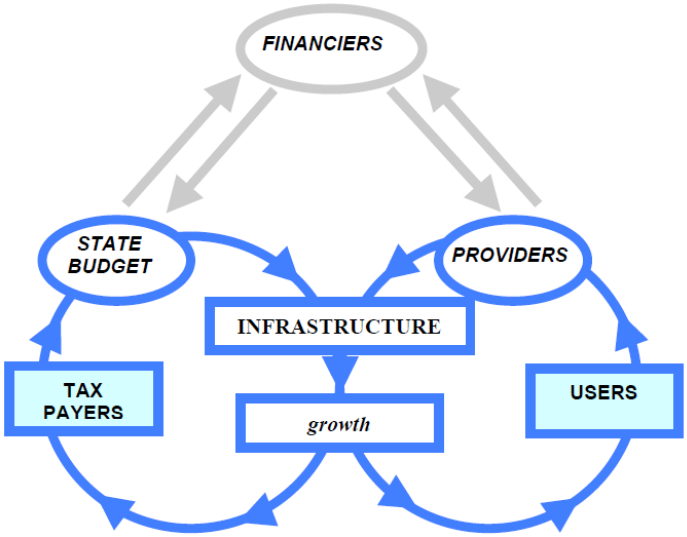


Figure 3.7: Principle Funding Mechanisms for Infrastructure
(Source: World Bank, 2005)

Depending on how infrastructure is regarded, from a growth-enabling perspective, financing decisions are likely to be oriented towards infrastructure that aligns with the government development goal. This will also determine the criteria of priority setting which the infrastructure typologies. There are four situations, however, of how infrastructure may be financed, as outlined by the World Back (2005) which can be;

- *When consumers fund infrastructure* – this is through covering infrastructure costs by charging consumers the use of infrastructure services through tariffs. Infrastructure funding policy, by way of subsidizing, may dictate average cost recovery levels to protect the poor. However, for this to be efficient and sustainable, policy needs to possess accurate and adequate information about where the poor live, how they access infrastructure and the choices they would make if they could choose between different services and price options.
- *When tax-payers fund infrastructure* – this is usually a kind of subsidy which is transferred from taxpayers to infrastructure users, however, it is done within the macroeconomic consideration optimal public expenditure on infrastructure, while keeping to fiscal stability.
- *When the private sector finance infrastructure* – this model of funding is contingent to policy structure, its transitions and the risk reduction factors, often requiring a policy front to mitigate risk for the private sector, with more efforts within the public sector. The core issue to this is not the 'public versus private sector' situation but about how they share the risk and rewards in a way that works for both sides and how the public sector harnesses the efficiency gains that the private sector can bring.
- *When official lenders and donors finance infrastructure* – there are sectors of infrastructure where private sector interests are limited, with private participation more difficult to structure or cannot demonstrate attainment of additional values. Infrastructure usually

financed under this scenario is the kind with a strong natural monopolistic characteristic or potentially uncompetitive and unprofitable by scale.

The first scenario presents a significant policy challenge of equalizing and sustaining the service provision against the user's ability to pay. It is a level of microeconomic consideration focused on the residentiary factors and how policy can negotiate between accessibility and affordability on the one hand, and the service efficiency and viability in the long-run, on the other. The second scenario revolves around government development priorities as the key driver of public infrastructure funding and the extent to which the infrastructure type aligns to its development agenda.

The third scenario follows government's desire to expand its infrastructure quality and effectiveness in the short-run, and expansion of its stock in the long-run. The incentive for the private sector is through minimized risk by government interventions while maximizing the return on investment, which should imply a lower tariff to the consumer. This is not easy to attain especially in the southern cities where infrastructure challenges have deep-rooted complex problems such as the city's spatial form and structure, and unpredictable urban growth, which the private sector may not be willing to wrestle with. The other factor that conditions private sector involvement is the degree to which they can influence policy and mobility of the investment. The last scenario is more inclined towards the need to reverse spatial disparities and addressing market failure.

However, whichever scenario the government selects as a mechanism for funding infrastructure, at its core lies the broader development agenda, and the priorities for economic growth and development set within it. The decision on what kind of infrastructure get to be priorities has also a bearing on who gets access to the infrastructure and at what cost.

3.3.2 Accessibility

In its experience of working within the infrastructure sector, the World Bank (2008b) reviews lessons learned out of its engagement with infrastructure provision as outlined in Box 3.1 below.

Box 3.1: Lesson Learnt from the Infrastructure Sector by the Word Bank

- *Growth cannot come at the cost of access* – balance infrastructure investment that promotes economic growth with those that target enhanced access for the poor
- *Tailor PPPs to local conditions* – the choice between public and private provision should be driven by local conditions, not by ideology, what matters most are results
- *Projects need to safeguard people and nature* – Asses social and environmental impacts carefully and integrate such assessment into the project design
- *A strong governance framework is paramount* – fight corruption at all levels in the projects and sectors
- *Communicate with stakeholders* – it is critical to engage with critics and supporters alike. Communications are most effective when integrated as part of the project cycle
- *Do not forget the basics* – remember the basics of project preparation and appraisal-technical design, economic and financial analysis and implementation arrangement.

Source: World Bank (2008)

The most significant lesson is that growth should not be pursued at the expense of access, especially when infrastructure is strongly taken as the growth driver. Government priority setting for infrastructure finance should be situated within a balance between ensuring access to infrastructure and attaining growth. The former hinges on the social entity while the latter is on the economic. What cannot be disputed, however, as can be substantiated within the literature reviewed in the previous chapter, is that they both growth and access reinforce each other.

Achieving a balance between growth and access is a complex and difficult undertaking. Samans et al. (2015) in admission point out that there are no internationally recognized policy framework and corresponding set of indicators or measurable milestones that can guide countries wishing to construct inclusive economic strategies that recognize broad-based progress in living standards, rather than economic growth as the bottom line measure of national economic performance. They stress that growth creates the possibility of a positive-sum gain for society, however, it does not assure it and thus argue that the practice of inclusive growth and development requires widening the lens through which priorities are set in national economic strategies. The development agenda should have a broader consideration of needs through innovative mechanism can achieve balance between access and growth in infrastructure planning and provision.

Following from the discussion in this chapter thus fare and the key elements revealed in the previous chapter that are at the core of infrastructure planning and provision and its role in investment, the proceeding sections turn to the development of a conceptual framework for the study.

3.4 A Conceptual Framework for The Study

The problem statement in the first chapter identified that FDI as an ingredient to development. However, its promotion is occurring disjointedly with certain underlying considerations that need to be in the mainstream for FDI to play its perceived developmental role. Network infrastructure was identified in as one of the primary enablers of FDI and that if the combination of network infrastructure with FDI is to culminate in development, planning and provision of infrastructure need to be viewed through a lens that reveals the socio-technical materiality of infrastructure and its interactions within urban production systems.

Figure 3.8 is a conceptual framework of this study that attempted to bring the arguments that have been advanced in the three chapters in perspective. At the top of everything is the national development agenda which sets the ways in which the development goal will be achieved. Attached to it is the belief that FDI can drive the nation towards the development goal. FDI thus takes center stage in orienting policy. Strong consensus stands that infrastructure is the enabler of FDI inflows and investment productivity due to its attributes of lowering production cost, the creation of competitive advantages and economies of scale. Therefore, policy efforts are oriented towards ensuring availability of these factors by facilitating the provision of infrastructure, subject to a set of normative and cognitive policy parameters. The parameters are the policy levers that define which policy categories identified by the World Bank (2008a; see section 2.2.4) that the state will opt for as the policy direction that will drive development agenda.

Infrastructure funding, thus, is set as a priority. However, another layer of prioritization occurs within infrastructure based on two conditions. On one side is the urgency with which the kind of infrastructure is needed to initiate production and on the other, is the actual availability of infrastructure and alternatives. For the former, investors can negotiate on the infrastructure they can improvise on their own depending on the level of urgency that infrastructure service the investment and if it is a cost they are willing to take. This scenario explains why some FDI in developing world, as was pointed out in the first chapter, is self-service supplied. Usually, negotiations around such infrastructure model occurs for infrastructure types that can be privatized, such as water and sewerage or communication networks, as they can physically segregate access.

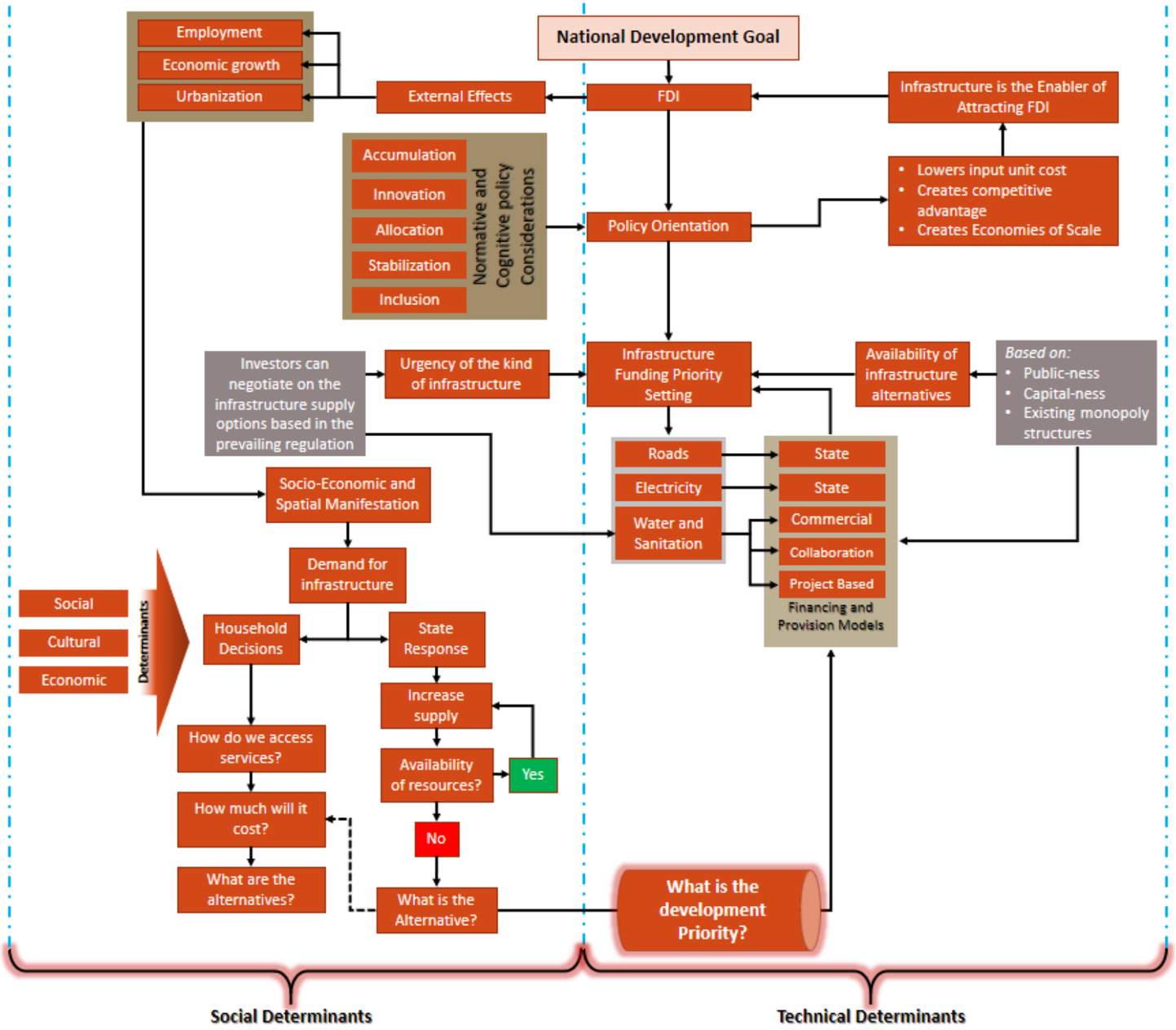


Figure 3.8: Conceptual Framework of FDI and its interaction with Infrastructure as Socio-Technical process (Source: Formulated by Author, 2017)

The latter is based on the network infrastructure characteristic; its public-ness, capital-ness or existing monopoly structure. Infrastructure character affects the financing and provision models to be selected and the extent to which it will be prioritized. Those that possess natural monopolistic character, with a high degree of public-ness and capital intensiveness are often financed by the state. For electricity, there are cases of private sector supply, however, the cases of state monopoly are more frequent in developing countries. Water and sanitation have seen a diversity of transitions in the provision models. Of the three options, the project-based model in most cases is synonymous to FDI, where the investor may put up the infrastructure and handover running or management to the utility company or a statutory established agency. In other cases, the state may fund the infrastructure network as an incentive to the investors. The state may also facilitate the acquisition of a loan for utility companies running as quasi-government commercial entities by guaranteeing loan facilities to expand infrastructure network within a predetermined location or project where the state has the interest of incentivizing FDI.

Now FDI has external effects which may be positive or negative depending on how they fuse into the mainstream development processes. Effects commonly cited include employment, economic growth, and urbanization. Employment and economic growth are usually the direct intended results of FDI, whereas urbanization is the indirect occurrence out of the opportunities created by FDI. They all expose socio-economic and spatial manifestations of which demand for infrastructure is an inevitable outcome, with a bearing on the household decisions and those of the state on how to respond to infrastructure needs. In the case of the household, decisions must be made of how to access infrastructure services and the cost, against the household's income. These decisions are framed within a set of social, cultural and economic determinants, which define the what infrastructure means to the household and ascertains the degree of need. It conditions the household's propensity to spend on infrastructure and consideration of the available alternative.

In the case of the state, the response is to increase the supply of infrastructure. However, this is tied to the availability of resources. If resources are not available, the state then considers alternatives. Whichever decision the state takes as a way of covering the infrastructure deficit, will influence the cost to the household of accessing infrastructure services, and most importantly where and how. The state's response is further conditioned by its policy on development, which sets the public investment priorities and dine the funding model for infrastructure. To put the government side of the story in a clearer perspective, the three-level STS framework is used as shown in Figure 3.9 below, depicting policy choices for balancing public investment for social provision and private sector investment incentivization.

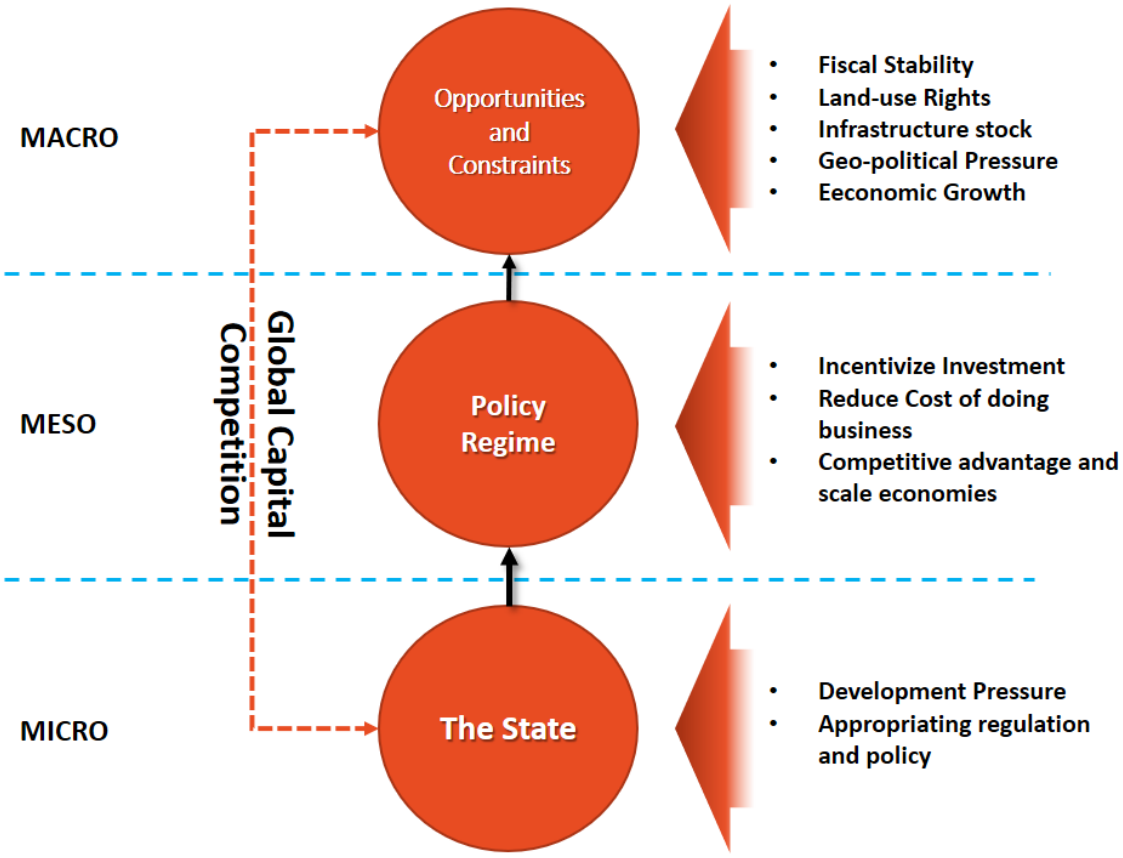


Figure 3.9: Three Level STS Conceptual Application in the State's FDI decision making Process
(Source: Formulated by Author, 2017)

At the micro level the state is subjected to development pressures and the need to formulate appropriate policy and regulation, to be able to harness the opportunities imposed by the macro level and as a counter to the constraints. At this level policy manipulation and regulation tactics are frequent, as deviation is possible, as a way of the state to promote its interest. With goal of being competitive in the fight for global capital flows, the state frames policies with intent to providing an enabling environment to attract private sector investments. This is through creation of a stable macroeconomic environment by ensuring a stable fiscal situation, land-use regime that facilitate acquisition of property rights and promotes private sector interests, provision of infrastructure to promote productivity and capital accumulation, and can respond to the geopolitical pressure of being participating in the global economic system.

The role of space is worth pointing out explicitly in the scenario expressed above. The previous chapter sketched the linkages between spatial planning, FDI, and infrastructure. Figure 3.10 below conceptually illustrates the placement of space within the FDI-infrastructure relations. Spatial planning as a function of the two, determines development right on the one hand and sets the spatial arrangements of the land-use which have a direct bearing on development rights, on the other. It all comes together to be expressed physically in the form and structure of the urban environment. Infrastructure has a co-

constructive relation with spatial planning as it renders a support function to urban process framed within political, social and cultural, and economic interests. These interests which are derived from some production parameters such as land-use regulation and development policy, exert a direct influence on the degree to which urban form and structure can be said to be functional in term of accessibility, connectivity, densities and land-use mixes. The functioning of urban form and structure, affects how opportunities in the urban production systems are developed and made available to actors and their interests.

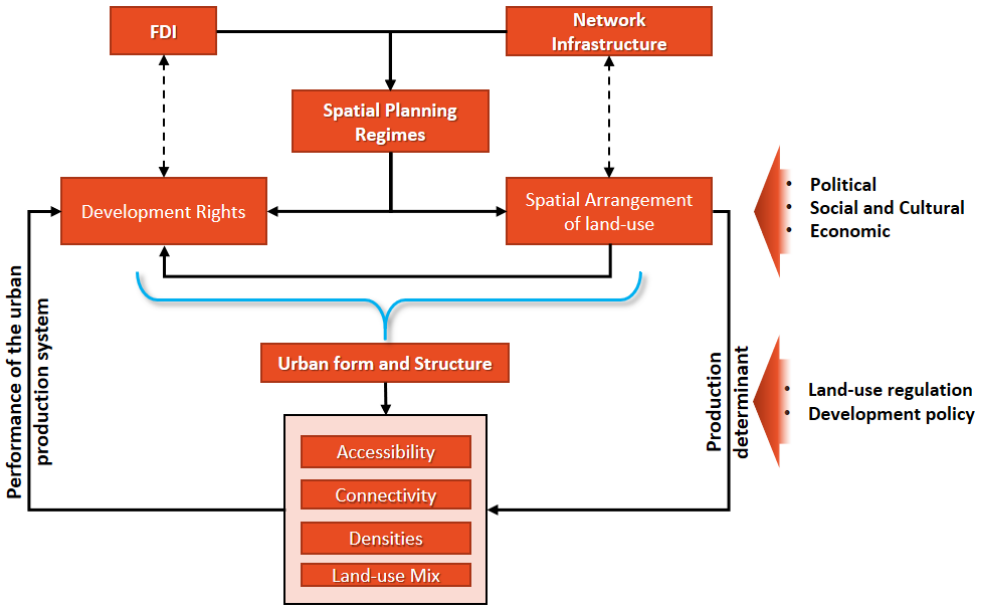


Figure 3.10: The Spatial Interface of FDI and Infrastructure (Source: Author, 2017)

Dewer and Todeschini (2004) make a strong case on how urban form and structure impact efficiency of urban production systems. The performance of the urban form and structure has a direct bearing on how development rights – the principle drivers of FDI – are actualized and the extent to which those that access the rights can get returns from their investments. For instance, it will determine the movement of labor to the production centers, and the mobility efficiency factor which has implication on the cost of labor and the overall cost of conducting business, ultimately the urban living cost.

Broadly speaking, spatial manifestations begin to occur during the process of deciding how to access infrastructure, and the available modes of provision that will enhance its functioning as an appeasement of actor interests. The primary question for urban governance for planning and provision of network infrastructure is on the normative and cognitive principles considered to ensure efficiency of infrastructure services and whose interests are at the core. It further prompts to question the cost implications within the priority setting trade-off and who gets to bear the cost of such policy maneuvers. These complex relations may need be extensively understood when private sector involvement is considered a tool for development. It is at the interface of these questions where the interest to explore

the spatial impact that FDI on network infrastructure planning and provision across Lusaka City and its functional region emanated, which culminated in the following objectives:

- To identify the priorities within the national development agenda and investigate how priority setting was affecting the planning and provision of network infrastructure.
- To analyze the policies governing FDI and network infrastructure, and assess their complementarity.
- To identify the institutions implementing the policies and investigate their coordination and its effects on efficiently harnessing of the benefits of FDI.
- To explore how the promotion of FDI, with infrastructure identified as the enabler of FDI inflows, was manifesting spatially in terms of urban form and structure of the city and its broader functional region.

3.4.1 Operationalization of the Elements of the Conceptual Framework

Following from the conceptual framework presented above, elements of analysis derived from the research objectives are operationalized as outlined in Table 3.1 below against a method, as will be further illustrated in chapter 4.

Table 3.1: Operationalization of the Elements of the Conceptual Framework

Research Objectives	Elements of observations	Variables		Units of analysis	Methods
		Independent	*Dependent*		
To identify the priorities within the national development agenda and investigate how the priority setting was affecting delivery of network infrastructure.	Development policy priorities	Policy priority	Provision of Infrastructure	- National Development Plan review - Annual Budget review	Discourse Analysis
To analyze the policies governing FDI and network infrastructure and assess their complementary	Policy complementarity	Interdependency of variables - FDI policy Regime Infrastructure policy regime		- investment promotion and regulatory framework - infrastructure provision regulation framework	Discourse Analysis
Identify the institutions that are the implementer of the policies and investigate their coordination and its effects on effectively harness the benefits of FDI.	Promotion of FDI and the role of spatial development planning	FDI promotion	Spatial planning as the infrastructure provision strategic tool	- institutional involved and roles - city spatial plan	Case Study
				- investment promotion policy and regulatory framework	Discourse Analysis
To explore how the promotion of FDI, was manifesting spatially in terms urban form and structure of the city and its broader functional region and the implication to infrastructure delivery.	Spatial impacts of FDI promotion on the city's urban form and structure	FDI-led development policy	Spatial development plan of the city and its functional region	- city's spatial plan - projects oriented to FDI within the city and its functional region - institutions involved and their roles	Case Study

Formulated by Author, 2017

3.5 Chapter Summary

This chapter explored the concept of STS and its inherent theories. It further explored infrastructure in relation to STS, on the premise that infrastructure provision is a sum of many actors with varying interests. From the five factors to consider when conceptualizing urban infrastructure planning and provision, the most influence is institutional and spatial governance structure of urban infrastructure. within the urban infrastructure governance regime, the development goal of the state has a significant definitive and deterministic effect on infrastructure provision as it controls the financing mechanisms. The funding mechanisms also have a direct bearing on infrastructure access.

With infrastructure being perceived as an enabler of FDI inflows, a conceptual framework of how FDI interact with infrastructure planning and provision at the interface of social and technical determinants was developed. Within the framework, what holds a higher level of influence is spatial planning as it is a function of both infrastructure and FDI. It essentially produces the development rights which are the one of the primary drivers of investment. infrastructure is ancillary to the development right. However, infrastructure plays a significant role in the overall urban performance as it is a supportive function of urban form and structure. Urban form and structure determine the efficiency of urban production systems within which investment such as FDI embed its interests of achieve returns on the investments. Effective performance of the urban form and structure has an implication on actors' investment propensity. Here, an important interlinkage of functions and support systems need to be observed and understood when crafting investment strategies that can appropriately fit in the real development need.

Chapter Four
Research Design

4.0 Introduction

The research design of this study is presented in this chapter. It follows from objects of study outlined in the opening chapter and the operationalization of the conceptual framework with respect to the research objectives developed in the previous chapter. The first part outlines the development research design. The second section elaborates the philosophical position of the study, followed by an outline of the strategies used in the data collection in part three. Section four and five discuss the techniques and the analytical tools, respectively, while sections six and seven discuss the ethical consideration and the limitation the study is subject to. Part eight outlines the scope of the study.

4.1 Research Development

The development of the study's research design is illustrated in the model is shown in Figure 4.1 below. It was a three-stage process that begun with formulation of questions about the research problem identified. This was followed by a selection of appropriate methods based on the study's positioning within the research philosophy. These methods were used to collect data which after synthesis information was generated to explanation for the phenomenon under study.

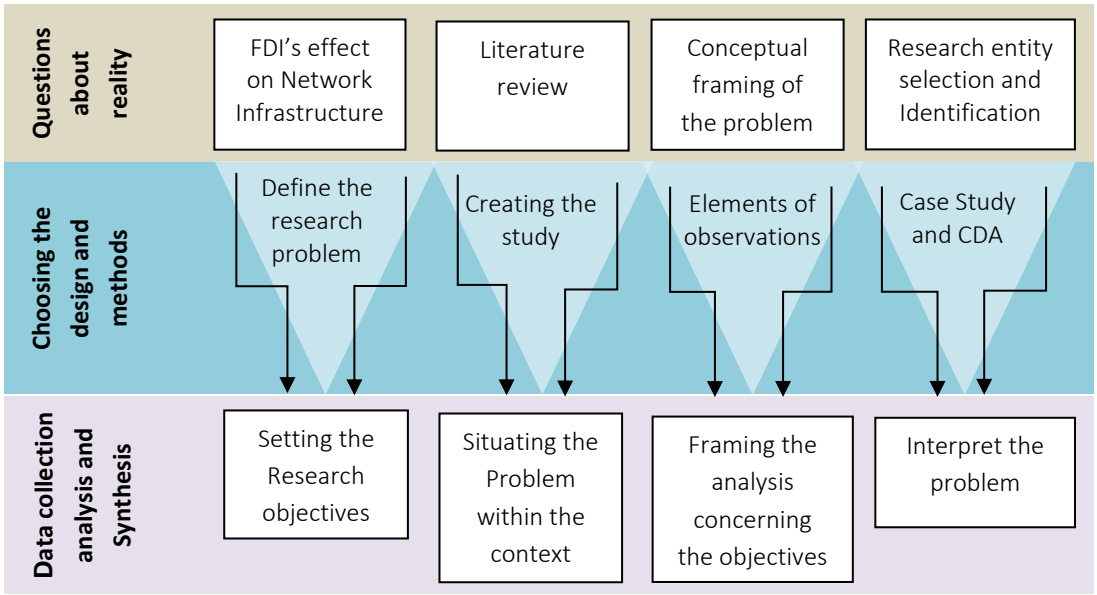


Figure 4.1: Research Development Model (Source: Adopted from Blakstad, 2008)

4.2 Research Philosophy

In retrospect to the problem statement and the objectives of the research, this study aimed to generate explanations about a naturally occurring phenomenon and further develop interpretations about the

observations. Figure 4.2 below is what Dudovskiy (2016:30) refers to as the "research union" which illustrated how research locates itself within a research philosophy.

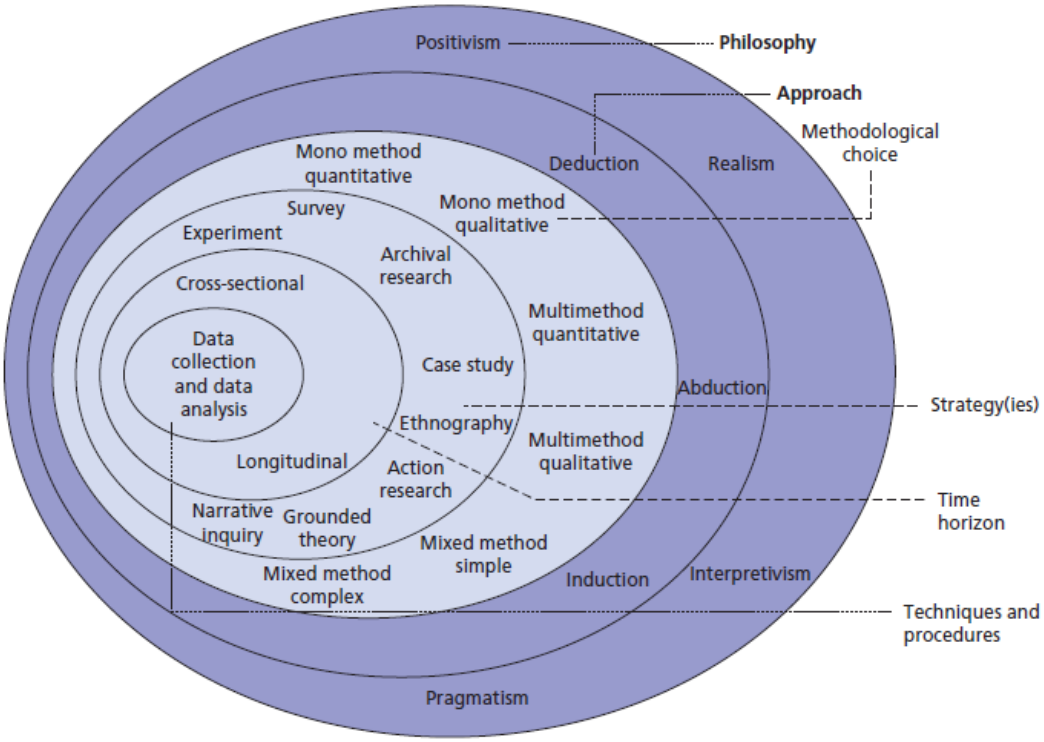


Figure 4.2: Research Philosophy in the Research Union (Source: Dudovskiy, 2016:30)

The epistemological foundation of this study is embedded within the need to understand a naturally occurring phenomenon – FDI and its spatial effect on network infrastructure – and explain what motivates actions of the actors within the context, together with their beliefs as reflected in their actions. The epistemological narrative locates the study ideologically in the interpretivism philosophy. This philosophy positions itself within value bound in-depth investigations of an event to create meaning of its reality (Dudovskiy, 2016). It argues that whatever form the meaning of reality assumes, it is dependent on when the interpretation is made and the context in which it is constructed (Biggam, 2008). It attempts to give a description of an event at a specific point in time and place, and further give an explanation to enhance the value of knowledge formulated.

Ontologically, this research is located within a fundamentally subjective and socially constructed reality where the researcher is part of the research and cannot be separated (Dudovskiy, 2016). This entails that the methods used in this study were open to some biases and subjectivities. What was acknowledged as necessary in this study is making these subjectivities apparent, and explicitly illustrate how they were addressed. Figure 4.3 below shows the philosophical framework of this study.

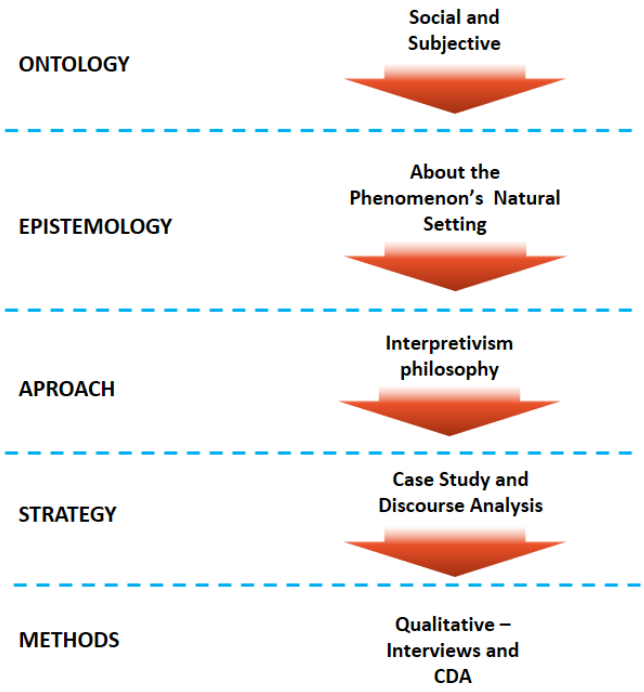


Figure 4.3: Philosophical Framework of the Study
(Source: Adapted from Dudovskiy, 2016)

4.3 Research Strategy

The aim of this study establishing how promotion of FDI in Zambia is impacting the planning and provision of network infrastructure, with a specific focus on the City of Lusaka. As a point of departure, it reviewed of the country's policy regimes on investment and the underpinning legislation framework and identify agencies charged with the responsibilities of administration and implementation of the policy. It then assessed the spatial impact of the implementation of these policies. Thus, it also looked at the spatial development planning policy of the City of Lusaka, the agencies charged with its administration and implementation and the empowering legislation. Furthermore, it cross-analyzed the two policies (FDI and spatial planning) to understand the complementarities.

Following from the proposition outlined above and the crucial need to observe the phenomenon within its natural setting and context, it dictated that the study be confined within defined geographical parameters. On the other, FDI in Zambia being a concept framed around local and regional policies influenced by geopolitical, social and economic ideologies, a critical analysis of the policies became an apparent necessity to the study. In selecting the strategy, for the former, fitted within a Case Study strategy, while the latter befitted Critical Discourse Analysis (CDA). The subsequent section discusses these two strategies, with the case study method in the first part and CDA in the second.

4.3.1 The Case Study Method

The advocacy of the Case Study method stems from concerns about the limitations of other research methods in providing in-depth explanations of social and behavioral issues, within social sciences (Zainal, 2007). Zainal (2007) argues that a case study method is a robust research method that allows the exploration and understanding of complex issues, particularly when a holistic, in-depth investigation is required. Yin (1984; as cited in Zainal, 2007) defines a case study as an empirical inquiry that investigates a contemporary phenomenon within its real-life context when boundaries between an event and context are not clearly defined.

The determination of using the case study method for this study was based on the definitive factors advanced by Flyvbjerg (2011) and Yin (2004). Flyvbjerg (2011), points out that case study determinants include firstly the choice of the individual unit of study and setting of the boundaries that define it. Secondly, the intensiveness of the case regarding detail, richness, completeness, and variance of the unit. Third is if the phenomenon typically evolves through time, often a string of events that occurred at such a time in a specified geographical location, constituting a case and lastly, is if the defining factor of what is involved in the case are context specific. Yin's (2004) position on case study method is when the research is descriptive and explanatory in nature, with the aim of producing a first-hand understanding of a phenomenon in its natural setting, as such knowledge cannot be attained by relying on derived data.

The transition of FDI in Zambia, as was highlighted in the opening chapter, has been through a transition where the role of infrastructure become a significant policy element. However, across this transition, priority setting in infrastructure planning and provision has been met by macroeconomic influences. These influences emanate from the national development agenda bent on industrialization through private sector investment promotion, and are exhibiting significant spatial implications affecting the delivery of network infrastructure. These impacts were the subject of assessment of this study; investigate the complexity within which the impacts occur and observe them in their naturally occurring context. This proposition, and following from Flyvbjerg's considerations, situated the research as case study. Further, and with reference to Yin's position, the study set to investigate and thereafter describe *what* the spatial impacts of FDI on network infrastructure were and explain *how* they have manifested spatially. The *what* and the *how* further situates the research as a case study.

4.3.1.1 Critiques of the Case Study Method

Case study method gained support out of its ability to give detailed, rich and complete descriptions about events with thoroughness, offering firsthand explanations that link causatives to outcomes

(Flyvbjerg, 2011). Zainal (2007) adds that case study strategy not only explores the event in its real-life context but explains the complexities of real-life situations.

Case study critiques are on two perspectives. The first is the possibility of biases in the selection of the case by the researcher, which may influence the direction of the findings and conclusions, and that a weak understanding of the occurrence of the phenomenon under observation by the researcher may affect the results (Flyvbjerg, 2011). Biases arises purely because the researcher is part of the study and cannot be separated from the research process (Biggam, 2008). Secondly, it is dismissed for providing little basis for scientific generalization (Yin, 1984; as cited in Zainal, 2007).

Addressing the first critique in this study, embracing the need to be ethical was the primary mechanism for dealing with the subjective biases. Research, especially social science-based, being ethical is not only an important way of ownership responsibility, but reinforces research credibility of the results of the research. It also situates the relevance of the research into the body of knowledge. Further, being explicit about the researcher's positional subjectivity from the onset, builds reliability of the research. What was also applied in this study to address the critiques of weak understanding of the occurrence of the phenomenon under investigation, it is necessary to conduct a due diligence before the commencement of the research so that the investigation is carried out within well-comprehended geographies.

On the second critique, the reason why case study may not provide sufficient grounds for scientific generalization is because it is a context-specific method. However, from a relational concept perspective as pointed out by Biggam (2008) it may provide valuable lessons that can be related to in another setting. This may require careful analysis of the context, the defining factor of applicability. The second point is that, in spatially related studies such as this one, 'no two places are the same'. This is an ideology advanced by Yin (2012) in his book *Urban Planning for Dummies* that argues for specificity in urban planning. Specificity is a concept ingrained in this study's narrative. Spatial problems present unique manifestations on how they affect the space. It is in this regard that generalization may rather be misleading which dealing with spatial manifestation of events.

4.3.2 Critical Discourse Analysis (CDA) Method

Reflecting on the works of Robert Beauregard on urban theory and its failure to confront the issue of representation, Lees (2004) points out that to understand our cities, urban theorists need to confront the tension between representative strategies and objective analysis. The need to better understand the city and its formation, urban research needs to focus on the social determinants and how they

developed, especially the language and the texts used to construct them, and the how people interpret them within the spatial context.

Fairclough (1989), argues that, the analysis of text is essential to understanding the interplay between properties of the text and people's life situations, which include knowledge of the language, representation of the natural and social world they inhabit, values, beliefs, and assumptions on perceptions of how they move in the world. This proposition has been the driver of the discursive turn in urban research as investigators seek to understand, the city, its people, the language, and culture in urban geographies (see also Lees, 2004). Jacobs (2006) points out that discourse analysis provides significant insights that are not always evident from other methods, by scrutinizing how language is used to pursue political and organizational objectives as well as how words are used to frame systems of governance for the people.

The evolution of the discursive turn, as pointed out by Lees (2004), can be traced through two strands. The first is the political economy informed analysis emanating from the Marxist school of the 1970s, framed within the significance of ideology and the political economy in enabling powerful groups to impose dominion. It includes the Norman Fairclough methods of Critical Discourse Analysis (CDA) which seek to establish the linguistic strategies that are deployed by social and political actors to shape policy agenda. The second is the Foucauldian inspired discourse analysis that advances the view that language plays an instrumental role in establishing regimes of truth. This strand sees discourse as part of a process through which things and identity get constructed. It claims that power is not reducible to the individual agency but is instead constituent of a network of relationships between entities that either enable or hinder it (see also Jacobs, 2006).

Lee (2004) advises that it is undoubtedly helpful to distinguish the two strands of discursive turn in discourse-based research approaches to situate the most appropriate and influential mode of discourse method to apply to a study. Following this guidance, and reflecting on the aim of this study, it aligns to Fairclough's Critical Discourse Analysis (CDA). The *concept of 'critical*' in CDA aims at showing relationships and causes that are unseen (Fairclough, 1995; as cited in Mirzaee and Hamidi, 2012). While *discourse* is a concept of social practice oscillating between reflecting and constructing the social world, paying attention to the fact that language cannot be regarded as neutral since it is caught up in the political, social, economic and cultural formation (Mirzaee and Hamidi, 2012). The relevance of CDA to this study is emphasized by a set of remarks raised by Rydin (1998: as cited in Lees, 2004) on the influence of language on policy formulation processes, in a variety of ways. Rydin remarks that firstly it can alter the perception of interests and issues. Secondly, it can define the object of policy attention. Thirdly it can promote policy agendas. Fourthly, it can shape the nature of communication between

actors, and cement coalition or differences between actors. Lastly it can be diversionary resulting in a form of symbolic politics. Understanding and locating these dynamisms in policy frameworks was significant in this study as it provided a way of getting insights into the operations of the policies on FDI promotion and network infrastructure planning and provision.

4.3.2.1 Critiques of Critical Discourse Analysis (CDA)

Like the case study methods, critiques frequently mentioned on CDA are around biases. Breeze (2011) records that, the term 'critical' means the capacity to evaluate from a specific standpoint, which is moved by a personal urge rather than grounded scholarly principles, and its foundations are as its practitioner appears to believe. Stubbs (1997) adds that analysts find what they expect to find, whether absent or present or select evidence that confirms their argument and ignoring the contrary. The argument that this study makes in response to the critiques levelled above, is that it all comes down to the principle of ethics. Jacobs (2006), adds that researchers need to be explicit about the criteria for selecting discursive evidence and modes of analysis, to give the study's conclusions intellectual credibility.

Other critiques point out that CDA has limited utility in a practical context arguing that it does not pay sufficient regard to the promotion of social justice (Jacobs, 2006). From the preceding discussion of what CDA is and what it aims to achieve, it is befitting to argue that CDA foregrounds the pivotal role of language deployed in the realm of politics and urban governance systems. It is in such frameworks where institutional and organizational inequalities and contested dynamics of power can be highlighted. Therefore, it is in such revelations where those advocating for social justice can begin to interrogate the political and urban governance regimes to initiate transformation.

4.4 Research Techniques

Specific considerations in this study were firstly on investment policy interacts with spatial development policy and secondly on how these interactions are manifesting spatially. Thus, on the one hand, the study analyzed the policy framework on investment and spatial planning. In this regard, CDA also used a technique and not just a method. The study adopted Fairclough's (1989) analytical framework of engaging in CDA using a three-dimensional structure as the technique in policy analysis. These levels are:

- Description – This is an investigation of the formal properties of text

- Interpretation – this provides insight by *tracing* [7] the relationship between text and interaction, thereby providing *cues*[8] as to whether the text is a product of a process.
- Explanation – this provides interpretations of language and text, foregrounding the social context linkage to the wider power structures on which policies are founded

The thoroughness that this three-level framework exhibits as an analytical tool when used in understanding policy constitutes and attempts to locate sources of actions and intention embedded in policy is the main reason of its adoption in this study, as a technique.

On the other hand, to understand the spatial manifestation, the study identified institutions in the implementations of the two policy frameworks indicated above, classified at two distinctive levels. The first is the central government, i.e., the line ministries and statutory agencies directly involved in either network infrastructure planning and provision or promotion of FDI, and whose roles are inscribed within regulatory instruments. The second is the local government, i.e., the local authority and the quasi-local government organization, in which the local authority still holds a stake, involved in provision and planning of network infrastructure. The selection of these research entities was on the need to explore how a policy in one tier of government affects the operation of the other hierarchical tier(s). Further, to assess the spatial manifestation of agency and policy interactions, projects were identified as sub-case studies, planned or implemented either directly or indirectly, by the identified institutions. Table 4.1 and 4.2 below outlines the institutions and projects identified as sub-case studies, respectively.

Table 4.1: Instructions Identified for the study

Supervisory Ministry	Tier	Subject Institution/Agency
Ministry of National Development Planning	National	Department of Planning
Ministry of Commerce Trade and Industry	National	Zambia Development Agency
		Industrial Development Corporation – Lusaka South MFEZ
Ministry of Local Government and Housing	National	National Water and Sanitation Council (NWASCO)
	Provincial	Lusaka Province Planning Authority
		Lusaka Water and Sewerage Company
	Local	Lusaka City Council

Table 4.2: Projects Identified as Sub-Cases

Project Identified	Implementing Agency
Lusaka South MFEZ	Zambia Development Agency (ZDA) and Industrial Development Corporation (IDC)
Kafue Road Corridor	Department of Physical Planning and Housing – MLGH (HQ)
Silverest Gardens Housing Complex	Zambia Development Agency and Lusaka Province Planning Authority (LPPA)

[7] Emphasis added
[8] Emphasis added

After determining the sample, data collection techniques were formulated. The study utilized interviews as the primary data collection technique. The choice of this techniques is linked to the advantage of the interviews' ability to bring out deeper insights about a phenomenon under investigation and the flexibility in the interaction with the participants. Due to the variation within the sample of the study, semi-structured interviews were used to allow for flexibility during the interview process and capture as much richness in the data as possible. The chances of untrustworthy and biased interviewees are some of the disadvantages to the use of interviews as a data collection technique. It is out of this reason that triangulation was utilized.

4.5 Analytical Tools

According to Hatch (2002: as cited in Leech and Onwuegbuzie, 2007), data analysis is the systematic search for meaning. Leech and Onwuegbuzie (2007), emphasize that analysis of data needs to provide an interpretation that is not only consistent with the true underlying representation of the information but also aligns itself to interpretative and theoretical validity. Following from this, and as mentioned in the previous section, within the analytical toolkit the concepts of triangulation and representation become critical in the data analysis process. Triangulation was applied both in the field during the data collection and after. The significance of in-field data analysis is emphasized by Yin (2004) advising that the need to analyze data while in the collection process should be embraced as it opens some intricate ends in the inquiry that may become necessary to pursue.

The selection of the analytical tools for this study was a combination and according to the appropriateness. CDA was used as a method, a technique, as well as an analytical tool, where it incorporated content analysis[9], in textual data and transcripts from the interviews (see also Kohlbacher, 2006). The second tool used was deductive analysis which focused on creating categories or themes of the data acquired from the field as elements of observations. It draws its structure from the conceptual framework in the previous chapter. Deductive analysis aimed to derive explanations out of the observations made out of the data analysis. It was the synthesis of the study. Figure 4.4 below shows the iterative structure of the analytical framework of the study.

[9]The context in which this content analysis was used, is as put forwards by Bryman (2004 as cited in Kohlbacher, 2006), which is to construct the meaning of and in texts

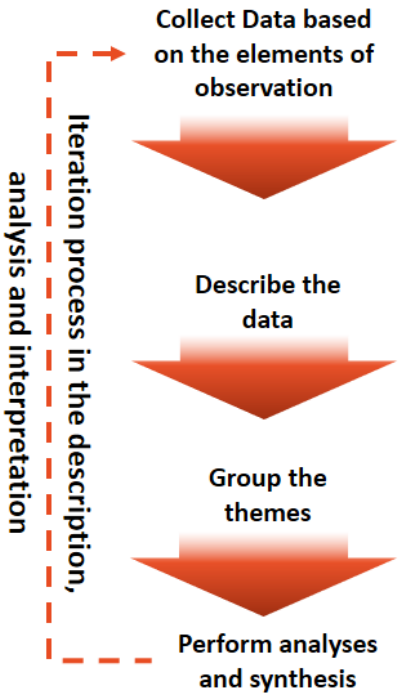


Figure 4.4: Framework of the Analysis
(Source: Adapted from Biggam, 2008)

4.6 Ethical Considerations

Ethical awareness was critical in this study, especially that it was conducted in author's home country, with considerable levels of familiarity with individuals working for some of the targeted institutions. On the one hand, this raises the chance of acquiring good quality data as Mandiyanike (2005) would argue and also reduced challenges in the data collection process. On the other hand, it runs the risk of biases because of familial relations with the research participants.

However, recognition of the ethical obligation that the author has in carrying out this research, ethics were of priority, for the study to meet the highest standards of scholarly integrity and accountability. And also, to address chances of biased data provided by the research participants, the triangulation technique was extensive applied. Further, it is worth pointing out the author's situated subjectivities in this study, in the meaning derived from the analyses and explanations of the phenomenon which is ingrained in spatial planning narratives, which is purely because the author has a background in urban planning.

4.7 Scope of the Research

This scope of this research was defined within the aim of establishing spatial impacts of FDI and its effects on delivery of infrastructure in Zambia.

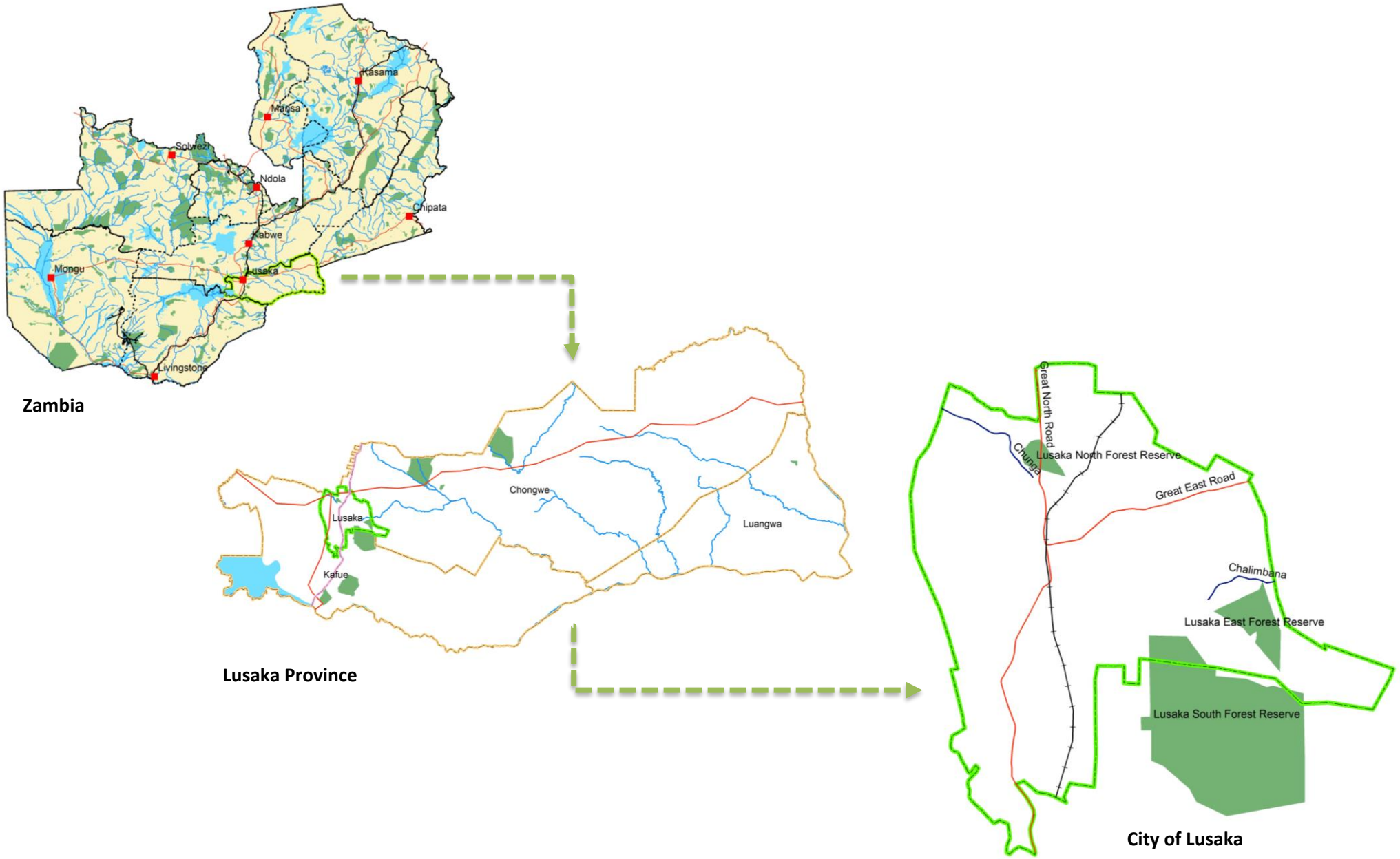


Figure 4.5: Study Area in Context (Source: Author, 2017; GIS Data From LPPA, n.d.)

Geographically it is focused on the City of Lusaka and its metropolitan functional region as illustrated in Figure 4.5 above which show the contextual location of the study area. The study involved, on one part, a critical analysis of national policy frameworks on investment and the agencies charged with the responsibilities of administration and implementation of the policy. On the other, it assessed the impact of these policy actions and their spatial manifestation. In this regard it also looked at the spatial development policy, the agencies charged with its administration and implementation and further cross-analyzed the two policy and institutional frameworks to assess the complementarities the degree of coordination.

4.8 Limitations and Possible problems

The limitation to this study emanates from the shortcomings of the research strategy used, which revolves around biases. It hinges on what Biggam (2008) referred to as the reliability and relatability of the findings of the study. This can be addressed through triangulation. However, the success of triangulation is only achieved by the availability of alternative data sources for cross-referencing. This study had such encounters, where alternative sources were inaccessible due to reasons around the challenges of fitting interview schedules within research participants as they held public offices. To limit the impact of this problem in this research and to ensure a significant level of reliability and relatability, policy documents and other legislative-specific element of observation were used as the basis for triangulation.

Chapter Five
Findings and Analysis

5.0 Introduction

This chapter presents the study's findings and analyses. The analysis was structured according to four the elements of observations developed in from the operationalization of the conceptual framework of the study. The first part looks at the development policy priorities. The second analyzes the complementarity of FDI and Infrastructure provision policies. The third identifies the institution engage in the implementation of the policies discussed in the second section, and further analyses the level of coordination. The last section looks at three projects in Lusaka as sub-cases, with the aim of analyzing the spatial impact following the implementation of the projects. It ends with a summary of the interpretation of the analysis, outlining the answers to the research questions raised in the opening chapter of this study.

5.1 Development Policy Priorities

The section reviews Zambia's Seventh National Development Plan (7NDP) and the 2017 and 2018 National budgets. The aim is to identify priorities in the policy and how funding mechanism responds to the priorities.

5.1.1 The Seventh National Development Plan (7NDP)

National Development Planning (NDP) concept in Zambia started after independence in 1964 as one of the strategies to initiate development across the country after colonialization. The First NDP ran from 1966 to 1970, focused of regionalization and industrialization and was framed on the growth pole concept (UNESC, 1967). However, its implementation through to the Second NDP – running from 1972 to 76 – faced significant challenges following the country's economic downturn as result of the fall in copper prices, early 1970 (JICA, 2007). In the 80s, national development planning was replaced with Structural Adjustment Programs (SAPs) sanctioned by the IMF and World Bank following the country's debt crisis right up to 2002. Since 2002, the NDP approach has been consistent going forward.

The 7NDP, runing from 2017 to 2021, is focused on attaining the long-term goal of the Vision 2030; *'becoming a prosperous middle-income country by 2030'*. What set it apart from the previous NDPs is its departure from the sectoral-based planning approach to an integrated multi-sectoral approach. The integrated approach, as indicated in the plan, recognizes the multi-facilitate and interlinked nature of sustainable development which calls for intervention to be tackled simultaneously through a coordinated approach. Based the argued integrated approach, the plan's strategic objectives were formulated as outlined in Box 5.1 below.

Box 5.1: the 7NDP's Strategic Objectives

- Economic diversification and job creation
- Reduction in poverty and vulnerability
- Reduction in development inequality
- Enhancing human development
- Creating a conducive governance environment for a diversified and inclusive economy

Source: 7NDP, 2017

5.1.1.1 The underlying Theory in the 7NDP

The 7NDP is based on the Theory of Change which systematically articulates programs to contribute to a set of specific outcomes through intermediate results. In the plan, it is applied as a framework to achieve economic diversification, through which the end goal of diversification and the kind of interventions needed, are formulated. Those that have commented in the application of this theory like Connel and Kubisch (1998) assert that the effective application of the theory entails a need to set a public discussion on development matters from which a narrative of what development should mean is determined.

The theory of change bieng a primarily a framework theory, it indicates some limitations on it applicatbility to complex issues such as development may need to be used alongside core development theories. It being the only explicit theory in the 7NDP, explains the plan's lack of fundamentally articulated principles and values anchored within the development planning philosophy from which cognitive and normative guidance to development should be derived. This evident from how the plan argues to be embracing sustainable development strategies such a the Sustainable Development Goals (SDGs), but does not attempt to articulate how the SDGs are being localized at the national development. This concerning for the fact that it is supposed to be a framing policy for development at the local level.

5.1.1.2 Development Opportunities and Challenges in the Country

The 7NDP identifies that Zambia is one of the urbanizing countries in the Sub-Saharan Africa with 42.1% of the population living in the urban areas, the rapid urban population growth has not been compensated with a commensurate investment in urban infrastructure upgrading. Rapid urbanization has come with major development challenges, with much of the urban population living in squatter and unplanned settlements. For Lusaka City, the population residing in informal settlements is estimated at 60% (MLGH, 2017), which implies that this significant sizable population has inadequate access to amenities and infrastructure services.

The plan raises a claim that the underlying reasons are ineffective urban planning and weak legal enforcement mechanisms. To an extent, legislative inefficiencies are a contributing factor, however, not entirely. An equally significant reason for low access to infrastructure is within the priority setting of infrastructure investment by the state. What is explicitly pointed out in the 7NDP, which is a continuation of the priority setting of the earlier NDPs, is that infrastructure investment is inclined towards investments that aid reduction of the cost of doing business and increasing productivity potentail. It is an incentive to private sector investments and often directed in areas and regions that are identified as places to foster FDI. This is reflected in the plan's macroeconomic policy. Such a selective and narrow approach, negating non-economic consideration for infrastructure provision has far-reaching implications on the overall development assumed to be achieved by strongly focusing resources to private sector investment promotion.

5.1.1.3 Macroeconomic Policy Framework

The macroeconomic framework of the 7NDP is focused on enhancing regional comparative advantage of the country as a means to achieving an inclusive and diversified sustainable economy. The plan's way of achieving this economic transformation is based on an overall objective of a stable and predictable macroeconomic policy environment, increased investor confidence and building a resilient and diversified economy. Box 5.2 below outlines the plan's macroeconomic policy objectives.

Box 5.2: 7NDP's Macroeconomic Policy Objectives

- Achieving average real GDP growth rate of above 5%
- Sustaining single digit inflation
- Increased international reserve to at least four months of import cover
- Raising domestic revenue collection to over 18% of the GDP
- Contain domestic borrowing at 2% of the GDP
- Reduce budget deficit to less than 3%
- Create 1 million productive and gainful job opportunities while improving country's competitiveness
- Increase the share of earnings from non-mining exports to about 50%
- Improve infrastructure development in the transport and energy sector with emphasis on increased private sector participation

Source: 7NDP, 2017

The fundamentals of the macroeconomic intervention are anchored in creation of a supportive environment by unlocking development potential through removal of investment bottlenecks. One of the profound fiscal measures in the plan is on addressing the accumulation of high-interest payment on public debt and the risk associated with it, by limiting domestic and foreign borrowing. The debt management strategy is on maximizing the use of concessional loans resources and reducing the non-concessional loans, limiting them only to projects with the highest rate of returns, particularly in infrastructure projects.

The narrative in the macroeconomic approach of the plan is ingrained in need to become regionally and globally competitive to FDI. It is considered as necessary to be able to attract investment, through improvement and expansion of what the plan refers to as economic infrastructure – transport, communication and energy. The fiscal policy aims to make private sector participation viable by keeping the investment risk as low as possible through directly channeling funding priorities towards infrastructure considered to enhance productivity and reduce the cost of doing business. There is a notable need of making private sector engagement as smooth as possible. The question to pose is how will such policy levers achieved the strategic objectives outlined in Box 5.1 above when access to water and sanitation is considered indirectly and relegated to a primarily profit-driven model. Public capital investment for infrastructure is directed to improvement and expansion of the transport and communication systems, and the energy sectors. Water and sanitation provision is rendered to PPP model for provision and financing.

What is worth mentioning here is that the fundamentals that assure successful undertaking of PPP are not prevalent in the water and sanitation sector Zambia. One of primary consideration is how much influence the private partner is likely to hold on public policy dynamisms which are ingrained in politics, as was learned from the Argentinian case example in chapter two. This is also significantly dependent on institutional and regulatory efficiencies. The other, which in many cases is the driver of private sector interest, is how profitable the tariffs are and how much of the population can afford services at that tariff. In an interview with the Senior Inspector (Technical) from National Water and Sanitation Council (NWASCO)[10] , he pointed out that:

> The one thing that makes PPP work in the water sector is profitable tariffs, and we [NWASCO] have made attempts to invite bids [for PPP engagement]. In all the bids that we have received, proposed tariffs reflective of the cost of production, distribution and a premium, are by far unaffordable for majority Zambians. The current tariffs are not that attractive for the private sector to get involved.
>
> (Interview, Hara, July, 2017)

Provision of water infrastructure in Lusaka's urban and peri-urban areas requires more government effort especially with approximately 60% of the population is in the informal settlements, which are rarely areas of interest for the private sector involvement. Currently, an assessment done by People's Process on Housing and Poverty in Zambia (PPHPZ)[11] indicated that the existing water supply services in

[10]NWASCO is a regulatory body set up by an act of parliament to regulate the providers of water and sanitation services in the country and provide guidance to the government at all tiers on matters regarding water and sanitation in the country.

[11] The findings of this study were presented at a learning lab workshop under a program called Future Resilient African CiTies and Lands (FRACTAL) the author got a chance to attend, organized by The Center for Urban Research and Planning (CURP) a research center at the University of Zambia. The learning lab was focused on the water issues in Lusaka and aimed at understanding how the city's water system and sources would be impacted by climate change

peri-urban areas – kiosks – unit cost of access to water is 67.7% higher compared to rates applicable to formal areas. Drawing from the lessons by the World Bank in its era of engagement in infrastructure provision around the world, growth should not be pursued at the expenses of access (See Box 3.1).

5.1.1.4 Strategic Areas of the 7NDP

The 7NDP has five (5) strategic area which follows from the five (5) objectives outlined in Box 5.1. Notable categories of network infrastructure in the first strategic areas – economic diversification and job creation – are improved transport systems and infrastructure, identified as the driver of wider economic benefits, which including supporting growth and creation of jobs, raising the productive capacity of the economy, and driving efficiency and boosting international competitiveness.

The second and third strategic areas – a reduction of poverty and vulnerability, and reduction of development inequalities, respectively – have an emphasized focus on rural development through improvement of infrastructure facilities and increased social protection. They indicate a variety of the key performance indicators based on human development parameters. However, among the indicators access to water and sanitation by rural community is omitted, dispite being a poverty reduction and human development benchmark.

The fourth focus area – Enhance human development – points out improved access to water supply and sanitation driven by alternative financing models with emphasis on PPP and basket financing. PPP and it challenges in the Zambia current context were discussed above. The latter, however, is a market-force oriented funding model that utilizes the Consumer Price Index (CPI) dynamics. Investors chase the most profitable consumption trends. It is reliant on the availability of data that can be extrapolated to predict trends on which investment decisions are made. Availability of such data is significantly low in most cities of the global south. Although this strategy mentions the urgent need to improve access to water and sanitation, its key performance indicators, also does not include access to water and sanitation.

There is a very narrow consideration of infrastructure in this plan, and water and sanitation infrastructure development is not an explicit focus area, which it should be consindering the role that of infrastructure in development.

This observation was raised during an interview with an official from the Ministry of National Development Planning, the ministry responsible for national development planning:

> [...] [the focus is on] economic infrastructure, and this is roads, rail, energy. [it is] […] also looking at human development infrastructures such as education and health […] [in an] integrated planning framework. [...] most stakeholders raised a similar concern [narrow consideration of infrastructure]. […] The explanation is that whatever we are doing […] the rest of the sectors will be supporting what

> we intend to do [...] [T]he silence may not be deliberate, but these are what we are calling support sectors.
>
> (Interview, Anonymous, July, 2017)

The argument that was being put across of the support sector, meant that infrastructure assumes a secondary position this development plan, as an ancillary to the main development drivers, when in the actual sense it should be at the frontier of development.

5.1.1.5 Zambia National Budget for 2017 and 2018

The budget expenditure is framed based on government function structures. In this review, attention was on the state's Economic Affairs function under which transport and communication infrastructure fall, and Housing and Community Amenities function under which water and sanitation is financed. The interest was to link the 7NDP development priorities and affirm the in literature that the governments in desperate need to grow are more likely to focus attention towards infrastructure investment that easily and quickly translates into economic efficiency dividend rather than equity.

In the transport and communication systems, only road infrastructure is remaining as a full government responsibility. Telecommunication together with electricity is have been commercialized, with the state only regulating. Economic Affairs function allocation in 2017 was 31.1% of the total budget, with road infrastructure representing 43%. In the 2018 budget, the allocation reduced to 24.1%. However, the value of infrastructure investment increased by 0.8%, representing 50% of the overall allocation. Housing and Community Amenities allocation in 2017 was 1.3% of the total budget, with water and sanitation at 47.6%. In the 2018 budget, the allocation has been reduced to 1.1%, even though the allocation to water and sanitation under this function increased by 45% from the 2017 allocation. Water and sanitation represented 69% of the Housing and Community Amenities allocation in the 2018 budget but the sector allocation falling implies means resource are still straggled. The emphasis this allocation is on improvement of water and sanitation in the rural areas and not the urban areas. Urban area supply is proposed to be supplemented by the commercial utilities, which only serves the urban areas. Rural water and sanitation provision were emphasized in the 7NDP.

5.1.2 Interpretation of the Analysis

From the review of the 7NDP, the policy priorities are on infrastructure identified to aid economic productivity. Transport and communication systems have strongly been emphasized as the key focus areas. As the country strives to attract as much FDI as possible, government focus has been on dealing with the removal of the main investment risks and bottlenecks identified to be resulting from economic infrastructure inefficiencies. Provision of water and sanitation infrastructure has taken lower priority

within the central funding streams and overall emphasis in the 7NDP. Infrastructure financing has been relegated to PPP and Basket Market financing model.

The reduced direct attention on water and sanitation infrastructure is worrying considering the implications that it has on urban social and economic productivity. The lack of prioritization of infrastructure as a goal has been pointed as one of the key shortcomings of the MDGs especially in Africa by the African Development Bank (2015). The underplaying of the water and sanitation infrastructure need raises concerns on how a diversified and inclusive economy will be achieved when infrastructure is not broadly prioritized in a 5-year National Development Plan.

Another significant observation is how access to infrastructure does not appear anywhere as a key performance indicator of the plan. The World Bank (2008a) pointed out that in development policy what gets attention gets measured and what gets measured gets attention. This is evident from the budget analysis, on how allocation to the water and sanitation infrastructure sector has reduced compared to the economic affairs because the allocation of funds is based on measurable indicators. Going by the statistics if the financial allocation in the budget, there is a clear indication that economic efficiency and growth takes priority in this development trajectory at the expense of access and equity.

5.2 Policy Complementarity

This section analyses the complementarity between FDI and infrastructure policy regimes in Lusaka City. It identifies the underlying legislation and policy framework for each respective element in this comparative analysis to assess complementarity.

5.2.1 Investment Promotion and Regulatory Framework

The current investment framework for Zambia made up of a set of laws enacted to facilitate and promote investment both domestic and foreign. The Zambia Development Act No. 11 of 2006 and the Zambia Privatization Act Cap 386 of 1996 are the key legislations driving investment, together with the Strategy Paper on Industrialization and Job Creation. Most of the functions of the Privatization Act have been assumed within the Zambia Development Act after the economic reforms instituted during the Private Sector Development Reforms Program (PSDRP) (see NEPAD-OECD, 2011). The Strategy Paper on Industrialization and Job Creation (SPIJC) also emanated out of the PSDRP, formulated out of a review of the investment process in the country and also to provide recommendations on investment promotion.

5.2.1.1 The Zambia Development Act No. 11 of 2006

This Act is the principal legislation in the promotion of investment in Zambia. It establishment the Zambia Development Agency (ZDA). The overall function of the agency according to the Act is to further the economic development of Zambia by promoting efficiency, investment, and competitiveness in

business and promoting exports from Zambia. A Board established by the Act facilitates the implementation of roles articulated in Part IV of the Act, which include;

- Taking measures and actions, which help to create and maintain a predictable and secure investment climate.
- Encouraging foreign investment including formation of strategic alliances with Zambian business enterprises
- Encouraging sector investment to promote foreign investment
- Declaring Multi-Facility Economic Zones
- Protecting private investors property by excluding them from compulsory acquisition under other than in the interest of the public through an Act of Parliament which should provide for compensation of the properties presiding market value.
- Allowing investors to transfer funds out of Zambia in foreign currency after payment of relevant taxes

The Zambia Development Agency board, which also runs the affairs of the Agency, comprises sixteen (16) members, which include specified line ministries, the business community, the civil society and the office of the Antony General. The Act specifies eight ministerial representatives on the board, each from the ministries responsible for trade and industry, finance, labor, agriculture, tourism, education, skills training and mining only. What is interesting is that investment in one way or another will require a location or land on which it will be embedded. Representation from ministries dealing with the spatial planning and land administration – Ministry of Lands and Ministry of Local government and Housing – are not recognized under the Act. As such, ZDA may not find the obligation to engage them, despite holding an important role in investment.

5.2.1.2 The Strategy Paper on Industrialization and Job Creation

One of the interesting finding on the investment policy is that despite strongly pursuing FDI as a significant tool for national development, the country has never formulated an investment policy to outline principles and guidelines, which should synchronize the roles of different legislative and institutional frameworks in investment. This was revealed in an interview with an economist in Ministry of Commerce, Trade and Industry (MCTI):

> The country not have an investment policy. What is in use is the Strategy Paper on Industrialization and Job Creation […] [which] is being reviewed currently. After the review it will be submitted to [national] government for consideration to further develop an investment policy.

(Interview, Namwinga, August, 2017)

The Strategy Paper on Industrialization and Job Creation (SPIJC) is strategy developed after the review of the investment process in Zambia, which commenced in 2012 and went upto 2013, following government's recognition of the challenges of creating formal sector employment. The SPIJC is a 5-year strategy that was launched in 2013 to running up until 2017, with the aim of streamline foreign and local investment towards industrialization and job creation.

The investment framework under SPIJC is based on the Zambia Development Act, through the delivery of tax and non-taxi incentives. The tax incentives are set in line with the tax legislation[12]. Currently, and as provided for in Part VIII of the Zambia Development Act, tax incentives include Corporate Income Tax at 0% for a period of 5 years from the commencement of operation of the approved investment, no withholding tax payable on the payment of dividends for a period of 5 years, and a five-year exemption on Customs Duty on imports of machinery and equipment for use on the approved investment project. These three generous tax incentives under the 2018 budget have, however, been proposed to be removed.

The non-tax incentives include the provision of infrastructure in the MFEZs and Industrial Parks. In the supportive interventions of the SPIJC, infrastructure development and ICTs were prioritized, with a primary focus on transport and communication system, identified as the main business support facilities. A significant proportion of public invesment was directed in these support faclities in the establishment of the MFEZs and Industrial Parks to incentivize investments, particularly FDI. It was, however, pointed out in the SPIJC that the channeling of public investments in these support facilities is driven by political consideration rather than economic value. It is a typical case of the state using development policy to advance their political interests.

The SPIJC recognizes the need to strengthen information sharing between central and local government agencies on investment promotion. This, however, is not enough to some extent a practical impossibility looking at the existing structural fragmentation within and across national, provincial and local government. These structural fragmentations are as of legislation inefficiencies affecting appropriate institutional engagement when it comes to investment promotion as discussed in the previous section. The SPIJC does not make an explicit recognition investment promotion's embeddedness in spatial development planning, which is not surprising because the document formulation did not involve any local government institution nor the ministry responsible for spatial development planning. It was put together by the Ministry of Commerce Trade and Industry, Ministry of Finance, the Bank of Zambia and ZDA.

[12] The Income Tax Act Cap 323, the VAT Act Cap 331 and the Customs and Excise Act Cap 322 of the laws of Zambia

5.2.2 Infrastructure Development and Regulatory Framework

The planning and provision of network infrastructure follow the spatial development plan of the local authority. Before structural adjustment program of the 80s, all network infrastructure planning and implementation were under the local authority. The unbundling of network services, municipalities only remained with a stake in water utility companies as a member of the board. For road network, the local authority only has a mandate on roads classified as urban roads under the Roads Act No. 12 of 2002, within its planning boundary (city or town boundary). However, all road taxes are paid to central government.

Provision of network infrastructure is essentially guided by a spatial plan. Authority of implementation of a spatial development plan is limited within the municipal boundary. The current spatial plan for City of Lusaka, the Comprehensive Urban Development Plan (CUDP) follows what is now called the Greater Lusaka which extends into the adjacent jurisdiction of other planning authorities (Chibombo, Chisamba, Chongwe, Kafue, and Chilanga). These are autonomous planning authority with a different development agenda and this autonomy is a significant source of concern in coordinating development under the Greater Lusaka spatial development vision. The CUDP and its presiding legislation are discussed below.

5.2.2.1 Comprehensive Urban Development Plan for the City of Lusaka

The Comprehensive Urban Development Plan for the City of Lusaka was formulated with the technical assistance from the Japanese government through the Japanese International Cooperation Agency (JICA). The plan was launched in 2009 and was projected to guide the development of Lusaka City up to 2030. Some of the notable urban development trends that were identified in the plan were increases in urban population estimated at 33% in 2007. Currently, urbanization rate for Lusaka City stands at 61.1% (MLGH, 2017). There was an observed overall urban settlement growth. The settlement growth in planned areas increased from 11% in 2001 to 16% in 2007 while unplanned settlements increased from 7% to 11% of the overall city region.

Some of the factors highlighted as the leading cause of the settlement expansion were; increases in rezoning applications from agriculture to industrial (Manufacturing and Warehousing) in the South-Western region of the city (along Kafue Road), and the sprawling conversions from rural-agriculture to residential in the northern and eastern parts, with several housing development projects beyond the city boundary (See Figure 5.1 below).

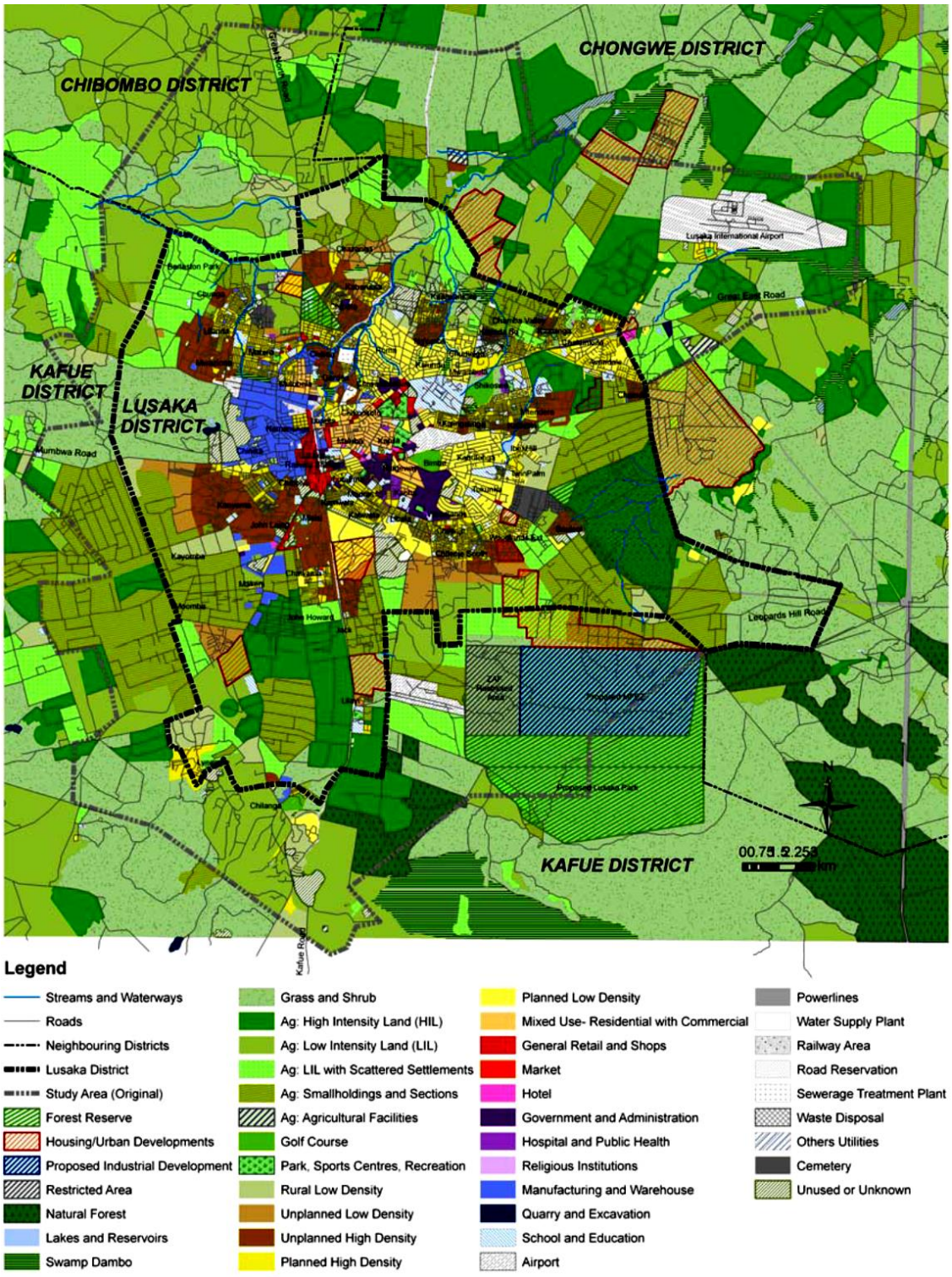


Figure 5.1: Land Use Coverage of the Greater Lusaka Area in 2007 (Source: CUDP, 2009)

Appropriate and effective land-use management and control mechanism were some of the main challenged facing the city. Underlying these challenges was the need for:

- Adequate suburban and rural land-use control that hinges on enforcing agriculture land-use control on rezoning, guiding settlement and urbanization by appropriate urban planning such

as zoning control with effective infrastructure, and introducing growth control boundaries for urban growth management,

- Consideration of mixed land-use concept framed on giving opportunities to small business activities by allowing land-use control of mixed-use category,
- Enforcing land use zoning system to formulate appropriate land use form
- Securing public use of land with appropriate capacity and location setting

However, what was more challenging for the city, as the plan highlights, was the ability to contain certain scales of urban development against infrastructure service capacity and developments located outside the municipal areas but at the periphery of the city boundary. The underlying challenges for land development here – specifically residential and industrial – were;

- Handling the development permission for large-scale development within a certain limit, under the obligation of adequate and necessary infrastructure and land-use – predominantly housing estates and industry development – and how the related administration of planning permission was executed. Developments outside the city boundary fell under different planning authorities. However, their supportive infrastructure and economic services are provided by the City of Lusaka.
- Promoting provision of fundamental urban facilities aimed at securing citizen's daily life through innovative and minimum provision of education facilities and infrastructure, and improving conditions of network infrastructure facilities such as roads, utilities and transportation and other public establishments.

The Spatial Development Direction

The spatial development direction was anchored on three elements. The first was the promotion of industrial development and job creation for the urban poor. This resonated with the Sixth National Development Plan goal of promoting industrialization through private sector participation. The second was on ensuring an environmentally sustainable and well-controlled urban growth and development. The third was the provision of a full service of urban infrastructure and social facilities for both formal and informal settlements, to address issues of socio-economic development in the city. The CUDP identified the surge of FDI[13] at the time as a primary strength and opportunity to sustainably grow the city economically.

Based on the development directions mentioned above, the plans spatial strategy was conceptualized on accommodating effectively and efficiently the expected population [14] increase and economic

[13] FDI has risen from approximately USD164.9million in 2003 to USD1.73billion (see the SPIJC, 2013)

[14] The Population projection under the plan predicted the growth trend to be 1.3million in 2010, 1.6millin in 2015, 1.7million in 2020, 1.9million in 2025 and 2million in 2030. Current statistics as at 2010 Census, Lusaka's population

development in a well-organized manner. Three alternative conceptual ideas were formulated. The first was based on the idea of a new urban expansion through setting up satellite towns in the urban fringe while linking to the development within the existing urban core. The second was on upgrading the existing city focused on a strong urban growth compact city strategy, with intensive development in the interior. The third was an idea of developing a new capital city under the decentralization argument, shifting the administrative role to a different remote town. The third alternative was dropped as it was not financially feasible at the time.

During the formulation of the CUDP, the government through ZDA was steps ahead in the implementing the MFEZs program as part of the PSDRP. For Lusaka, these MFEZs were all sited outside the Lusaka City boundary but within the Greater Lusaka region. That being the case, industrial establishments had to be incorporated within the CUDP as its coverage was supposedly the Greater Lusaka region. To accommodate the MFEZs, the plan was developed on a hybrid concept which combined the first and the second spatial concepts. The spatial distribution principles were to frame the city growth in connection to the towns on the fringes of the Greater Lusaka region as illustrated in Figure 5.2 below.

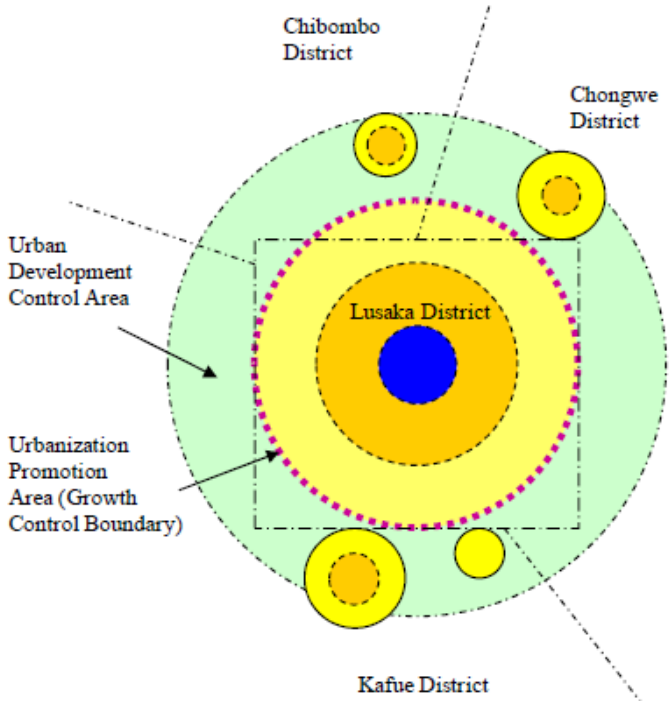


Figure 5.2: The CUDP Spatial Concept (Source, CUDP, 2009)

The inner-city territorial development strategies were based on a well-controlled dense settlement, efficient land use with adequate density distribution, and controlled urban growth by urbanization promotion in the outer area. The satellite cities in the adjacent three districts[15] were to be developed

stands at 1.7million. estimates based on the 2010 census indicate it to be about 2.3 by 2016 (See table 4.1 in the Chapter 4).

[15] Some of the districts have been split. Currently Lusaka is surrounded by 6 districts.

as self-sustained cities with dense and planned settlements with infrastructure. Figure 5.4 below shows the CUDP proposed land-use plan derived from the spatial development concepts.

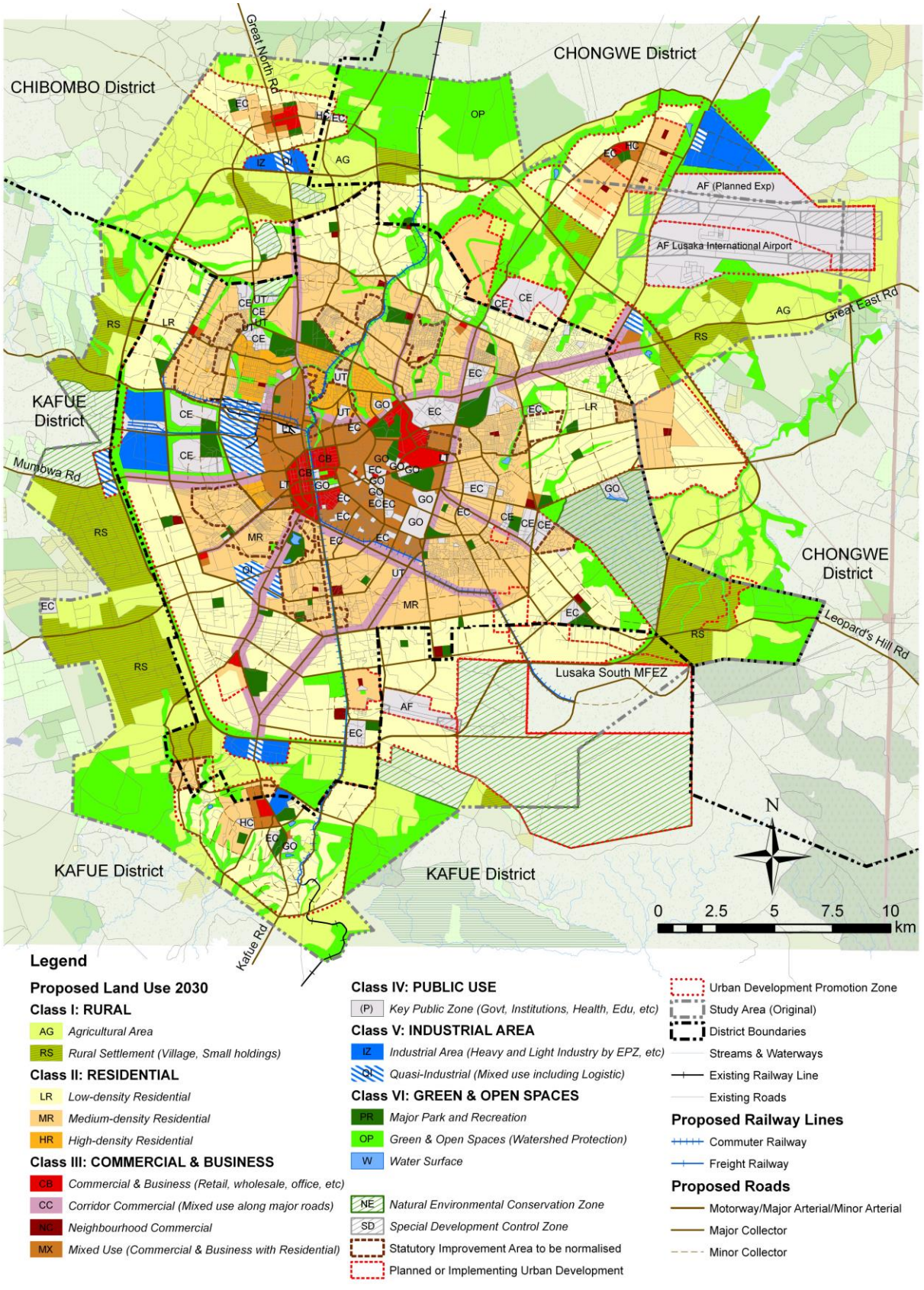


Figure 5.3: CUDP Land Use Plan by the year 2030 (Source: CUDP, 2009)

However, effective urban growth control mechanism for containing sprawl stands significant challenges without a legal framework support and a coherent institutional framework, especially that the CUDP transcends the city boundary. The urban growth management mechanisms proposed in the CUDP, as shown in Figure 5.3 below, were not enshrined in the spatial planning legislation at the time (the Town and Country Planning Act Cap 283). Even the current law, which was only a bill tabled in Parliament, the Urban and Regional Planning Act, it is still in its early implementation stages, as it only came into force in 2015 with regulations yet to be approved.

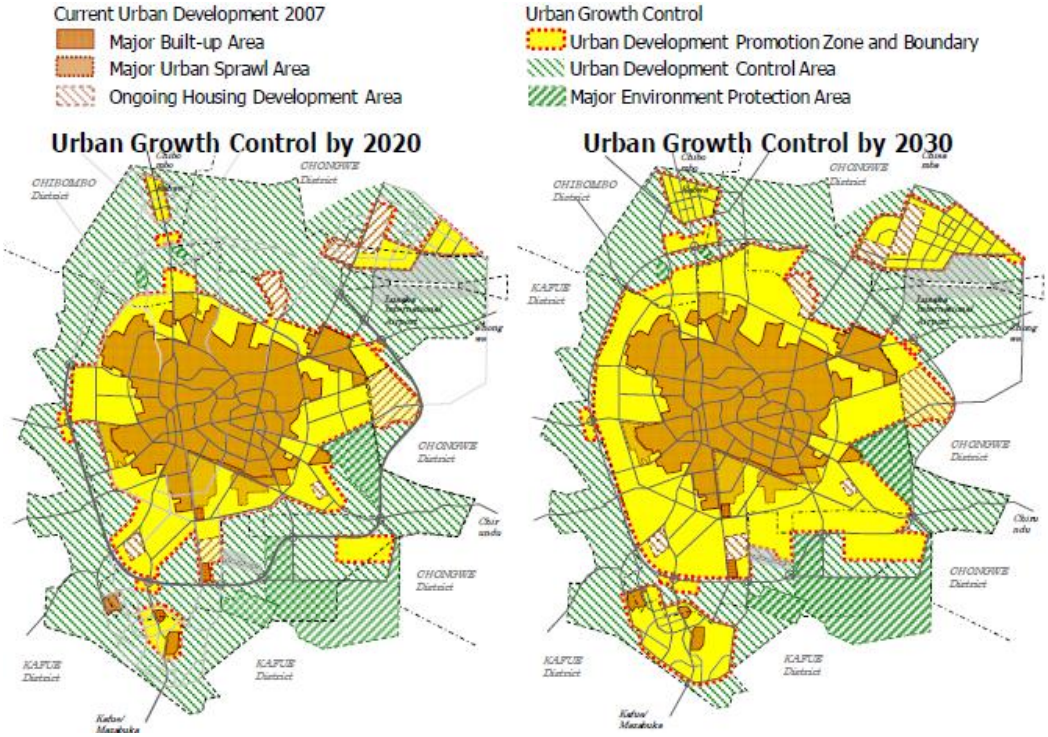


Figure 5.4: Urban Growth Management Mechanisms of the CUDP (Source: CUDP, 2009)

5.2.2.2 The Urban and Regional Planning Act No 3 of 2015

The Urban and Regional Planning Act, No. 3 of 2015 of the Laws of Zambia, is the current principle law for spatial planning. It repealed the Town and Country Planning Cap 283 of 1962. The TCP enacted in 1962, adopted the British planning system, with an ingrained colonial way of land-use management, which perceived urban areas to have no informal settlement. Under the Act, exercising planning was only permitted within formally planned areas. Informal areas only become part of the planning regime after declaration as a statutory improvement area under the Housing (Statutory and Improvements Areas) Act Cap 194 of 1975. This meant that provision and planning for facilities in informal settlements was restricted. The unbundling of utility services from the municipal service provision portfolio, after the water and sanitation reforms of 1994 Water and Sanitation Policy, instituted under commercial entities, meant a further withdraw of interest to serve informal settlements or any area which was regarded as not commercially viable.

With the challenges arising from rapid urbanization manifesting in the growth of informal settlements with significant population densities, avoiding informal settlements within the mainstream spatial planning responsibly of the local authority become a practical impossibility. This realization led to the revision of TCP. In 2015, the Urban and Regional Planning Act No 3, which repealed the TCP came into force. This URP Act mandates local authorities to plan for land-use and provision of infrastructure and all that encompasses settlements including informal settlements.

However, even the URP Act, does not make explicit pronouncements on urban growth control mechanisms such as those mentioned in the CUDP. Thus, implementation of effective urban growth management remains a challenge. With the sprawl happening, investment opportunities are also straying into the sprawling suburbia. This is indicative of the spreading out of shopping malls, and housing estate – most of which are gated communities – beyond the city boundaries. To the government, it is a tick on FDI inflows. However, the strain on infrastructure provision is quite significant, and in most times the utility companies are unable to keep pace with the sprawl.

5.3 Interpretation of the Analysis

From the review of the policies on investment promotion and spatial development planning, the only point of complementarity is that they have a goal of growing the industrial productive capacity of the country (in the case of the former) and of the city (in the case of the latter). However, the implementation of these intentions points out significant divergence. ZDA's MFEZ agenda has been spatially located outside the city's planning boundary. The state's intentions are within the need to promote industrial development to complement the economic performance of the capital city. In this promotion of investment, it is taking advantage of the labor resource and a significant market of consumer goods and services available in Lusaka. Underlying these actions are interests to raise the country's international and global competitive emblem through Lusaka, being the Capital City. The planning process of investment strategies are formulated through the ZDA board, on which the local authority or the Minister responsible for spatial development planning is not a member, but the implementation of the investment program must fit in the local authority's development program.

This is the major point of disconnection between the investment policy and spatial development policy. It also highlights some degree of uncoordinated interaction between central government and local government when they are supposed to be co-constitutive in executing development from inception. It is another manifestation emanating from the lack of a comprehensive investment policy that understands the embeddedness of investment in spatial development planning. Investment promotion and spatial planning and the legislation that preside over them, need to be appropriately threaded together, recognizing the important spatial planning's core elements such a such as network infrastructure, which needs comprehensive consideration. The state's endorsement of several

investment projects through ZDA, beyond the city boundary, is not only exacerbating urban sprawl. It has imposed significant impacts on the planning and provision water and sanitation infrastructure across the sprawling city. The policy disconnections entail implications on effective institutional coordination. This is explored in the processing section.

5.4 Institutional Roles and Coordination in the Promotion of FDI

The PSDRP was anchored on the government's implementation of economic reforms and instituting mechanism to creating an environment that promotes private sector investments, with the goal of diversifying the economy away from dependence on mining. This was followed by formulation of legislation to institutionalize PSDRP within the government's development agenda and creation of agencies tasked to promote private sector investment.

This section presents an assessment of institutions identified as the main players within the FDI-led development agenda and the roles assumed in the process. On the side of FDI promotion, the principle institution is ZDA whose formation and roles were discussed in section 5.2.1 above. What follows here a discussion on institutions identified to directly or indirectly influence the packaging of the development rights, which are the primary leverage in channeling FDI flows into the City of Lusaka. These are Lusaka City Council (LCC), Lusaka Province Planning Authority (LPPA) and Lusaka Water and Sewerage (LWSC). The assessment looks at the overall institutional coordination of these three institutions, together with ZDA. Interest also draws on the fact that they are all autonomous institutions established by separate legislation and authorities. The first part gives a brief overview of how the three institutions are formed (LCC, LPPA, and LWSC), and their roles as determined by the establishing legislation. The second section looks at how these institutional regimes coordinate.

5.4.1 Lusaka City Council (LCC)

The establishment of Lusaka City Council is in terms of the Local Government Act Cap 281, while its appointment as planning authority with the competencies of spatial development planning is in terms of the URP Act through the Minister of Local Government and Housing. It has autonomous powers to pass planning decisions within its planning boundary. In hierarchy and according to the Act, it is a local level governance structure, and its primary mandates include regulation and control development and land-uses, preparation and implementation of development plans, and operation and maintenance of infrastructure within its area.

5.4.2 Lusaka Province Planning Authority

Under the TCP, appointment of planning authorities was structured in two schedules. The first schedule comprised Municipal and City Councils which were granted planning authority to determine planning decisions on development applications by the Minister of Local Government and Housing. It also

empowers the local authority to formulate and implement development plans. The second schedule applied to what are called District Councils which are lower in the hierarchy. In this schedule, the local authority had delegated power to regulate development but did not possess authority to determine a planning decision. This competency was reserved by the Minister who then appointed a Provincial Planning Authorities.

Headed by a Provincial Planner, the provincial planning authorities supervised and presided over the planning affairs and approving recommendations on development application made by the district council. The Lusaka Province Planning Authority was established under this procedure and presided on all the development applications outside Lusaka City boundary. However, under the URP Act, all local authorities are declared planning authorities where the Provincial Planning Authorities have assumed an overall supervisory role to all planning authorities.

5.4.3 Lusaka Water and Sewerage Company

The Water and Sanitation Policy of 1994 instituted water and sanitation reforms, which saw the restructuring of the utility function, separating them from the local authorities' service provision portfolio. Lusaka Water and Sewerage Company (LWSC) is a result of these reforms. The reforms also culminated in the formation of the National Water and Sanitation Council (NWASCO) a regulatory institution established under the National Water and Sanitation Act No. 28 of 1997.

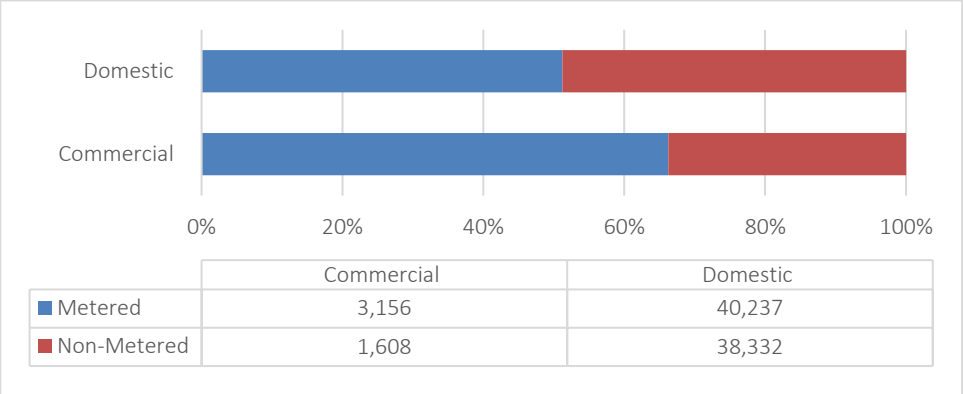
One of the significant structural changes within the utilities reforms was the principle of commercialization as the model of service delivery. This was necessitated by a significant withdraw of funding by the government. The Senior Inspector (Technical) at NWASCO, in an interview pointed out that;

> The entire commercialization process […] enshrined in the 1994 water policy […] stipulated that functions will be devolved from the local authority who […] will be given the options […] to form joint ventures with private companies. The other principle was that the cost of doing business is [to be] recovered from user charges, the so-called full cost recovery in the long-run […] That simply means that along the way there has to be efficiency and sustainability to ensure that all the costs are being recovered through the user charges.
>
> (Interview, Hara, July, 2017)

The only remaining form of funding that comes from the government currently is through grants which are not sufficient to meet the expanding demand for water in Lusaka. In an interview with the Senior Engineer (Water Distribution) at LWSC responsible for the supply in Lusaka City, he pointed out a significant loss of potential revenue due to incapacity and significant inefficiencies, compounded by at times state influences and interests which comes through conditioned financial assistance.

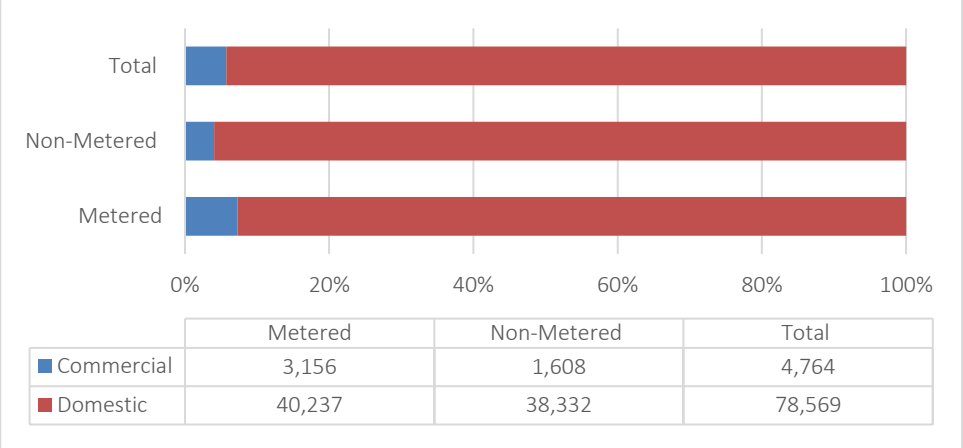
> We are not able to meet the demands if the City of Lusaka…we only caters for about 40% of the population […] We are lagging behind […] [with] […] 60% of […] potential customers that we have to get on board. There are projects which we have […] sourced loans from commercial banks and funded […] expansion projects […]. Through the government, we have contracted some loans and with government interest of course.
>
> (Interview, Mungalu, July, 2017)

The reason for such incapacities range from inficient water billing systems and infrastructure obsolency inhibiting network coverage. Figure 5.5 below shows the current service connection to water supply. Almost 49% of the domestic supply is unmetered which implies that LWSC is unable to to monitor water consumption and demand and be able to efficiently manage the system's supply and demand trends. Domestic users account for the largest proportion of the water consumers, at over 95% as shown in Figure 5.6.



	Commercial	Domestic
Metered	3,156	40,237
Non-Metered	1,608	38,332

Figure 5.5: Water Supply Split Between Commercial and Domestic Users (Source: Data from LWSC)



	Metered	Non-Metered	Total
Commercial	3,156	1,608	4,764
Domestic	40,237	38,332	78,569

Figure 5.6: Aggregated Water Supply (Source: Data from LWSC)

For Lusaka city, dometic use connections at 78,569 and classification which are residetail connection, and further assumed as the number of households currently accessing water, it entails that, going by the current provincial housold size as estimated at 4.9 in the 2010 census as shown in Fiugure 5.7 below, in absolute terms, only 384,988 have access to LWSC water supply out of a total population of 1.7million.

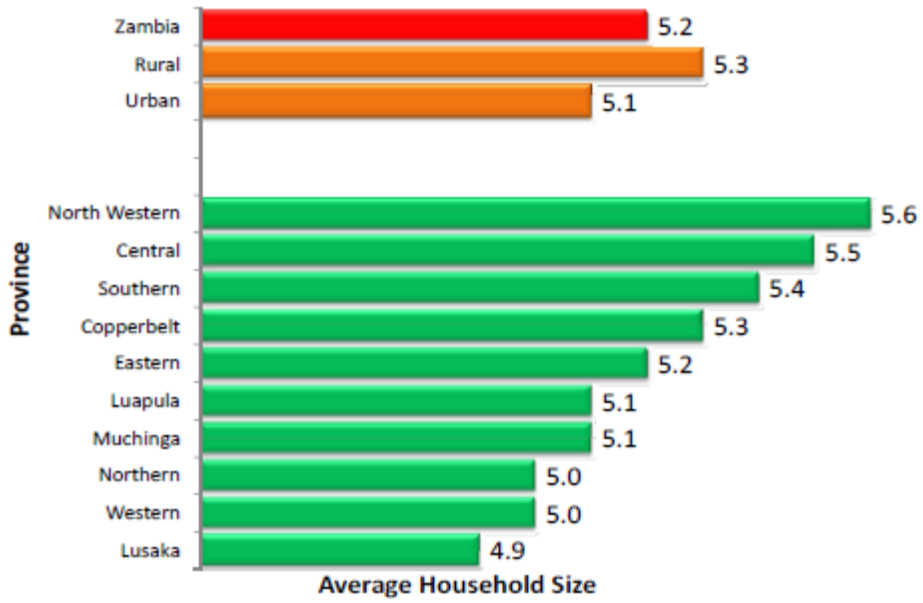


Figure 5.7: Household Sizes as at 2010 (Source: CSO, 2010)

In real terms, however, the number may be higher due to the diversity of infrastructure provision model in southern cities. Considerations here include shared stand-taps and also a household that allows their fellow community members access to their individual connects, which in some case comes with a charge and in other cases it is done of good will.

5.4.4 Institutional Coordination

The institutional framework realignment driven by the states neo-liberal agenda and some inefficiencies in the legal framework that prescribe institutional roles in spatial development have largely been at the core of the poor coordination and fragmentation. The assessment of coordination in this section looks at interactions between LCC, LWSC, and LPPA followed by an assessment of the interacted between LCC and ZDA. LCC being the principal planning authority for the City of Lusaka, it was used as the intersection of the institutional comparisons. It is also for the very fact that LCC experiences the impacts of the FDI-led development externalities first hand.

5.4.4.1 Lusaka City Council (LCC) and Lusaka Water and Sewerage (LWSC)

The commercialization of utilities was followed with the withdraw of supervision from the local authority[16], which has affected the interactions with the local authority. The Deputy Director of City Planning at LCC, in an interview pointed out that:

> [...] as LWSC reports directly to the minister [...] our mandate with them or influence has reduced.
>
> (Interview, Kufanga, July, 2017)

[16]It now falls under the Ministry of Local Government and Housing under the Department of Housing and Infrastructure Development (DHID)

These restructurings, complemented by financial incapacity, have resulted in institutional fragmentation manifesting into a crisis of poorly coordinated urban growth and unavailability of water and sanitation infrastructure in the city. The development rate has outpaced provision of water and infrastructure due to LWSC's fiscal shortcoming. The release of land for development from the LCC is not within the framed of the capacity of LWSC, resulting in some areas in the city being developed without supply of water and sewerage infrastructure. The Deputy Director of City Planning pointed out that:

> Demand for land is an acute problem for this city […]. Ordinarily, we would first put up some regulations and facilitate basic infrastructure services to accommodate the developments before we issue out the land, but now at present.

(Interview, Kufanga, July, 2017)

This land supply pattern above is a result of the significant rise in the demand for land, which cannot be suppressed waiting for the availability of infrastructure services. The inabilities of LWSC to expand its services and coverage has initiated a new model of water supply, were a developer put up all the water and sewer infrastructure then hands over the facility to LWSC who will take up the management and maintenance responsibilities. Citing two examples of what is increasingly becoming a common trend, it indicated from the interview with the Senior Engineer (Water Distribution) at LWSC that;

> Some developers […] like […] the Roma industrial Park[17] […] they put up their infrastructure and handed it over to us. We did feasibility on the way it was constructed verses our standard […] We are running that […] Foxdale Residential Project we are running which was based on the same model.

(Interview, Mungalu, July, 2017)

In as much aa the supply footprint of LWSC is growing, service provision exclusion is evident in this model. It can also only be done by those that can afford to use the model as a way of accessing infrastructure service. The other question that arose was if there is any form of regulation or policy guiding such a model, the engineer responded that that:

> Right now, there is no policy dictating what we can take and how. What standards […] is we assess from our project implementation unit […]. There are no guidelines on how we are to adopt. The one who shows interest […] they get that project and hand it over to us.

(Interview, Mungalu, July, 2017)

According to the Water and Sanitation Act, only an established water and sewerage company can run utility services. This kind of transitions in water supply patterns confirm to the position that Furlong

[17] Roma Industrial Park is a private own development project that is based on the similar principals as the MFEZs model and is also regulated by ZDA through the Zambia Development Act.

(2014) which characterize infrastructure provision in the global south cities as a custom and copping with diversity of supply means. The need to access infrastructure services circumvent regulation, and even the regulators find ways of making it fit in the model of service provision.

5.4.4.2 Lusaka City Council and Lusaka Province Planning Authority

With CUDP falling on two planning authorities – LPPA and LCC – their coordination is primary to its success, especially that the CUDP includes the concept of satellite towns. However, coordination has been poor over the period of the CUDP thus far. One factor leading to the poor coordination as pointed out by the Provincial Planner at LPPA borders on the legal framework that established the planning authorities:

> In the previous legislation [Town and Country Planning Act], the interaction between the province [LPPA] and LCC was rather loose […] [the] relationship […] was mutually exclusive as each of these entities reported directly to the appointing authorities, which is the Minister.
>
> (Interview, Mukozomba, August, 2017)

Each institution enjoyed some level of autonomy. There were also other institutional challenges, which were worsened by nature of the legislation in place at the time.

> For the most part, the institutions could not respond to challenge of the growth of the city. Institutions were meant to facilitate the provision of services and infrastructure using laws that remained static for a long time. […] There were also internal weaknesses such as low staffing levels that rubbed-off in our coordination with external institutions […] [U]rban growth […] was very unguided because the levels of coordination were rather weak.
>
> (Interview, Mukozomba, August, 2017)

The factor of weak institutional coordination, have culminated in limited levels of success in the implementation of the CUDP with element autonomy at the core of the limited success. This is reflected in the excerpt from the interview with the Deputy Director of City Planning from LCC:

> One of the reasons why the CUDP has not been implemented successfully is because of the absence institutional commitment to the implementation strategies […]. LPPA was a member of the Urban Planning/Living Environment Improvement Committee. The Greater Lusaka Master Plan [which the CUDP followed as the spatial planning area] covers areas beyond the district [Lusaka] which implied that the Joint Planning Committee which was to manage these areas [beyond the city boundary but within the CUDP] were supposed to be spearheaded by LPPA. However, LPPA together with the Department of Physical Planning and Housing from the Ministry Headquarter [Ministry of Local Government and Housing] […] was continuously absent during the first five years of the CUDP's lifespan.
>
> (Interview, Kufanga, July, 2017)

The revision of legislation governing spatial planning has necessitated the capacity to harmonize the land-use management at the interface of the Lusaka urban and the rural-agricultural regions that abut Lusaka City, which is under LPPA and when fully implemented will enhance institutional coordination between LPPA and LCC. On that point, the Provincial Planner indicated that:

> We [LPPA] are […] now working with LCC because of common areas which affect the satellite districts, Chilanga Kafue and Chongwe. […] there has been an instruction that we collaborate on regional planning matters. […] We need to harmonize […] land-uses for the common interest of both areas. […] Lusaka is growth and we have to coordinate the land-uses to have a more harmonized regional development in the city.

(Interview, Mukozomba, August, 2017)

5.4.4.3 Zambia Development Agency and Lusaka City Council

Reflecting on a point made earlier that there is a need for institutional coherence to be able to harness the full benefits of FDI, the institutional coordination exhibits some lapses in this regard. It is not only in the lack of an explicit requirement in the Zambia Development Act that local authorities be part of the ZDA board. The agency makes little effort to engage with the LCC, even though LCC has a profound influence on spatial development being the planning authority. In an interview with the Director of Policy and Planning at ZDA on how the agency has been coordinating with the LCC, he disclosed that:

> […] the relationship is not very active […] when we want certain things done is when the relationship becomes active and usually, it's over secondary licenses [Permission to Develop or Trade] […] Especially the [shopping] malls […] that are when we […] engaging with the councils [LCC]. Ordinarily, the relationship is supposed to be much stronger […] because they [LCC] are more knowledgeable about what is happening on the ground [and] can facilitate investments in the local areas. ZDA is supposed to be working together with local authorities in the development of what we would call district integrated development plans, so that we [ZDA] know which areas are being designated for business […] so [that] when we get inquiries about business opportunities we would know which areas […]. We can give to business people […] detailed specific business cases […] then […] package that type of information as […] part of our information that we can give out when we go out to promote investment opportunities. […] Right now […] [it] is not happening as […] it should.

(Interview, Mwape, July, 2017)

The official from ZDA did not make a specific and clear statement of why ZDA's relation with LCC is not as strong as it should be. However, a position was stated by the Deputy Director of City Planning at LCC in a separate interview:

> […] the engagement has not been significant, and I think there is now a concern that they need to engage local authorities […] so that when we prepare […] district investment plan, they need to give

> […] some input […]. It [ZDA] does not take the local authorities on board, so even our interface with them has been very minimal. The times we have had to seat with them […] is because we were supervising a lot what was linking MFEZs to the city […]. So […] we had to […] sit on the same table. […] There should be […] interaction between ZDA and the local authority, possibly […] have someone who deals with investment planning in the city […] to become […] a desk officer for ZDA. […] These investments they are facilitating will impact the municipality. […] If there is no deliberate interaction between the municipality and ZDA we may miss opportunities […]. Knowing what type of investors are enquiring on this city […], we would know how to prioritize certain pockets of land […]. We have our master plan with certain opportunities for investment […]. But there is a disconnect between the investors and us because ZDA does not interact with us. Our master plan talks about attracting DDI and FDI, but how do we link up to create the strategies for attracting FDI and DDI if ZDA does not have an interface with us.
>
> (Interview, Kufanga, July, 2017)

What may be a compelling reason for such lack of coordination, which these two excerpts above agree on, lies within the gaps in the legislation, the Zambia Development Act. The institutions are not legally compelled to engage as the establishing legislation does not make it an explicitly reequipment. A review of the Act was initiated in September 2017. However, the most pronounced areas under this review, as was pointed out in an article on the ZDA website[18] is the capital requirements for investment in the MFEZs to qualify for the tax incentives pegged at USD 500,000. It is aimed at reducing the cost if entry requirement into the MFEZ.

The need for coordination has been emphasized in the attainment of the SDGs, that effective implementation requires a better coordination of different levels of government, including national commitment to provide an appropriate legal framework and institutional capacity to the local government (UN-HABIATA, 2016). Figure 5.8 above is a depiction of how institutional coordination is obtaining, with the FDI-Network Infrastructure interaction in Lusaka. FDI planning and promotion is primarily at the top and its execution premised of the availability of infrastructure as one of the investment incentives. At this stage, the emphasis on infrastructure follows from the set priorities in the 7NDP and the SPIJC and the decisions made by the ZDA Board. Implementation is then introduced to the three institutions (LCC, LPPA, and LWSC) and that it should be included in the CUDP. It is a top-down approach blind to certain elementary consideration, which if not factored in when initiating and implementing development strategies led by FDI may result in limited gains.

[18] http://www.zda.org.zm/?q=content/zda-act-revision-starts (Assessed on 16/10/2017)

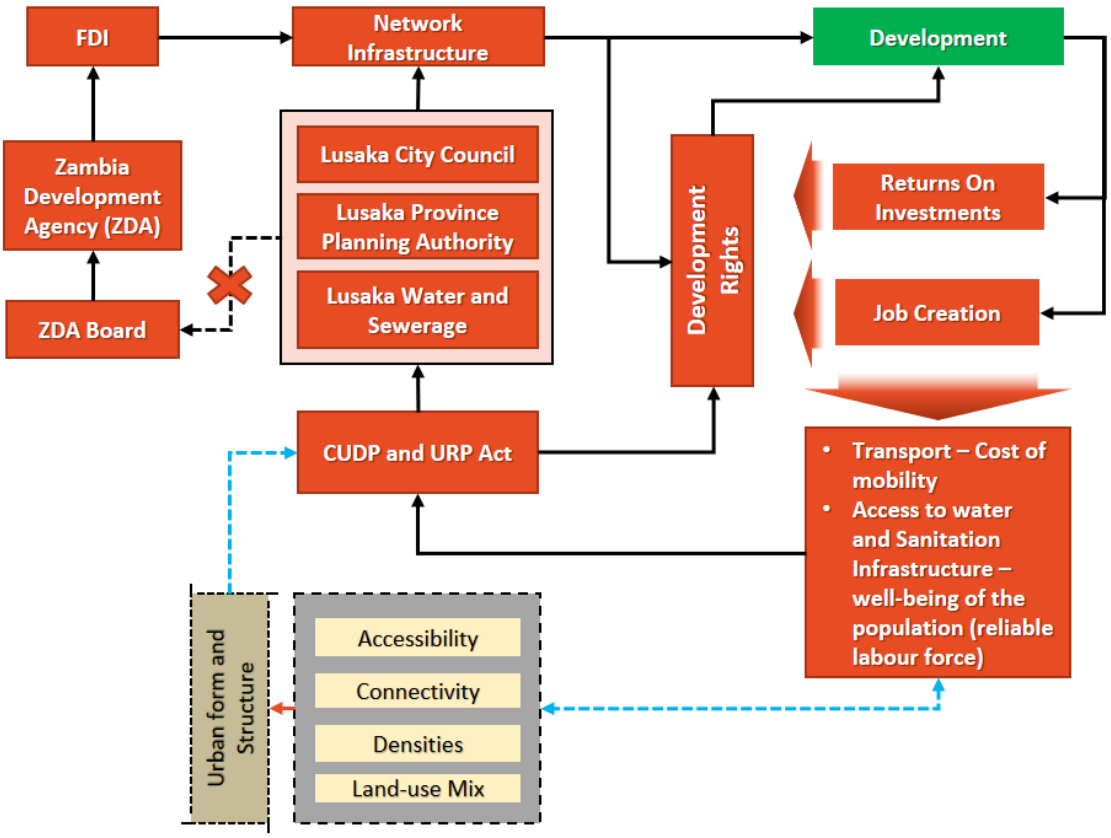


Figure 5.8: Institutional Coordination Framework in Lusaka City and the Spatial Interaction (Source: Author, 2017)

At the end of the process, the government has envisioned development. This development has two main underlying outcomes. The first is the investor's returns on their capital investments and the second is job creation for the people. The two have influence on how value is derived from development rights, which is the assurance to investors. Underlying these jobs and investment returns is another set of factors that affect investment. The cost of mobility for both the investors and the labor affects the returns on the investment and how the jobs will benefit the people. Understanding labor mobility and how it impacts the cost of running a business to the investor is a vital consideration. It has a bearing on household income and the investor's propensity to growth the industry to offer even more jobs. The second is access to water and sanitation. The government has taken a quick-fix approach to the supply of water and sanitation FDI themed spaces, by providing on-site water and sanitation solution. What is cardinal is the level of access to water and sanitation infrastructure by the population which supplies the labor resource to the industry. This has implication on the population's well-being and thus reliability and productivity of the labor resource.

From the review of the CUDP, the labor mobility and access to water and sanitation, are part of the informants the spatial plan. The focus of the plan is to formulate a development path that attains human well-being. This links to the form and structure of the city and how network infrastructure supports the

performance of urban form and structure, to ensure desirable urban characteristics regarding accessibility, connectivity, density and appropriate land-use mix in the City of Lusaka.

Frankly speaking, overlooking these complex interlinked socio-technical processes in any development process, may lead to significant shortcomings. The Zambia investment promotion framework does not link to the spatial interactions illustrated Figure 5.8 above. Awareness of these dynamics can only be assured by how the investment promotion process engages with spatial development planning regimes that are in close interactions with such spatial realities. Sideling the three institutions from the ZDA board were investment strategies are formulated, overshadows the underlying complex but important spatial elements of development processes.

5.4.5 Interpretation of the Analysis

The institutions discussed in this analysis, LCC, LPPA, and ZDA, by nature of their mandate, an ideal case is that they should be very integrated. However, the interaction exhibits significant levels of poor coordination. The reasons range from variations and inconsistency in their establishing legislation to fragmentated institutional framework, which is an outcome of the implementation of institutional reform programs.

The point to stress here is that the success of ZDAs legally driven mandate of investment promotion, is to a greater extent dependant on the effective spatial interaction and how infrastructure shapes these interactions. The interactions are what determine the performance of the city regarding form and structure. Network infrastructure affects the movement of people, means of communication, availability of employment opportunity and more importantly the cost of accessing these opportunities. Attempts at promoting development should be aware of these spatial interactions and how infrastructure sets the follow within which urban production manifests through the interactions. Other than missing on the opportunities that LCC points out, an approaching in promoting FDI as a key to development, which lacks collaborative and comprehensive engaging mechanism of these spatial dynamics, development success. Planning for investment and promoting it is important. However, what is even more important is how you plan and prepare for the externalities. The difference between the two is what amounts to the development dividends.

5.5 Spatial manifestations of FDI and effects on network Infrastructure provision

Promotion of FDI in Zambia post-privatization period[19] has been in a variety of form. It ranges from equity shares investment in local companies, joint ventures between the state and foreign investors, to greenfield developments with significant public investments in infrastructure. The greenfield

[19] From about 2005 onward, (see UNCTAD, 2007)

development led-FDI has drawn much of the countries focus towards manufacturing and processing industrialization.

This section analyzes the FDI-led project in Lusaka City and its metropolitan functional region, identified as sub-cases to the study. The aim was to explore the spatial manifestation of these investment decisions and how it affects the provision of network infrastructure. The selection of these sub-cases was firstly based on the projects in which the identified institutions discussed in the previous section were directly involved. The second determinant was the degree to which FDI was the driving factor in the project. The third was the level of need for infrastructure. The third determinant was with intent to understanding how the infrastructure question has been addressed and the spatial implications of the infrastructure decisions. The cases identified were the Lusaka South MFEZ, Silverest Gardens Housing Complex, and the Kafue Road Corridor. The first two are greenfield project locates outside the city boundary, however, draw traction from the proximity to City of Lusaka. Kafue Road Corridor is an inner-city project framed on spatial image building as a driver of investment.

5.5.1 Lusaka South Multi-Facility Economic Zone (LSMFEZ)

The Lusaka South Multi-Facility Economic Zone (LSMFEZ) is a project on 2,100 ha of land, based on MFEZ model introduced to Zambia in 2005 by the Japanese government. The MFEZ model blends feature of Free Trade Zones (FTZ), Export Processing Zone and the Industrial Park Concepts, implemented through facilitative legislation and institutional frameworks.

The LSMFEZ was the second MFEZ to be implemented in the country after the Chambeshi MFEZs co-owned by the Zambian and Chinese governments. LSMFEZ is the first fully government owned MFEZ running as a parastatal under the Industrial Development Corporation (IDC)[20]. Figure 5.9 below shows the location of the LSMFEZ within the context of the implementation phase of the CDUP's urban growth and the road development by 2020.

[20] IDC is the overall company managing state-owned enterprises in Zambia incorporated in 2014.

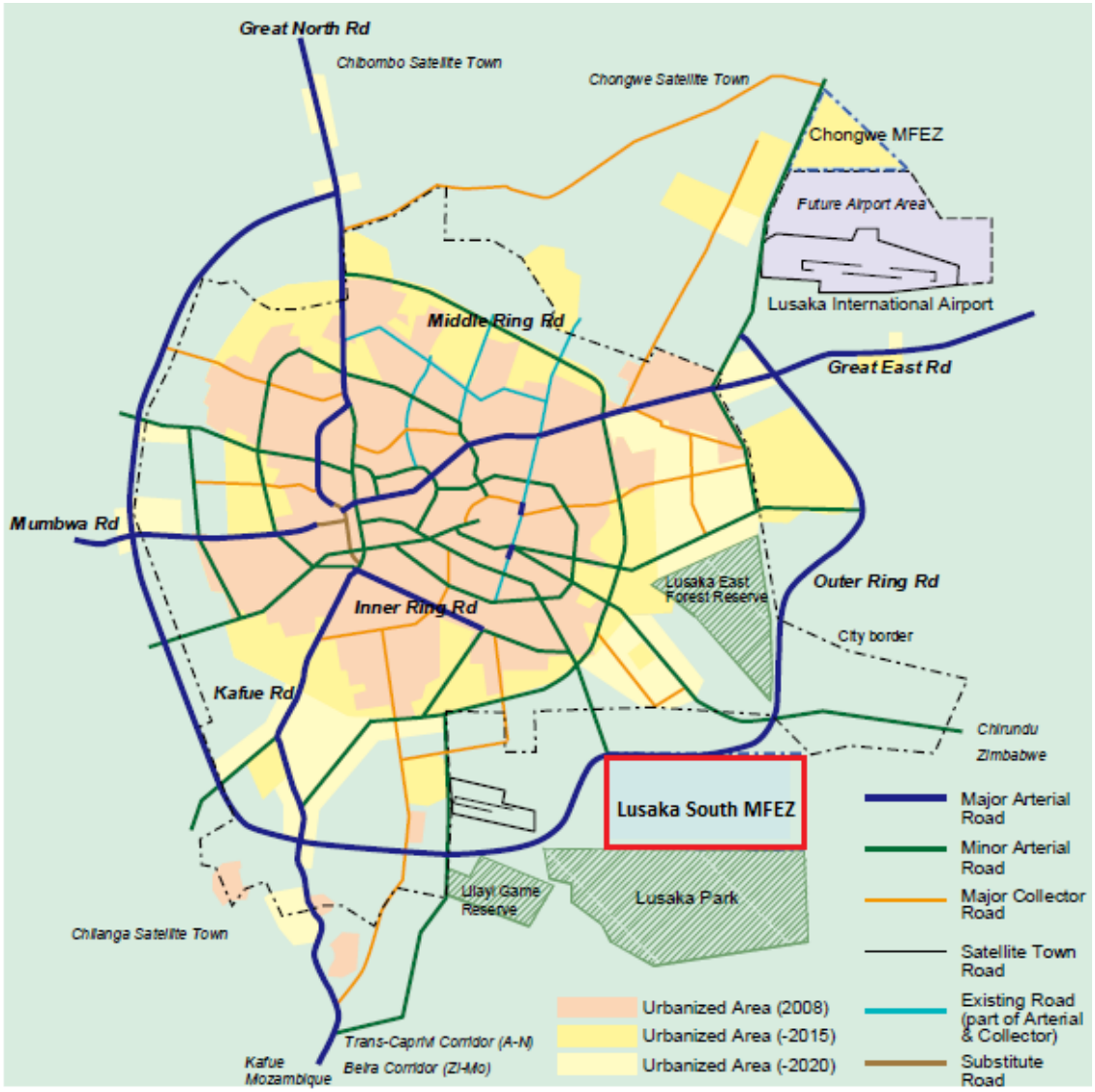


Figure 5.9: LSMFEZ in the context of the Lusaka City (Source: CUDP, 2009)

The LSMFEZ is a five-phase development spanned across 30 years. Planning for the LSMFEZ commenced in 2009. According to the LSMFEZ Master Plan's implementation schedule, the first phase started in the third quarter of 2011 and was expected to be fully implemented by the end of 2017. The possibilities of attaining full implementation far from reach, as was observed during the project visit. In an interview, the Project Technical Manager pointed out that the cause of the project lags is because setting up of ancillary infrastructure in the zone is occurring at the same pace as investor inflows. It is currently facing infrastructure and institutional capacity challenges. He indicated that:

> this project […] was approved in 2011, but serious development only started last year [2016] and this year [2017]. […] we are supposed to have about a 130 km of road […] four sewer treatment plants that are interconnected, we just have one. […] We require about 110 000 cubic meters of water per day. […] We are not even reaching 5 000 cubic meters per day. […] But the good part is the zone is not fully developed so there is room to catch up.
>
> (Interview, Zulu, July, 2017)

Figure 5.10 below shows the land-use plan of the LSMFEZ as presented in the master plan.

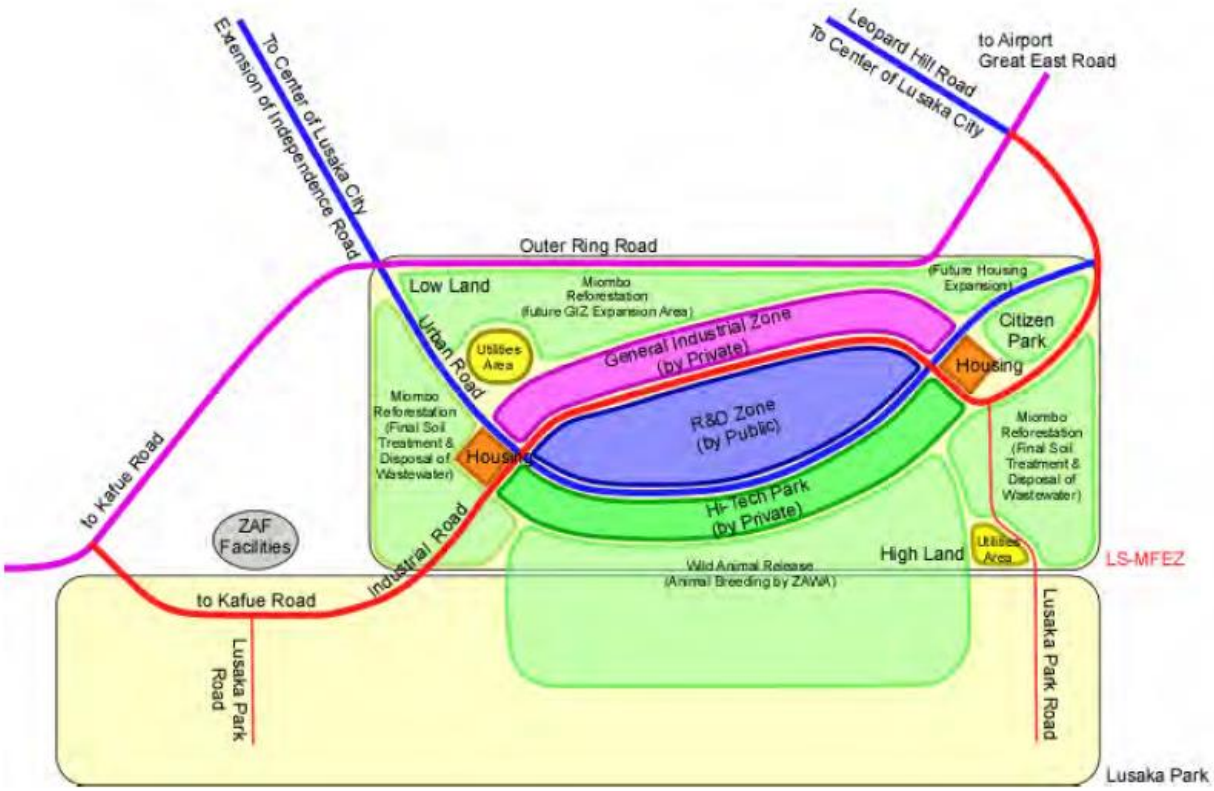


Figure 5.10: Land-use conceptual plan of the LSMFEZ

Looking at the overall MFEZ model and consideration of how well it has performed thus far, he indicates that:

> […] if we are to do it the right way, we should not go for very big areas […] as is the case for the LSMFEZ, 2100 hectares. […] Within the cites we can do less, about 100 or 200 hectares and then from there we build-on […]. But it is a very good project because […] we are having […] backward and forward linkage within the economy.
>
> (Interview, Zulu, July 2017)

The government has a strong conviction about the viability of the LSMFEZ, and it is committed to wholely funding the infrastructure facilities in the zone. However, the response from investors seems rather slow. A significant stretch of road construction in the first phase, is already in place, but developments are occurring in a few locations. All developers within the zone are on a 5-year tax incentive, which implies that any payment in taxes only started after 2016. The project currently has 34 companies approved to set up in the zone, and only two have commenced production (Zambia Breweries and NRB Pharmaceuticals – See Plate 5.1). Most of the sites already in possession are either under construction site clearing (see Plates 5.2 and 5.3).

Plate 5.1: NRB Pharmaceuticals (Source: Image taken by Author, 2017)

Plate 5.2: One of the Industries under Construction inside the LSMFEZ
(Source: Image taken by Author, 2017)

Plate 5.3: Site Cleared for commencement of Construction in the LSMFEZ
(Source: Image taken by Author, 2017)

Apart from the capacity issues that the LSMFEZ is experiencing, there other environmental aspects, which despite being made apparent, the project went ahead on accouting taking mitigation measures on the environmental impacts. According to a geological and hydrological assessment in the LSMFEZ master plan, project location is on the most-upstream of the river catchment that makes up Lusaka's hydrological system as illustrated in Figure 5.11 below. Going the geography of Lusaka – a plateau, ground water recharge occurs through river catcment systems.

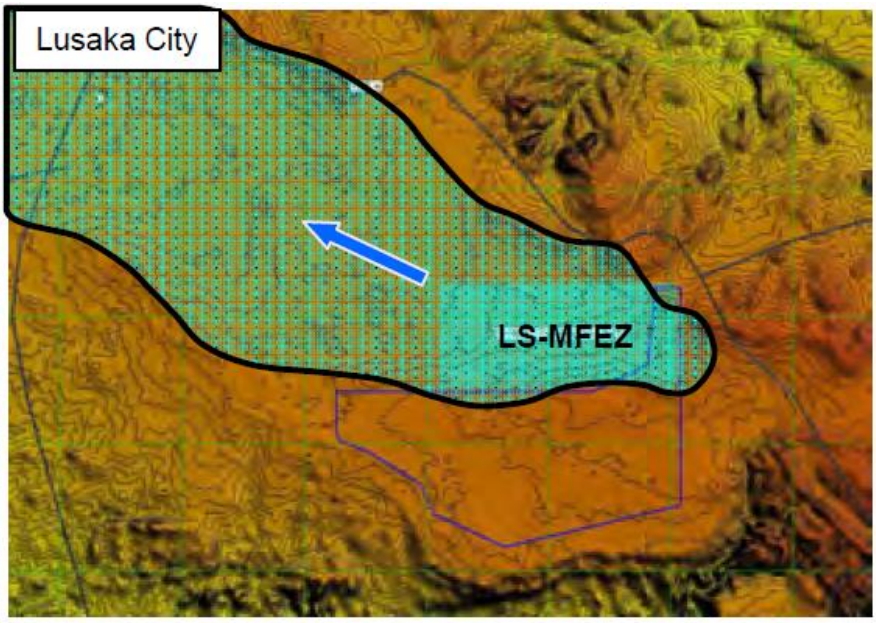


Figure 5.11: Underground Water System in Relation to the siting of the LSMFEZ
(Source: LSMFEZ Master Plan, 2010)

This exerts significant concern on the sustainability of the underground water system. According to the 2011 Lusaka Water Master Plan Investment Strategy Report, groundwater accounts for 130,000m^3/day while 95,000m^3/day comes from the Kafue river. LWSC currently operates 92 boreholes providing about 60% of the total daily water production. This extraction level does not include the private boreholes for households in parts of the city not served by LWSC. LWSC only covers 40% of water supply in the City.

The area where the zone is located was initially forest reserve[21] as illustrated in Figure 5.12 below, with function of preserving the water catchment area and the groundwater recharge system. A part of the forest reserve was de-gazetted on the ground that it had deteriorated and hence paved way for the Zone. The remainder of the forest reserve has been turned into a wildlife game reserve called the Lusaka National Park under the Zambia Wildlife Authority (ZAWA).

[21] Forest Reserve Number 27

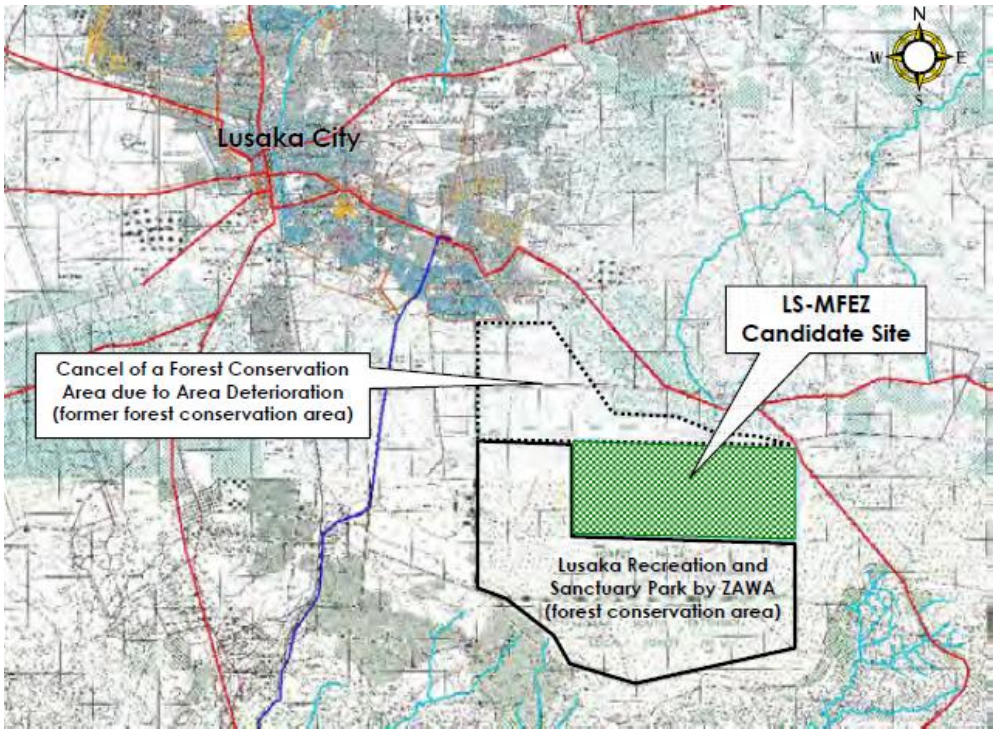


Figure 5.12: Siting of the LSMFEZ (Source: LSMFEZ Mater Plan, 2010)

The LSMFEZ master plan points out that the first phase of development, with a water demand of 3000m^3/day will be supplied through groundwater, as that demand according to the hydrological assessment was within sustainable limits. The second phase with a demand rate of 6000m^3/day will require a supplementary supply from LWSC. The third phase with demand estimated at 10,000m^3/day the supply is proposed through a separate waterworks at the Kafue river. These propositions may seem to show solutions for mitigating the hydrology impacts impact of the project. A beffiting counter argument is that, project area covering 2100 ha, which used to be the recharge zone, will be a built-up area. The directly affects the ground water recharging process. In addition, the zone will have industrial establishments, which renders the water system vulnerable to pollution.

The question on the viability of MFEZ as an approach to development needs to be tabled and reviewed, on the grounds of environmental and spatial sustainability, and its linkage to the city region. LSMFEZ has some significant spatial disconnection which may result in unintended and undesirable implications in the short and long-term. The current inertia from the government to directly fund expansion capacity of LWSC may result in severe levels of incapacity for the utility company to handle the significant urbanization effect that will result, as the LSFMEZ activities increase. Also, its exclusion from the existing spatial structure of the city not only exacerbates sprawl but reinforces it as the gap of undeveloped land created between the zone and the city has been open to development speculation.

5.5.2 Silverest Gardens Housing Complex

Silverest Gardens Housing Complex is a joint venture project between the ZDA and Henan Guoji Industry Group Company of China under a joint venture company called ZDA-Henan Guoji Development Company Limited. According to a promotion brief[22] for the project published by the company, it is a gated residential development comprising about 400 low, medium and high-cost residential properties fitted with infrastructure such as internal tarred roads, electricity, water and sewerage systems with a property management services with its own commercial and civic facilities. Figure 5.13 below shows an aerial image of the first phase of the project with 230 units.

Figure 5.13: Silverest Gardens Housing Complex
(Source: Author, 2017; Base Image Google Earth, 2017)

The project started in 2011 with an initial investment of USD16million[23] with ZDA providing and facilitating the acquisition of land, while Henan Guoji provided financing and constructing the project. Its implementation, however, was characterized by some elements of lack of institutional coordination. One of these observe elements was the provision of water and sanitation infrastructure. The supply of water and sewerage services was based on an on-site model, owing to the incapacity of LWSC. While infrastructure incapacity cannot be disputed (see Figure 5.14 below showing the extent of LWSC

[22] Available at http://zambiahighcommission.ca/wp/wp-content/uploads/RealEstateInvestment_Diaspora.pdf Accessed on 16/09/2017

[23] This is according to an article published on 5th February 2015 by the Times of Zambia. [online] available at http://www.times.co.zm/?p=49963 accessed on 16/09/2017

network coverage), the lack of involvement of LWSC for such a big housing project concerning. The senior engineer for LWSC in an interview confirmed that:

> The Silverest project is a development completely privately owned, and it is being handled by the developers themselves. We were not involved at all […]
>
> (Interview, Mungalu, July, 2017)

Being a project implemented through a joint agreement between a private sector company and a state agency, one would expect the state to involve an institution set by the law to offer advice and guidance, and possibly find a strategy to leverage the extension of service to the area. However, despite the LWSC, having severe infrastructure incapacities pointed out in section 5.3.4, it is a significant stakeholder on such projects. Poor institutional engagement on the project extended to the planning authority. The role of LPPA was significantly limited as was pointed out by the Provincial Planner;

> Our involvement was limited to granting planning permission. [However] that should follow conducting due diligence of entire project on how it is going to operate, to see if they are any externalities within the projects. […] The project has been running for some time, currently its experiencing some operational issues to do with the sewage disposal.
>
> (Interview, Mukozomba, August, 2017)

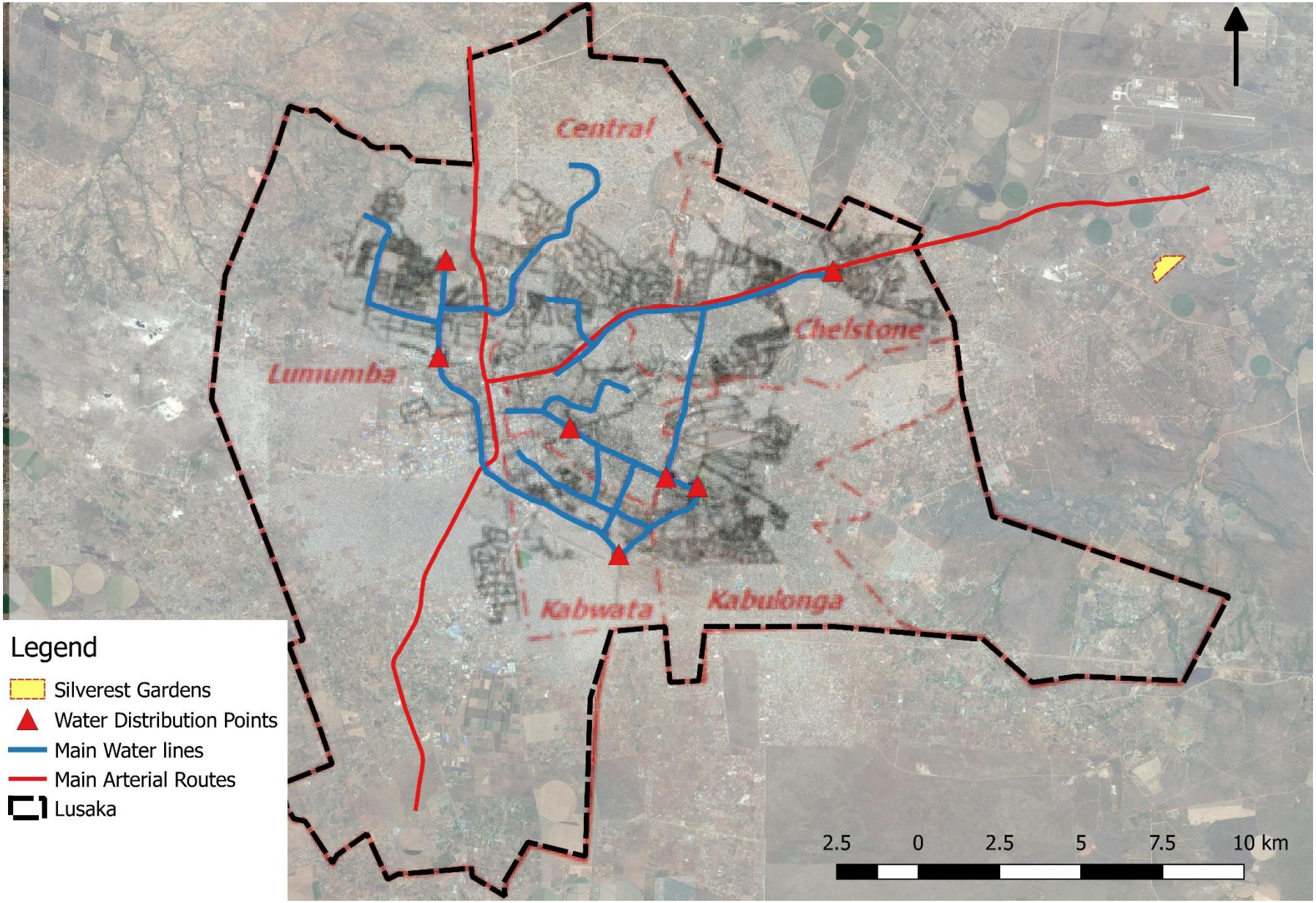


Figure 5.14: LWSC Water Distribution Coverage (Source: Author, 2017; Base Image Google Earth 2017; CUDP, 2009)

The second elements on poor institutional engagement. This project indicates a lack of foresight on how the development's institutional and geographical externalities. As shown in Figure 5.15 below, Silverest Gardens Housing Complex is located approximately 9.8km from the City of Lusaka boundary, along with the Great East Road. By jurisdiction, it falls under Chongwe District Council whose administrative center is approximately 25km from the project site, due east of Lusaka City. However, the project derives value out of its proximate location to Lusaka City. From that perspective, it is not just necessary but also appropriate to involve LCC as was pointed out by the Deputy Director of City Planning:

> Going by jurisdiction, the project area falls under Chongwe District Council. However, we were not involved at any point, even when it draws benefits from us [LCC]. It was handled by LPPA, Ministry of Lands and Chongwe District Council.

(Interview, Kufanga, July, 2017)

The point when the city is aiming to implement a sustainable urban growth management framework according to the CUDP, the national government is promoting development that exacerbates the sprawl that the city is trying to reverse, all in the name of promoting private sector investment. The Silverest project launches right into the rural-agriculture land which is increasingly being lost, a problem also identified in the CUDP. The kind of urban form and structure that is resulting from such disjointed development approached has spatial implication with regard to mobility and accessibility due to the spatial disconnection within the overall urban infrastructure system. Though some of these development fall outside the jurisdiction of LCC, their implication transcends the boundary of jurisdiction. LCC is at the receiving end of the externalities resulting from the sprawl.

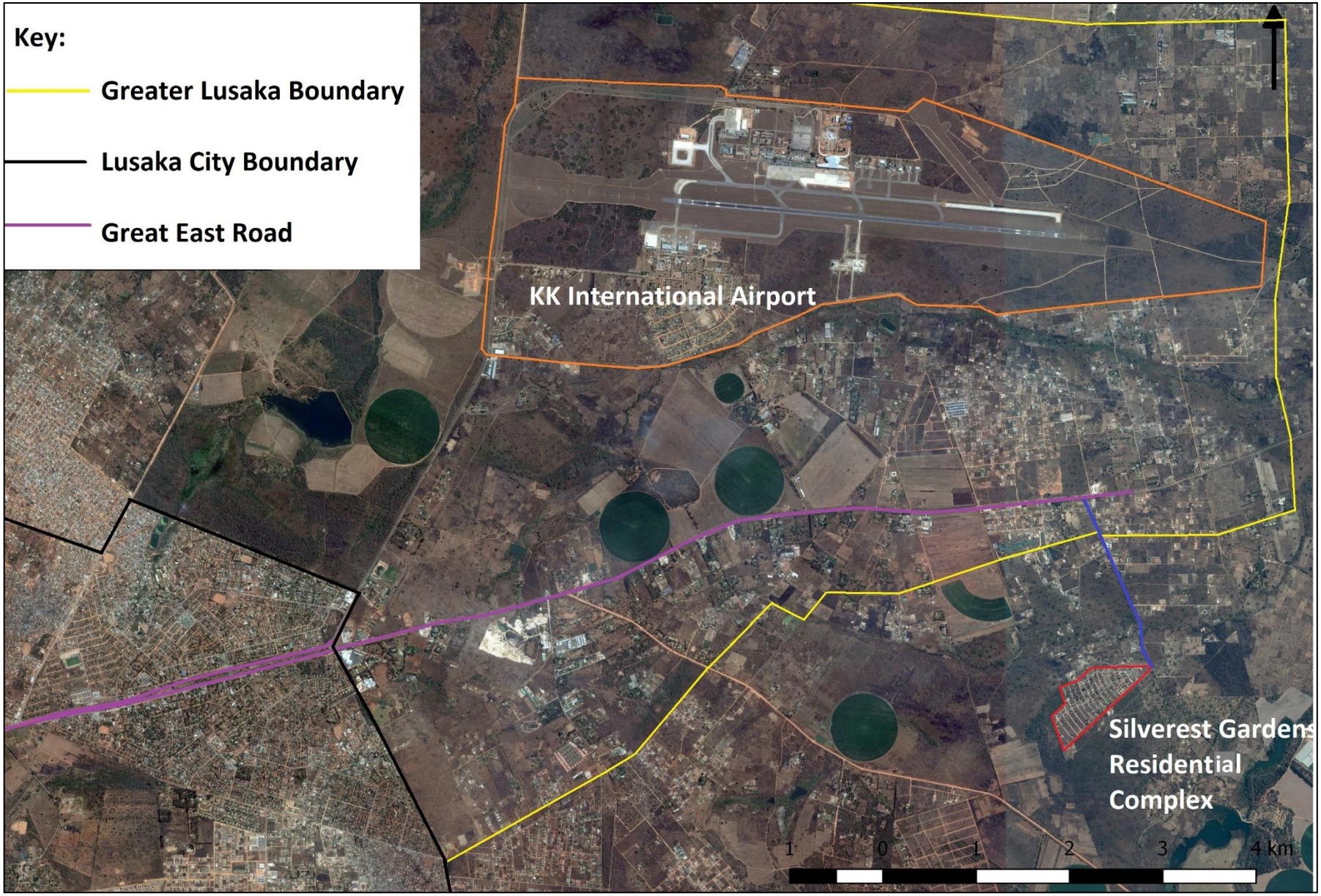


Figure 5.15: Contextual Location of Silverest Gardens (Source, Author, 2017; Base Image, Google Earth 2017)

5.5.3 Kafue Road Corridor

The Kafue Road corridor is part of the southern SADC Economic Regional Corridors; the Trans-Caprivi and the Biera Economic Corridors as shown in Figure 5.16 below. It is the entry corridor into Lusaka City from the southern African region, making it a significant area of interest to the state on how the city is introduced to those entering from the southern route.

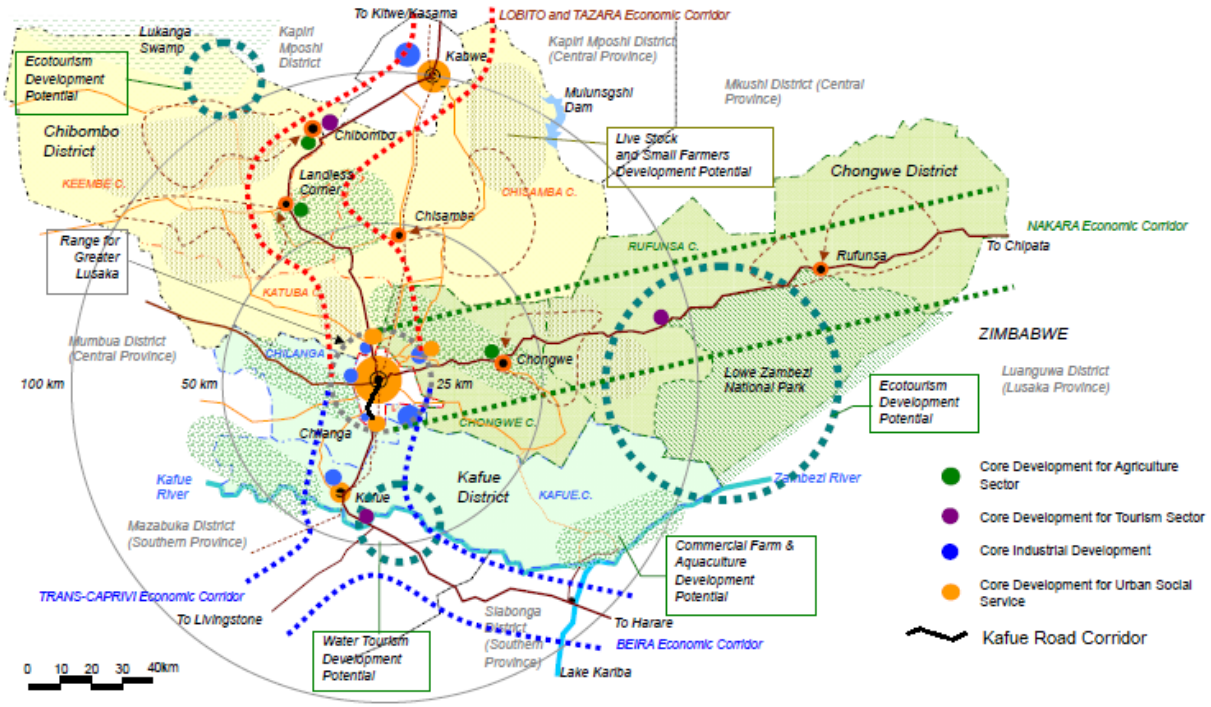


Figure 5.16: Kafue Road Corridor in the Context of Regional Economic Corridors
(Source: Adapted from CUDP, 2009)

Within the City of Lusaka's ambitions of positioning itself as a world-class city, and upholding the country's emblem of international and regional competitiveness, the outlook of the city matters. Kafue road corridor is a development placed exactly within the fulfillment of these interest and desires. Figure 5.17 below show the layout plan for the Kafue Road Corridor developed by MLGH.

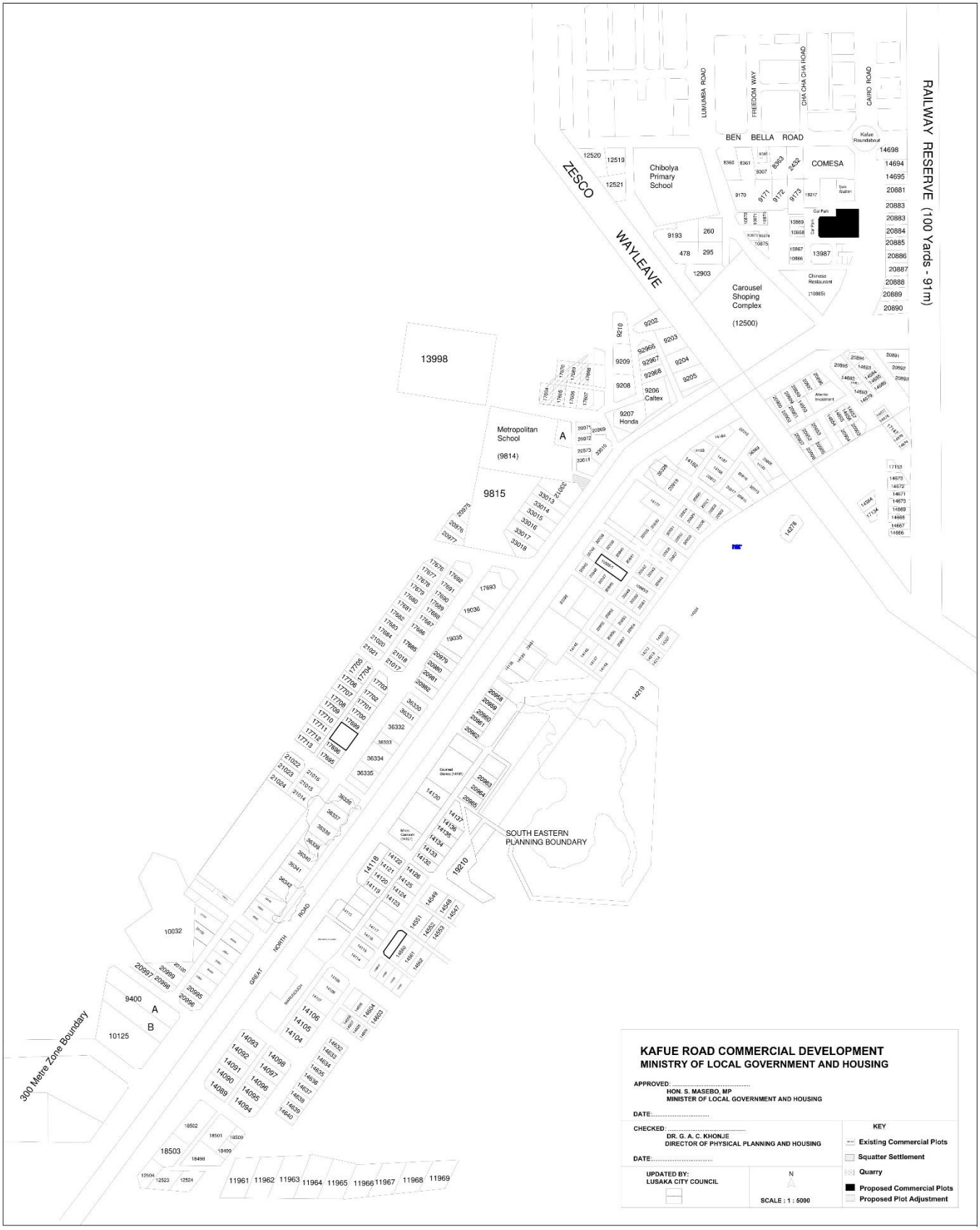


Figure 5.17: Kafue Road Corridor Layout Plan (Source: MLGH)

The formulation of the Kafue Road Corridor plan has a very interesting rationale. It has a strong narrative that considers informality as undesirable, with an inherent conviction that it is not good for the business of promoting private sector investment and most importantly attracting FDI due to the image it paints of the city to the world. The rationale was explained by the Director of Planning in the Ministry of Local Government and Housing in an excerpt from the interview outlined below:

> Misisi and Chibolya [informal settlements] on either side are very close to the Central Business District (CBD) of Lusaka [City]. The situation that has been created is that as you are coming from Kafue [south of Lusaka City], you will be greeted by some […] beautiful scenery until when you reach Makeni Mall area and before you reach Kafue traffic circle […]. You will […] be seeing a shanty compound on the left and a shanty compound on the right. Now in 1998 parliament directed the Minister of Local Government to extend the CBD […] up to Chawama turn-off [Makeni Mall]. The purpose was to hide these unsightly settlements so that you beautify that frontage. […] It was decided that a zone of 300 meters on both sides of the road [Kafue road] […] should be directly controlled by the Ministry to ensure that the development that comes up is of the desired standards to match with the current business districts.
>
> (Interview, Banda, July, 2017)

Kafue road segment falls within the jurisdiction of the LCC as the planning authority. The instruction by parliament included the withdraw of planning authority for this defined area of the city. This action of withdrawing planning authority is provided for in the spatial planning law. However, it has to be motivated by either an interest of the public or a notional government substantiated reason. The question that arose was on the reasons for parliament opting execution by the MLGH Minister and not LCC. The Director pointed out that;

> The Minister, being the one who delegates planning powers to planning authorities including LCC, parliament saw it prudent to direct the minister […] to control directly […] instead of relying on the council. Probably [the Minister] did not have faith in the council [LCC] to implement that directive in a way that would please the parliament [and assumed] responsibility […] [and] decided to control it directly […].
>
> (Interview, Banda, July, 2017)

What was even more interesting is how the whole implementation dealt with the settler that fell within the 300m buffer. He pointed out that:

> […] the interested investor should be ready to compensate the people who built those unplanned settlements. […] When an investor is interested in any of the plots that have been created [along the corridor], [we will] indicate […] the settlements that are within that plot, the houses or business then advise the investor to negotiate with the owners of those properties. Once they agree with all of them, the investor is advised to pay 50% to each one. Then we request Commissioner of Land[24] to give that investor a provisionary offer [of the land] […]. Once […] the settlers are ready to go they will request for the other 50% […] then we write to the commissioner to issue a title deed to the developer. That is the arrangement.
>
> (Interview, Banda, July, 2017)

The other question is where those compensated relocated to and if government took the responsibility of finding or facilitated their movement, as the displacement is engineered by government policy. The director stated that:

> It is not a government responsibility. Since they directly negotiate with the investor, it's between the investor and them. It's not the government. The owner of the property [the settlers] during the negotiation with the investor, it is assumed that all those issues of where […] to go have been dealt with by themselves, and have done the homework in terms of cost […] to come up with a new house in a good area or wherever.
>
> (Interview, Banda, July, 2017)

The procedures of the compensation are carried based on the Rates Act Cap 192 of the Laws of Zambia, administered by the MLGH under the Government Valuation Department (GVD) which bases compensation on property values and legality. For properties without formal documentation or proof of ownership, compensation is based on land development value, which is the composite of the value of the structure on the land. On that basis, Firstly, the land development value is very low, looking at the nature structure in informal settlements. Secondly, there are some elements which compensation does not consider such as the social systems that the family has developed, or the livelihood they derived by their location which allowed them to access urban markets.

This case is a typical scenario of an "urban modernism" that Watson (2009:174) describes as characterizing global south cities of the 21st century. It fits in the pattern she refers to of cities having core areas of economic and governmental significance protected and regulated by enforcing the law strongly, and those that cannot afford to comply with the zoning requirements are excluded to areas

[24] The Commissioner of Lands is the Public official responsible for the grant of property rights in land, on behalf of the President on a leasehold land tenure system as for in the Lands Act of the Laws of Zambia

where they can evade detection. For Lusaka on the other hand, it is not only about policy that does not favor the place of informality in the urban fabric, but a case of regulation being used to advance the government interest of making an international stage-appearance as an FDI destination. It is a kind of urban governance at the hand of globalization. Figure 5.18 below shows the Kafue road corridor in its spatial context and the implemented plan as at 2017. It is a corridor with the most renounced international brands of car dealerships such Nissan, Southern Cross Motors (a dealership for Mercedes Benz, Jeep, Fiat and Mitsubishi), four Shopping malls with most of equity in the developments owned by foreign property developers or collaboration.

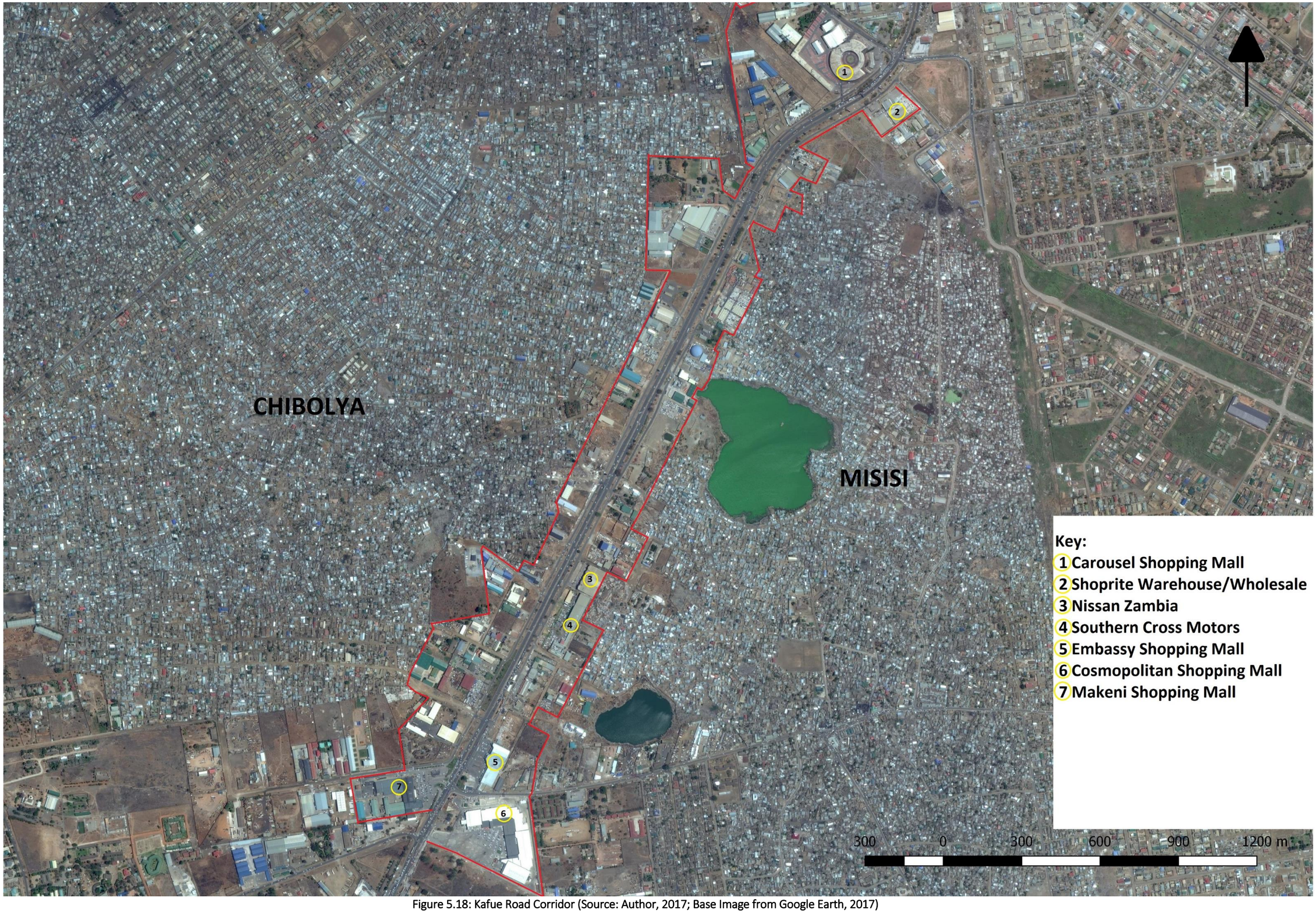


Figure 5.18: Kafue Road Corridor (Source: Author, 2017; Base Image from Google Earth, 2017)

5.5.4 Interpretation of the Analysis

Following from the analysis above, on the first sub-case, the success of the MFEZ model is significantly dependent on the approach taken its implementation process. It determines its contribution to development goal. Approaches that complement the existing spatial developments within an appropriate and scale stand a higher chance of being successful. It allows interactions with the existing urban economic activities, becoming self-reinforcing. The LSMFEZ is set up in exclusion from existing spatial city structure and its infrastructure, requiring completely new infrastructure establishments. It could have been more efficient to link closely to the existing fabric and expand infrastructure capacity without the need to extend it across sprawled geographies. Such kind of infrastructure investment mechanisms fails to take advantage of the network-infrastructure effect other than enhancing sprawl of the city.

The second case is a clear representation of lack of institutional coordination and lack of a common goal across the three tiers of government. The Silverest Project is an exclusive development, back-facing other adjacent developments which perpetuates sprawl. Such forms of urban growth exert significant strain on network infrastructure provision. The existing lag between urban growth and available infrastructure if not appropriately addressed raises the chances of the whole model of investment promotion to result in a total failure as an attempt on development. At the core of this project also is the need that investment promotion and spatial development planning need to be complementary.

The Kafue road corridor may not neatly fit into the infrastructure narrative. It, however, presents profound awakening of the use of power and interest of the state to manipulate land-use management regime to advance specific agenda at the expense of human development. The edge to attract FDI, in this case, exhibits significant social costs while using land-use regulation to legitimize the state's interest. It is befitting to question who the beneficiaries of the development argued to be brought about by FDI should be and how they actually benefit.

5.6 Chapter Summary

This chapter presented an analysis of the data collected in this study which aimed at assessing the spatial impact of FDI on the planning and provision of infrastructure in Lusaka city and its metropolitan functional region. It focused on four elements of observations drawn from the study's operationalization of the conceptual framework. The first looked at priorities set in the countries development policy and the underlying motives in the setting of these priorities. The second was on complementarities between FDI and network infrastructure policy regimes and what it means for infrastructure provision. The third identified the institutions involved in FDI promotion and the provision of network infrastructure with the aim of assessing the level of coordination across and among them, to understand how coordination is affecting efficient harnessing of FDI benefits. The fourth identified sub-case studies with the aim of

exploring the spatial manifestation of FDI promotion and its impacts on the provision of network infrastructure across the city region. What follows is a summary of the interpretation of the findings which also provides the possible answers to the research questions.

What are the priorities within the Infrastructure development agenda of the and how is priority setting affecting the planning and provision of network infrastructure?

From the analysis of the findings, the priorities in the country's development policy are inclined on the provision of what the 7NDP identifies as economic infrastructure - transport systems (road and rail), communication (ICT) and energy. This set of infrastructures is argued in the plan to aid economic productivity. The prioritization follows the government aim of attracting FDI, identified as the primary means of industrialization and job creation, which is the main goal of the development policy, carried through from the SNDP through to the 7NDP. The government's focus is to remove the main investment bottlenecks identified to be resulting from economic infrastructure inefficiencies.

Water and sanitation infrastructure has been placed lower in priority within the central funding streams and its overall emphasis in the 7NDP. Its financing has been proposed through PPP and Basket Market financing model. There is an argument of financial sustainability, and improved quality and quantity of the service underscoring market oriented proposal. However, this has implication on accessibility and affordability of water and sanitation if it must be fully planned and provided based on an economic model. In as much as it is a more suited direction regarding utility's efficiency and effectiveness, on the grounds of availability to water and sanitation services to all – especially that access to water and sanitation hinges on human rights – the state's funding to the sector is still critical.

How complementary are the policies governing FDI and network infrastructure?

The point of complementarity in the policies on investment promotion and spatial development is only on the goal to grow industrial productive capacity. The implementation of this intention to exhibit significant divergence, however. The inherent interests in the investment policy together with its promotion is to raise the country's international and global competitiveness as the key for attracting FDI. These investment strategies are formulated by the ZDA board, to which the local authority or the Ministry responsible for spatial development planning are not members. This is the major point of disconnection identified. Investment strategies are formulated without awareness of the spatial situation were these investments will be implemented, which can only be made acqured by engaging with the spatial planning policy regimes.

The fundamental cause lies in the law that establishes the investment promotion framework. It does not recognize the important role of the spatial planning as local authority are not included in the

prescribed board membership at ZDA. It is an also an indication of the lack of recognition of the interdependency between investment promotion and spatial development planning.

Which institutions are involved in the implementation of the policies and to what extent can they be described to be coordinating?

There are two classes of institutions identified based on their role in the FDI-development agenda. The first is the those with a primary role granting development rights as the leverage for private sector investments. These include LCC, LPPA, and LWSC. LWSC provide water and sanitation infrastructure which is an ancillary to development rights. The other class is ZDA whose main role is to set strategies for investment promotions, through leveraging tax and non-tax incentives. From the analysis, coordination is evidently poor across these institutions with reasons range from variations and inconsistency in the legislation framework, to fragmented institutional framework resulting from implementation of institutional reform programs.

Considering infrastructure's role in all the 'flows' of a city, it is a structuring element within which urban performance is determined. It affects the movement of people, means of communication, availability of employment opportunity and more importantly the cost of accessing these opportunities. Attempts at promoting development should be aware of these infrastructure's roles and how it shapes these urban interactions. However, this is challenging to achieve in the face of a fragmented institutional framework as observed in the case of City of Lusaka in this study. Approaches in promoting FDI as a key to development, which lacks collaborative and comprehensive mechanism of engaging with the urban spatial realities, limits its efficacy to development. Planning for investment and its promotion is important. However, what is even more important is how investment is planned and mechanisms for handling externalities are formulated. The difference between the two is what translates into the development dividends.

How is the promotion of FDI, with infrastructure identified as the enabler of FDI inflows, manifesting spatially in terms of urban form and structure of the city and its broader functional region?

From the first case, it can be said that the MFEZ model is an effective approach to development. However, the way it is implemented determines the extent to which it can effectively contribute to development. Its contribution is profoundly dependent on how it complements the existing spatial development and by also if it is implemented at an appropriate scale, which allows interaction with the existing urban economic activities. LSMFZ is spatially disconnected with the existing city structure. Apart from expressing significant environmental concerns regarding water, it has been successful in aiding sprawl as the land gap created between the LSMFEZ and the existing city development raises speculation for development. This endorses perpetual sprawl amid an increasing the infrastructural incapacity.

Similarly, the Silverest Garden Housing Complex adds to the sprawl of the city. What is even worrying about this case is not only lack of complementing adjacent development, but it consumes valuable agricultural land which has a bearing on the cities food security. The Kafue Road Corridor case showed how the need to attract FDI is being used to manipulate land-use management systems at a significant social cost. It is resulting in the deliberate spatial displacement of those that cannot secure a place on the urban production systems to claim their right to the city.

The first and the second cases go against the spatial direction set in the CUDP, while the last case stays within the need to corporate brand the city as a lucrative space for capital accumulation. it is a befitting example of desiring to be globally competitive by expressing the favorability of the city by the outlook for private investment. However, when such attempts result in displacement and lose of livelihood, they deserve to be questioned.

Chapter 6
Conclusions and Recommendations

6.0 Introduction

This chapter outlines the conclusions and reccomendations of the study. The first part gives a brief recap on the research objectives outlined in the background to the study and the second part outlines the conclusions. The last part presents the study's recommendations.

6.1 Recap on The Research Objectives

The underlying research problem is an observed need to be globally competitive to attract FDI argued as a of development, spatial manifestations that are not in keeping with spatial development policy, significantly impacting on delivery of network infrastructure in the Lusaka City. This observation questions the essence of such development policy strategies, on their efficacy of achieving economic development as their inherent goal. From this proposition, the following research objectives were formulated:

- To identify the priorities within the national development agenda and investigate how the priority setting was affecting delivery of network infrastructure.
- To analyze the policies governing FDI and network infrastructure and assess their complementarity.
- Identify institutions responsible for the implementation of the policies and investigate their coordination and the effect on efficiently harness the benefits of FDI.
- To explore how the promotion of FDI, was manifesting spatially regarding urban form and structure of the city and its broader functional region and the implication to infrastructure delivery.

6.2 Conclusions

Space, together with its production process, is the fundamental function of investment. Both public and private investment have the goal of achieving returns on investment. The only variance is that the former is often inclined on social benefits such improvement people's welfare, while the latter has an economic motivation to accumulate additional capital value. However, regardless of the envisioned benefits, the principal fact to both entities is that investment promotion and space production are interdependent. This implies that investment promotion and spatial development planning should be co-constitutive. Spatial planning provides means through which investors can acquire additional value, while investment gives spatial planning the efficacy of achieving the development goal.

FDI has become a popular participant in development policy, with countries advancing the idea by implementing institutional and legislative reforms to create an enabling environment that enhances inflow of FDI. Network infrastructure has been recognized as a primary element in the FDI-led development agenda. The translation of FDI into development, however, is conditioned by how the framework of regimes at the core of advancing the development goal understand the socio-technical nature of network infrastructure. What is more important is the awareness of the spatial manifestation of the socio-technical process inherent in infrastructure.

Network infrastructure is a performance function of urban systems which are the social and economic production units of the city. The urban form and structure created as infrastructure evolve through the urban fabric is a representation of the needs and desires of the users of urban space and how this space create meaning to those needs. It defines accessibility, connectivity, densities and appropriate land-use mixes, which are the inherent factors that define desirable urban spaces. Appropriately formulated development policy that considers infrastructure as an enabler of development, needs to embrace these different layers of infrastructure characteristics. Following the objectives of this study, the following conclusive deductions were made.

Identification of the notional development policy priorities and its effects on delivery of network infrastructure.

The goal of the Zambia's national development policy – the 7NDP – is industrialization led by private sector investment. The policy identifies the provision of infrastructure as the principal driver for investment and has been set high on public capital financing agenda. However, within the infrastructure, the policy prioritizes what it classifies as economic infrastructure – transport, communication, and energy. Water and sanitation have been rendered to the PPP and basket finance model which are market-based mechanisms.

The setting of PPP and basket finance models as the option for water and sanitation, has a compelling argument for increased efficiency and quality of the service. This argument holds content in theory and to some extent in practice. However, the point of contestation is on the applicability of these models in a southern context urbanism. Firstly, the very fact that they are profit-seeking approaches, attention is focused on profitable sections of the city with reduced complexity of customer access. With Lusaka City having 60% of its population in informal settlements and often a rare focus of attention by the private sector investment interests, it implies that provision of water and sanitation will be limited. Secondly, underlying prerequisites which prescribe success of these market-based infrastructure provision mechanism, such as availability of consumer information and profitable tariffs, have a limited availabitilty in City of Lusaka. It raises questions of the practicality of these mechanisms.

The focus on infrastructure provision, narrowly on technical approach framed on economic undertones, sidelines social characteristics of infrastructure which equality have a significant foothold on economic production efficiency. Improved roads may support access to production centers, but if the people that provide the labor needed in production do not have access to affordable and adequate water and sanitation, reliability and productivity of the labor resource will be affected. Productivity is intertwined in a socio-technical interdependency which investment promotion and should not ignore. They are within a frame of relations where each one's function can only be defined and identified as part of the system. As such, considering infrastructure only on technical and economic underpinnings may cause the much-desired development to become elusive.

Analysis of policies governing FDI and network infrastructure and their complementarity

There is a significant divergence between the promotion of the FDI and spatial development planning regimes. The reasons leading to this situation emanate from the inefficiencies in legislation driving the process of investment promotion – the Zambia Development Act. The Act establishes the Zambia Development Agency (ZDA) and a board with the overarching function of investment promotion. It, however, does not prescribe the instruments necessary to effectively and efficiently structure investment promotion. Neither does it explicitly state that investment strategies need to the integrated into the spatial development planning. Despite the country having an ambitious program of promoting private sector participation in development, there is no policy to guide this process. The environment in which these investment strategies are supposed to be implemented occurs in dynamic spatial processes. For investment to be effective it cannot be promoted entirely based on the law, which is a static instrument not easily adjustable to fit the spatial dynamisms. The argument being made here is that there should be policy to guide investment responsive to the spatial dynamism while heeding within the provisions of the law.

The other deficiency in Act is that, among the prescribed members of the ZDA board, there is no representation from the local authority or the ministry dealing with spatial development planning. It is an indication of the lack recognition and understanding of spatial development planning's role in investment. This implies that investment strategies are made with a limited – to some extent without – awareness of the spatial scenario of the environment where the investment is supposed to be implemented. Such fragmentations limit the degree to which returns on investment for both the state and the investor can be attained.

Identification of institutions in the promotion of FDI and network infrastructure, analyzing their coordination and its effects on efficiently harnessing of FDI benefits

Across the two classes of institutions identified – one aligned with investment promotion (ZDA) and the other class responsible for infrastructure delivery through spatial planning (LCC, LWSC, and LPPA) – there is a weak link regarding coordination. One of the primary reasons emanates from the legislative inefficiencies and the lack of an encompassing policy discussed above. As is a tradition for government institutional operations, activities and roles are defined and established by law. Therefore, in the absence of a legal provision that emphasizes the needs to coordinate operations within the institutional framework, interaction and integrations is limited.

The weak institutional coordination has culminated into investment promotion by rushing into the provision of infrastructure, without fully understanding that dynamics that make infrastructure an effective tool for development. This is because a platform where interaction that can lead to a better understanding of the robustness of infrastructure as a socio-technical process is not available. The implication for such knowledge gaps is that investment planning may follow strategies not suited to the spatial situation. The inevitable outcome is poor management of externalities to the extent that the positive externalities such as increased productivity are overshadowed by negative ones such as infrastructure incapacity due to urban growth pressures that come with increased economic activities.

Exploration of how the promotion of FDI and its spatial manifestation in terms of urban form and structure of the city and its broader functional economic region

The sub-case studies explored in this study indicate significant spatial manifestations. The LSMFEZ, exhibit a spatial disconnect from the existing urban structure, despite priding itself as 'a city within a city'. There is a clear divide between the LSMFEZ and the Lusaka's footprint, separated by stretches of undeveloped land, which have now been opened to development speculation. The project has remarkably exacerbated the city's growing challenges of urban sprawl and infrastructure delivery. These concerns are shared with the Silverest Gardens Housing Complex. However, in the silverest case, it hinges on loss of agricultural land, adding to rising food security concerns in the city as the sprawling urban growth advancing into agricultural land. The Kafue Road Corridor dwells on political interests which privileges corporate imaging at the expense of people's livelihood. It is a case of reviving the inner city without a clear understanding of the social and economic implication of such spatial mechanisms. These manifestations are a result of the knowledge gap between investment promotion and urban spatial process.

As investment promotion and spatial development planning are inherently interdependent, implementation framed within spatially integrated strategies has a promise for success. What is more assuring for FDI-led development that identifies infrastructure as the propellant, is when such development interventions are complementary to the existing urban form and structure. It benefits

from the existing cohesion of urban activities and production systems with an already established rhythm of functioning. It's addition to the existing spatial systems, is likely to enhance the local area productivity. The resulting compactness and concentration of activities reduce the spatial impacts such as sprawl and cost of infrastructure provision.

6.3 Recommendations

From the conclusions above, the four categories of recommendations are put forward. The first is targeted at addressing identified legal framework deficiencies. The second category focuses on the policy framework, while the third is on institutional framework. The fourth points out areas that may need further research to understand infrastructure's socio-technical process in urban production systems in the context of southern urbanism.

6.3.1 Legislation Review Recommendation

The first recommendation here is review of Zambia Development Act No. 11 of 2006. This law needs to explicitly outline instruments prerequisite for promotion and management of investment such as a policy statement, giving context-specific guidelines localized within the development framework of the spatial planning regimes. It should point out explicitly the need for investment promotion to be fused within spatial development planning systems. This implies that members of the ZDA board should include the planning authority, the Ministry of Local Government and Housing and the Ministry of Lands, which will allow spatial considerations from the on-set in the investment promotion strategy formulation process.

Further, to make spatial planning more flexible and suited to the development specificities, which will allow appropriate fusing of investment strategies with spatial planning, there is need to formulate a municipal planning by-law. As the Urban and Regional Planning Act No. 3 of 2015, is a national and more of a framing legislation, it may be challenging to respond with the flexibility needed in addressing context-specific investment needs of the local area. The municipal planning by-law renders an opportunity to incorporated urban growth management strategies proposed in CUDP, which will be parameters for development strategies such as FDI.

6.3.2 Policy Recommendations

As development dividends from strategies such as FDI accrue depending on how well both positive and negative impacts are managed and optimized, an investment to guiding investment promotion strategies linking to spatial development planning needs to be formulated. This policy should provide a framework of interaction between institutions, acknowledging their respective roles and defining assumed role within investment promotion. It should also create a transverse linkage between relevant legislation within the investment framework, define their interactions and how they can be utilized to

enhance effective harnessing of the FDI benefits. Most importantly appropriately recognize the function of development elements such as network infrastructure comprehensively, emphasizing how all its components – social and technical – are an important part of the system of production and cannot be assumed as a separate entity.

6.3.3 Institutional Recommendation

There is a strong case made in the literature reviewed in this study that an efficient and effective institutional framework is a significant determinant in how well private sector engagement approaches contribute to the development agenda. It raises investor confidence on the security of their investment also reduces the public investment risk. On network infrastructure, and water and sanitation in particular, a well-coordinated institutional framework is a primary determinant of the willingness of the private sector to enter into PPP agreements or the basket finance models. There is need therefore to concert efforts on creating effective institutional coordination both in policy and regulatory framework.

Further, the approach to investment promotion should be framed within a broadly integrated institutional collaborative framework of planning authorities within the Lusaka metropolitan functional region, so that spatial development across the city region is planned and managed appropriately. It should aim at promoting investment that is more suited to the local area based on nuances of the development need and infrastructure capacities.

6.3.4 Area of Further research in Infrastructure and Socio-Technical Systems

This study focused on how government policy maneuvers are impacting infrastructure and investigated the nature of these impacts in the context of southern urbanism. Keeping to the southern context, areas of interest for further research may include explorations from the household perspective, how interactions with the infrastructure socio-technical process affect their actualization of urban space and what role infrastructure assumes to the household in that space. A further exploration can be extended on how FDI-led spatial manifestations are affecting labour productivity and reliability and the implication on investment output and household's well-being.

7.0 Reference

Adams S., 2009. *Can foreign direct investment (FDI) help to promote growth in Africa?* African Journal of Business Management, 3(5); 178-183.

AfDB, 2015. *African Development Report*. African Development Bank.

AfDB, 2016. *African Development Report*. African Development Bank

Agénor P.R., 2010. *A Theory of Infrastructure-led Development*. Centre for Growth and Business Cycle Research, Economic Studies, Discussion Paper Series Number 083. University of Manchester.

Akinlo E.A., 2004. Foreign direct investment and growth in Nigeria, An empirical investigation. Journal of Policy Modeling, 26 (2004); 627–639.

Albiman, M.M., 2016. *What are the Impact of Foreign Aid to the Economic Growth? Time Series Analysis with New Evidence from Tanzania.* Business and Economics Journal, 7(3): 237. doi:10.4172/2151-6219.1000237

Artana D., Bour E., Bour J. L., and Susmel N., 2010. *Strengthening long-term growth in Argentina*. Paper prepared for the OECD Economic Development and Review Committee (EDRC) Seminar "Beyond the crisis – returning to sustainable growth in Latin America". 24th November 2010, Paris-France.

Asiedu E., 2002. *On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different?* World Development, 30(1): 107-119.

Asiedu E., 2004. *Policy Reforms and Foreign Direct Investment in Africa: Absolute Progress but Relative Decline*. Development Policy Review, 22(1): 42-48.

Baldwin J.R., and Dixon J., 2008. *Infrastructure Capital: What Is It? Where Is It? How Much of It Is There*? Statistics Canada – Catalogue no. 15-206-X, no. 016.

Barca F., 2011. *Alternative Approaches to Development Policy: Intersections and Divergences*. In OECD, 2011. OECD Regional Outlook 2011: Building Resilient Regions for Stronger Economies. OECD.

Barca F., McCann P., and Rodriguez-Pose A., 2012. *The Case for Regional Development Interventions: Place-Based Versus Place-Neutral Approaches*. Journal of Regional Science, 52(1): 134-152. Wiley Periodicals Inc.

Bender T., 2012. *The Postscript*. In Farías I., and Thomas Bender T., 2012. Ed., T. Urban Assemblages: How Actor-Network Theory changes urban studies. Routledge.

Bennett D.L., Faria H.J., Gwartney J.D., and Morales D.R., 2017. *Economic Institutions and Comparative Economic Development: A Post-Colonial Perspective.* World Development, 96;503–519.

Berthélemy J.C., 2006. *Bilateral Donors' Interest vs. Recipients' Development Motives in Aid Allocation: Do All Donors Behave the Same?* Review of Development Economics, 10(2);179–194.

Blakstad O., 2008. *Research Methodology*. [Online] Available at Explorable.com: https://explorable.com/research-methodology. Accessed on 29/09/2017

Bogetic´ Z˘., and Fedderke J.W., 2009. *Infrastructure and Growth in South Africa: Direct and Indirect Productivity Impacts of 19 Infrastructure Measures.* World Development, 37(9);1522–1539.

Bolton R., and Foxon T.J., 2014. *Infrastructure transformation as a socio-technical process — Implications for the governance of energy distribution networks in the UK.* Technological Forecasting & Social Change 90 (2015) 538–550.

Buchanan S., 2014. *Has Globalization Altered the role of the State?* E-international Relations Students. [online] Available at http://www.e-ir.info/2012/11/24/has-globalisation-altered-the-role-of-states/ Accessed on 30/10/2017.

Castell M., 2010. *The Information Age – Economy, Society and Culture: Rise of the Network Society*. Blackwell Publishers.

Chanel J., 2016. *Capitalizing on Urbanization: The Importance of Planning, Infrastructure and Finance for Africa's Growing Cities.* In Foresight Africa; Priorities for the Continent in 2016, Edited by Amadou Sy. Africa Growth Initiative at Brookings.

COHA, 2005. *The IMF and the Washington Consensus: A Misunderstood and Poorly Implemented Development Strategy*. Council for Human Affairs. [online] Available at http://www.coha.org/the-imf-and-the-washington-consensus-a-misunderstood-and-poorly-implemented-development-strategy/ Accessed 17/08/2017.

Connell J.P., and Kubisch A.C., 1998. Applying a Theory of Change Approach to the Evaluation of Comprehensive Community Initiatives: Progress, Prospects, and Problems. The Aspen Institute. Available at http://www.dmeforpeace.org/sites/default/files/080713%20Applying+Theory+of+Change+Approach.pdf (accessed on 18/10/2017)

Coutard O., 2008. *Placing splintering urbanism: Introduction*. Geoforum, 39 (2008);1815–1820.

CSO, 2010. 2010 Census of Population and Housing National Analytical Report. Central Statistical Office, Zambia. Available at https://www.zamstats.gov.zm/phocadownload/2010_Census/2010%20Census%20of%20Population%20National%20Analytical%20Report.pdf (Accessed 23/10/2017)

Cunningham S.W., and Kwakkel J.H., 2009. *A Theory of Infrastructure Provision*. Faculty of Technology, Policy, and Management, Delft University of Technology

Dang G., and Sui-Pheng L., (2015). *Theories of Economic Development*. Infrastructure Investments in Developing Economies, DOI 10.1007/978-981-287-248-7_2.

Davis M.C., Challenger R., Jayewardene D.N.W., and Clegg C.W., 2013. *Advancing socio-technical systems thinking: A call for bravery.* Applied Ergonomics, 45(2014);171-180.

Dewar, D. and Todeschini, F., 2004: *Rethinking Urban Transport after Modernism: Lessons from South Africa.* Aldershot, Ashgate.

Dogan E., 2013*. Foreign Direct Investment and Economic Growth in Zambia.* International Journal of Economics and Finance, 6(1);148-154.

Donaubauer J., Meyer B., and Nunnenkamp P., 2016. *Aid, Infrastructure, and FDI: Assessing the Transmission Channel with a New Index of Infrastructure.* World Development, 78;230–245.

Dupasquier C. and Osakwe P.N., 2006. *Foreign Direct Investment in Africa: Performance Challenges and Responsibilities.* Journal of Asian Economics 17(2006): 241-260. Elsevier.

Estache A., 2006. *Africa's infrastructure: challenges and opportunities.* Realizing the Potential for Profitable Investment in Africa, High-Level Seminar organized by the IMF Institute and the Joint Africa Institute, from 28th February to 1st March, 2006, Tunis, Tunisia.

Estache A., and Fay M., 2007. *Current Debates on Infrastructure Policy*. Commission on Growth and Development, Working Paper No. 49. World Bank.

Estache A., Foster V., and Wodon Q., 2002. *Accounting for Poverty in Infrastructure Reform: Learning from Latin America's Experience*. World Bank Institute.

Fayissa B., and El-Kaissy M.I., 1998. *Foreign Aid and the Economic Growth of Developing Countries (LDCs): Further Evidence*. Studies in Comparative International Development, p37-50.

Flyvbjerg B., 2011. *Case Study,* in Norman K. Denzin and Yvonna S. Lincoln, eds. The Sage Handbook of Qualitative Research, Chapter 17; 301-316. 4th Edition. Sage

Francois J., and Machin M., 2013. *Institutions, Infrastructure, and Trade*. World Development, 46;165–175.

Fuenfschillinga L., and Truffer B., 2013. *The structuration of socio-technical regimes—Conceptual foundations from institutional theory*. Research Policy, 43(2014);772–791.

Fuenfschillinga L., and Truffer B., 2015. *The interplay of institutions, actors and technologies in socio-technical systems — An analysis of transformations in the Australian urban water sector*. Technological Forecasting & Social Change, 103(2016); 298–312.

Furlong K., 2014. *STS beyond the "modern infrastructure ideal": Extending theory by engaging with infrastructure challenges in the South*. Technology in Society, 38 (2014);139–147.

Furlong K., 2014. *STS beyond the "modern infrastructure ideal": Extending theory by engaging with infrastructure challenges in the South*. Technology in Society, 38 (2014);139–147.

Geels F.W., 2004. *From sectoral systems of innovation to socio-technical systems Insights about dynamics and change from sociology and institutional theory*. Research Policy, 33(2004);897–920.

Geels F.W., and Kemp R., 2007. *Dynamics in socio-technical systems: Typology of change processes and contrasting case studies.* Technology in Society, 29(2007);441–455.

Gohou G., and Soumare´ I., 2011. *Does Foreign Direct Investment Reduce Poverty in Africa and are There Regional Differences?* World Development, 40(1); 75–95.

Gore C., 2000. *The Rise and Fall of the Washington Consensus as a Paradigm for Developing Countries*. World Development 28(5);789-804, 2000.

Graham (2010). *Interview with Graham*. In Farías I., and Thomas Bender T., 2010. Ed., T.Urban Assemblages: How Actor-Network Theory changes urban studies. Routledge.

Graham and McFarlane, 2010. *Infrastructural Lives: Urban infrastructure in context*. Routledge.

Graham S., 2000. *Constructing Premium Network Spaces: Reflections on Infrastructure Networks and Contemporary Urban Development*. International Journal of Urban and Regional Research, 24(1): 183-200.

Graham, S., and Marvin, S., 2001. *Splintering Urbanism: Networked Infrastructures, Technological Mobilities and the Urban Condition.* Routledge, London

Gray P., 2001. *Private Participation in infrastructure: A Review of the Evidence. Public Provision of Public Service Group, Private Sector Advisory Services.* The World Bank.

Guild R.I., 2000. *Infrastructure Investment and Interregional Development: Theory, Evidence, and Implications for Planning.* Public Works Management and Policy, 4(4);274-285.

Guy S., Graham S., and Marvin S., 1997. *Splintering Networks: Cities and Technical Networks in 1990s Britain.* Urban Studies, 34(2) 191-216.

Harris C., 2003. *Private Participation in Infrastructure in Developing Countries: Trends, Impacts, and Policy Lessons.* The World Bank.

Healey P., 2004. *The Treatment of Space and Place in the New Strategic Spatial Planning in Europe*. International Journal of Urban and Regional Research, 28(1);45-67.

Hodson M., and Marvin S., 2010. *Can cities shape socio-technical transitions and how would we know if they were?* Research Policy, 39 (2010);477–485.

Hull A., 1998. *Spatial planning: The development plan as a vehicle to unlock development potential?* Cities, 15(5);327–335.

Hurrell A., and Sengupta S., 2012. *Emerging powers, North–South relations and global climate politics*. International Affairs, 3(2012);463–484.

Huxley M. and Yiftachel O., 2000. *New Paradigm or Old Myopia? Unsettling the Communicative Turn in Planning Theory.* Journal of Planning Education and Research, 19(4): 333-342.

Ikenberry G.F., 2011. *The Future of the Liberal World Order*. Foreign Affairs, 90(3);56-68.

Islam R., 2004. *The Nexus of Economic Growth, Employment and Poverty Reduction: An Empirical Analysis*. Issues in Employment and Poverty Discussion Paper No. 14. International Labour Office, Geneva.

Jacobs K., 2006. *Discourse Analysis and its Utility for Urban Policy Research*. Urban Policy and Research, 24(1); 39–52.

Jaglin S., 2008. *Differentiating networked services in Cape Town: Echoes of splintering urbanism?* Geoforum, 39(2008);1897–1906

JICA, 2007. A Review of the FNDP, PDP and DDP Development Processes. Commissioned by JICA in response to a request from the Ministry of Finance and National Planning and the Decentralization Secretariat, Ministry of Local Government and Housing of the Republic of Zambia. Institute for International Cooperation, Japan International Cooperation Agency.

Jiménez A.C., 2013. *The right to infrastructure: a prototype for open source Urbanism*. Society and Space,32(2014);342 – 362

Kalaitzidakis P., and Kalyvitis S., 2001. *On the macroeconomic implications of maintenance in public capital.* Journal of Public Economics, 88 (2004);695– 712.

Klein L., 2013. *What do we actually mean by 'sociotechnical'? On values, boundaries and the problems of language*. Applied Ergonomics, 45 (2014);137-142.

Kodongo O., and Ojah K., 2016. *Does infrastructure really explain economic growth in Sub-Saharan Africa*? Review of Development Finance, 6(2016);105–125.

Kohlbacher F., 2006. *The use of Qualitative Content Analysis in Case Study Research*. Forum: Qualitative Social Research, 7(1). Art 21. http://nbn-resolving.de/urn:nbn:de:0114-fqs0601211.

Kooy M., And Bakker K., 2008. *Technologies of Government: Constituting Subjectivities, Spaces, and Infrastructures in Colonial and Contemporary Jakarta*. International Journal of Urban and Regional Research, 32(2); 375–91.

Kumari A., and Sharma A.K., 2017. *Physical & social infrastructure in India & its relationship with economic development.* World Development Perspectives 5 (2017) 30–33.

Lall S.V., Henderson J.V., and Venables A.J., 2017. *African Cities: Opening Doors to the World*. World Bank.

Landegren F., 2014. *Critical Infrastructures as Socio-Technical Systems: Applications to electricity distribution systems.* Tryckeriet i E-huset, Lund University.

Lawrence T.B., Sudday R., and Leca B., 2008. *Institutional work: Actors and agency in institutional studies of organizations*. 10.1017/CBO9780511596605.001. https://www.researchgate.net/publication/273635793_Institutional_work_Actors_and_agency_in_institutional_studies_of_organizations

Leech L.N., and Onwuegbuzie J.A, (2007). *Array of Qualitative Data Analysis Tools: A Call for Data Analysis Triangulation.* School Psychology Quarterly, 22(4); 57–584.

Leech L.N., and Onwuegbuzie J.A, (2007). *Array of Qualitative Data Analysis Tools: A Call for Data Analysis Triangulation.* School Psychology Quarterly, 22(4); 57–584.

Maliwa E and Nyambe J.M., 2015. *Investigating the Impact of FDI on Economic Growth in Zambia: 1980 – 2012.* European Journal of Business, Economics and Accountancy, 3(3); 41-50.

Mandiyanike D., 2009. *The dilemma of conducting research back in your own country as a returning student – reflections of research fieldwork in Zimbabwe.* Royal Geographical Society, 41(1); 64–71.

Marvin S., and Guy S., 1997. *Infrastructure Provision, Development Processes and the Co-Production of Environmental Value*. Urban Studies, 34(12); 2023-2036.

Matthews S., 2004. *Development Theory and the Question of Alternatives: A View from Africa*. Third World Quarterly, 25(2);373-384.

McArthur J.W., and Werker E., 2016. *Developing countries and international organizations: Introduction to the special issue.* Developing countries and international organizations 11(2016);155–169.

MCAZ, 2011. Water Supply Investment Master Plan Lusaka, Zambia. Millennium Challenge Account Zambia, Government of the Republic of Zambia. Available at http://www.mcaz.gov.zm/wp-content/uploads/2015/10/Lusaka-Water-Master-Plan-investment-strategy-report-for-printing-V2.pdf. (Accessed on 13/10/2017)

McFarlane C., 2008. *Materiality, the 'Southern City' and Urban Theory.* Geography Compass, 2(2): 340–358.

McFarlane C., and Rutherford J., 2008. *Political Infrastructures: Governing and Experiencing the Fabric of the City.* International Journal of Urban and Regional Research, 32(2);363-374.

MCTI, 2009. The Study of The Mater Plan for the Lusaka South Multi-Facility Economic Zone in the Republic of Zambia. Ministry of Commerce Trade and Industry, Government of the Republic of Zambia. Available at http://open_jicareport.jica.go.jp/pdf/11928512_01.pdf (Accessed on 18/10/2017)

Mellor J.W and Masters W.A., 1991. *The Changing roles of Multilateral and Bilateral Foreign Assistance*. International Food Policy Research Institute, Page 331-363.

MLGH, 2009. A Study on Comprehensive Development Plan for the City of Lusaka in the Republic of Zambia. Final Report Volume 1. Ministry of Local Government and Housing, Government of the Republic of Zambia.

MLGH, 2014. *The Case for a National Urban Policy for Zambia.* International Conference on National Urban Policy: Towards Smarter and Greener Cities. Incheon Metropolitan City 14-18th December 2015.

MLGH, 2017. The Need for a National Urbanization Policy for Zambia: Methodology, Timelines, and Budget. Presented at the Meeting with Development Partners on The National Urbanization Policy on the 21st July 2017, Government Complex in Lusaka-Zambia.

Moller C.L., and Wacker K.M., 2017. *Explaining Ethiopia's Growth Acceleration—The Role of Infrastructure and Macroeconomic Policy.* World Development, 96:198–215.

Monstadt J., 2009. *Conceptualizing the political ecology of urban infrastructures: insight from technology and urban studies.* Environmental and Planning, 41; 1924-1942.

Mutale E., 2004. The management of urban development on Zambia. Ashgate Publishing limited.

Mutati F., 2016. 2017 Zambian Budget Speech by the Minister in the Minister of Finance, Mr. Felix Mutati, Lusaka on 11th November 2016. Available at http://www.parliament.gov.zm/sites/default/files/images/publication_docs/2017%20Budget%20Speech.pdf (Accessed on 09/010/2017)

Mutati F., 2017. 2018 Zambian Budget Speech by the Minister in the Minister of Finance, Mr. Felix Mutati, Lusaka on 27th September 2017. Available at http://www.parliament.gov.zm/sites/default/files/images/publication_docs/2018%20Budget.pdf (Accessed on 09/010/2017)

Mwilima N., 2003. Foreign Direct Investment in Africa. Social Observatory Pilot Project, Final Draft Report. Africa Labour Research Network.

National Water Policy of 1994. Government of the Republic of Zambia. Available at http://washwatch.org/uploads/filer_public/68/a3/68a3aaa3-4359-48f5-a37e-03dfb6ebeff5/national_water_policy_ministry_of_energy_and_water_development_1994.pdf (accessed on 15/10/217)

Negash N.H., 2015. *The Contemporary Globalization and Its Impact on the Role of States*. Research on Humanities and Social Sciences, 5(13);86-94.

Ng L.F.Y. and Tuan C., 2001. *FDI Promotion Policy in China: Governance and Effectiveness*. Blackwell Publishers

OECD, 2008. *OECD Benchmark Definition of Foreign Direct Investment*. Organization for Economic Co-Operation and Development (OECD).

Onyeiwu S., and Shrestha H., 2004. Determinants of Foreign Direct Investment in Africa. Journal of Developing Society; 20(1-2): 89-106.

Palei T., 2015. *Assessing the Impact of Infrastructure on Economic Growth and Global Competitiveness*. 2nd Global Conference on Business, Economics, Management and Tourism, 30-31 October 2014, Prague, Czech Republic. Procedia Economics and Finance, 23 (2015);168 – 175.

PIDA, 2016. *PIDA Progress Report.* NEPAD. Available at http://www.nepad.org/resource/pida-progress-report-2016. Accessed on 11/09/2017.

Pieterse J.N., 2000. *After Post-Development.* Third World Quarterly, 21(2):175-191. Taylor & Francis, Ltd.

Post A.E., and Murillo M.V., 2015. *How Investor Portfolios Shape Regulatory Outcomes: Privatized Infrastructure After Crises.* World Development, 77;328–345.

Rabobank, 2013. *The Argentine Crisis 2001/2002.* Economic Report. Rabo Research/Economic Research. Rabo Bank.

Rao V., 2015. *Infra-city: speculations on flux and history in infrastructure-making*. In Graham S., and McFarlane C., 2015. Ed. Infrastructural Lives: Urban infrastructure in context. Routledge,

Rating Act No 12 of 1997. 1997. Available at http://www.parliament.gov.zm/sites/default/files/documents/acts/The%20Rating%20Act%2C%20199 7.%20No.12%20of%201997.pdf (Accessed on 17/10/2017)

Reiter S.L., and Steensma H.K., 2010. *Human Development and Foreign Direct Investment in Developing Countries: The Influence of FDI Policy and Corruption*. World Development, 38(12);1678–1691.

Ropohl G., 1999. *Philosophy of Socio-Technical Systems*. Philosophy and Tech, 4(3);186-196.

Saint W., 2004. *Higher Education in Ethiopia: The Vision and Its Challenges*. Journal of Higher Education in Africa, 2(3);83-113

Salem M., 2014. *Ethiopia; Impressive Social-Economic growth - Significant Poverty Reduction.* Aiga Forum. Available at http://aigaforum.com/articles/Response-on-Ethiopia-economic-performance.pdf Accessed on 13/09/2017.

Samans R., Blanke J., Corrigan G., and Drzeniek M., 2015. *The inclusive Growth and Development Report*. World Economic Forum.

Samuel C., 2013. The Dark Side of Foreign Direct Investment: A South African Perspective. South African Institute of International Affairs. Occasional Paper No.167, African perspectives. Global insights.

Schaffer W.A., 2010. *Economic Base Theory*. In Schaffer W.A., 2010. Ed. Regional Impact Models. Georgia Institute of Technology. http://www.rri.wvu.edu/WebBook/Schaffer/

Schuurman F.J., 2000. *Paradigms Lost, Paradigms Regained? Development Studies in the Twenty-First Century*. Third World Quarterly, 21(1):7-20.

Seto K. C., Dhakal S., Bigio A., Blanco H., Delgado G. C., Dewar D., Huang L., Inaba A., Kansal A., Lwasa S., McMahon J. E., Müller D. B., Murakami J., Nagendra H., and Ramaswami A., 2014. *Human Settlements, Infrastructure and Spatial Planning.* In; Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Edenhofer O., Pichs-Madruga R., Sokona Y., Farahani E., Kadner S., Seyboth K., Adler A., Baum I., Brunner S., Eickemeier P., Kriemann B., Savolainen J., Schlömer S., von Stechow, Zwickel C. T. and Minx J.C. (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

Shi H., and Huang S., 2014. *How Much Infrastructure Is Too Much? A New Approach and Evidence from China.* World Development, 56;272–286.

Stiglits J.E., 2006. *Making Globalization Work*. W. W. Norton & Company, Inc

Strategy Paper on Industrialization and Job Creation. The Government of the Republic of Zambia. Available at http://www.mota.gov.zm/index.php/downloads/policies-and-guidelines/19-industrial (Accessed 17/09/2017)

Taylor I., 2003. *Globalization and Regionalization in Africa: Reactions to Attempts at Neo-liberal Regionalism.* Review of International Political Economy, 10(2); 310-330.

The Seventh National Development Plan, 2017 – 2021. Government of the Republic of Zambia. available at http://www.mndp.gov.zm/download/7NDP.pdf (Accessed on 01/08/2017)

Tuan C., and Ng L.F.Y., 2006. *The Place of FDI in China's Regional Economic Development: Emergence of the Globalized Delta Economies*. Paper presented at the International Conference on Globalization and Regional Economic Development from the 15th to 16th December 2006, in Gyeong Ju, Korea.

UNCTAD, 1999. *Comprehensive Study of the Interrelationship between Foreign Direct Investment (FDI) and Foreign Portfolio Investment (FPI).* United Nations Conference on Trade and Development, UNCTAD/GDS/DFSB/5.

UNCTAD, 2007. Investment Policy Review Zambia. United Nations. Available at http://unctad.org/en/docs/iteipczambia_en.pdf (accessed on 18/10/2017).

UNCTAD, 2007. *World Investment Report: Transnational Corporations, Extractive Industries and Development*. United Nations Conference on Trade and Development.

UNCTAD, 2008. *World Investment Report: Transactional Corporations and the Infrastructure Challenges*. United Nations Publications.

UNCTAD, 2015. *World Investment Report: Reforming International Investment Governance*. United Nations Publication.

UNESCO, 1967. *Regionalization in Zambia's First National Development Plan – 1966 to 1970*. Economic Commission for Africa. Presented at the Second Session of the Conference for Planners, from 4th to 15th December 1967 in Addis Ababa, Ethiopia.

UN-HABITAT, 2012. A Guide to Assist National and Local Governments to Monitor and Report on SDG Goal 11 Indicators. Monitoring Framework - Definitions – Metadata, Un-Habitat Technical Support. UN-HABITATA.

Urban and Regional Planning Act No 3 of 2015. 2015. Available at http://www.parliament.gov.zm/sites/default/files/documents/acts/The%20Urban%20and%20Regional%20Planning%20%20Act%2C%202015.pdf (Accessed on 15/10/2017)

Von-Hirschhausen C., Becker T., and Brenck A., 2004. *Infrastructure regulation and investment for the long-term—an introduction.* Utilities Policy,12(4);203-210.

Wangalwa E., 2014. *Ethiopia's Impressive Economic Growth*. CNBA Africa, Posted on 20/08/2014. [online] Available at https://www.cnbcafrica.com/news/east-africa/2014/08/20/ethiopia-emerging-market/ Accessed on 13/09/2017.

Water and Sanitation Act No 28 of 1997. 1997. Also available at http://www.parliament.gov.zm/sites/default/files/documents/acts/Act%20No.28%20of%201997.pdf (Accessed on 15/10/2017)

Watson V., 2009. *'The planned city sweeps the poor away. . .': Urban planning and 21st century urbanization*. Progress in Planning 72 (2009) 151–193.

Weisbrot M and Sandoval L., 2007. *Argentina's Economic Recovery: Policy Choices and Implications*. Center for Economic and Policy Research.

World Bank, 2005. *Connecting East Asia: A New Framework for Infrastructure*. World Bank.

World Bank, 2008a. *The Growth Report: Strategies for Sustained Growth and Inclusive Development. The Commission on Growth and Development*. International Bank for Reconstruction and Development/The World Bank

World Bank, 2008b. *Sustainable Infrastructure Action Plan (SIAP).* World Bank Group.

World Bank, 2010. *Africa's Infrastructure; A Time for Transformation*. Agence Française de Développement and the World Bank.

World Bank, 2010. *Africa's Infrastructure; A Time for Transition*. The World Bank.

World Bank, 2014. *Regional Infrastructure in Sub-Saharan Africa: Challenges and Opportunities*. 1818 Society. World Bank Room. Available at http://siteresources.worldbank.org/1818SOCIETY/Resources/1818AFRICApaperFINAL.pdf Accessed on 11/09/2017.

World Bank, 2015. *Transformation Through Infrastructure.* Infrastructure Strategy Update FY2012-2015. World Bank Group.

Younas J., 2008. *Motivation for bilateral aid allocation: Altruism or trade benefits*. European Journal of Political Economy, 24(2008);661–674.

Zambia Development Act No 11 of 2006. 2006. Also available at http://www.zda.org.zm/?q=content/publications (accessed on 10/10/2017)

Zangl B., Heußner F., Kruck A., and Lanzendörfer X., 2016. *Imperfect adaptation: how the WTO and the IMF adjust to shifting power distributions among their members*. Developing countries and international organizations 11(2016);171–196.

Zérah M.H., 2008. *Splintering urbanism in Mumbai: Contrasting trends in a multilayered society*. Geoforum, 39(2008);1922–1932.

Zhang Y., 2014. *From State to Market: Private Participation in China's Urban Infrastructure Sectors, 1992–2008*. World Development, 64;473–486.

8.0 Appendices

PLAGIARISM DECLARATION

5. I know that plagiarism is wrong. Plagiarism is to use another's work and pretend that it is my own.
6. I have used the Harvard convention for citation and referencing. Each contribution to and quotation in this assignment/case study from the work(s) of other people has been contributed and has been cited and referenced.
7. This Dissertation is my own work.
8. I have not allowed, and will not allow, anyone, to copy my work due recognition and permission.

Student Name: CHIPAMPATA MUSONDA **SIN:** MSNCHI007

Signature: **signature removed** **Date:** 03/11/2017

Application for Approval of Ethics in Research (EiR) Projects
Faculty of Engineering and the Built Environment, University of Cape Town

APPLICATION FORM

Please Note:
Any person planning to undertake research in the Faculty of Engineering and the Built Environment (EBE) at the University of Cape Town is required to complete this form **before** collecting or analysing data.The objective of submitting this application *prior* to embarking on research is to ensure that the highest ethical standards in research, conducted under the auspices of the EBE Faculty, are met. Please ensure that you have read, and understood the **EBE Ethics in Research Handbook**(available from the UCT EBE, Research Ethics website) prior to completing this application form: http://www.ebe.uct.ac.za/usr/ebe/research/ethics.pdf

APPLICANT'S DETAILS

Name of principal researcher, student or external applicant		Chipampata Musonda
Department		Architecture Planning and Geomatics
Preferred email address of applicant:		msnchi007@myuct.ac.za
If a Student	Your Degree: e.g., MSc, PhD, etc.,	Masters of City and Regional Planning
	Name of Supervisor (if supervised):	Prof. Nancy Odendaal
If this is a researchcontract, indicate the source of funding/sponsorship		
Project Title		IMPACTS OF FOREIGN DIRECT INVESTMENT (FDI) ON THE PLANNING AND PROVISION NETWORK INFRASTRUCTURE IN LUSAKA – ZAMBIA

I hereby undertake to carry out my research in such a way that:

- there is no apparent legal objection to the nature or the method of research; and
- the research will not compromise staff or students or the other responsibilities of the University;
- the stated objective will be achieved, and the findings will have a high degree of validity;
- limitations and alternative interpretations will be considered;
- the findings could be subject to peer review and publicly available; and
- I will comply with the conventions of copyright and avoid any practice that would constitute plagiarism.

SIGNED BY	Full name	Si nature	Date
Principal Researcher/ Student/External applicant	Chipampata Musonda	**signature removed**	**29 May 2017**

APPLICATION APPROVED BY	Full name		Date
Supervisor (where applicable)	Prof. Nancy Odendaal	**signature removed**	**29 May 2017**
HOD (or delegated nominee) Final authority for all applicants who have answered NO to all questions in Section1; and for all Undergraduateresearch (Including Honours .	Toma Bert	**signature removed**	
Chair : Faculty EIR Committee For applicants other than undergraduate students who have answered YES to any of the above uestions.	G SITHOLE	**signature removed**	