

**ENHANCED LOCAL CONTRACTOR PARTICIPATION IN THE ZAMBIAN
WATER SUPPLY AND SANITATION SUB-SECTOR.**

By

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**A Thesis submitted to the University of Zambia in fulfilment of the requirements
for the Degree of Master of Engineering in Construction Management**

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DECLARATION

I hereby declare that the work presented in this thesis is a result of my research work and that it has not previously been submitted for a degree, diploma or other qualification at this or another University. However, part of the work has been submitted for publication to the International Journal of Engineering and Management Research.

Signature

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CERTIFICATE OF APPROVAL

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ABSTRACT

Water supply and sanitation (WSS) construction projects involve the construction of specialized infrastructure such as water treatment plants, pumping stations, pipelines, reservoirs, and sewage treatment facilities. These type of construction projects present unique technical, regulatory, and societal challenges, often executed by foreign contractors in developing countries like Zambia, with limited local participation. This disparity sparks debates on dependency and sustainability. Existing theories insufficiently address this issue. The overarching research inquiry investigates the dynamics surrounding the low dominance of local contractors in executing WSS projects in Zambia. Additionally, the study delves into the primary barriers confronting local contractor participation in Zambia as they compete for and secure contracts within WSS projects. Employing a Straussian Grounded Theory methodology, the study developed thick descriptors for the underlying issues explaining local contractor participation (LCP) in the WSS sector, which led to the development of theory and a framework advocating for enhanced LCP. Initially, a variety of emerging issue clusters and their corresponding phenomena were delineated and categorized into thematic descriptors. These encompassed clusters relating to procurement and taxation, funding sources, constraints on plant and equipment resources, specialized financial support, contractor technical capacity, governmental capacity building efforts, and regulatory enforcement. Based on these identified issue categories and their observed phenomena, an LCP theory was introduced as a primary contribution of the study within the theoretical proposition framework. This theory encapsulated the theoretical propositions and strategies advocating for enhanced LCP. It posited that a comprehensive approach, tax incentives, affirmative procurement actions, and specialized financial support, could significantly enhance the involvement and competitiveness of local contractors, particularly in the construction industry, specifically within the WSS sector. Tax incentives and leniency policies reduce financial burdens on local contractors, allowing for reinvestment in business growth and improved financial stability. Simultaneously, affirmative actions in procurement ensure equitable competition, levelling the playing field against larger foreign competitors and addressing inherent disadvantages. Furthermore, integrating specialized financial support tailored to the unique needs of local contractors within the sector addresses financial barriers and facilitates their participation in projects. Following the consequential phenomena and strategies upon which these theories were based, holistic strategies and reforms associated with these three theoretical propositions included: revamping taxation policies and procurement practices; diversifying funding sources for sustainable growth; creating equitable opportunities through procurement strategies; establishing specialized financial support institutions; establishing specialized financial support institutions; strengthening policy frameworks and enforcement mechanisms; bridging the knowledge gap for local contractors; mitigating political interference for fair competition; and enhancing government capacity building initiatives. The study advocates for policy, legal and institutional restructuring based on this theory to enhance local contractor participation in WSS projects in Zambia and other developing countries.

Keywords: Local contractor participation, Water Supply and Sanitation, Coding, Straussian Grounded Theory, Theoretical propositions.

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CHAPTER 1: INTRODUCTION

1.1 Background

The debate of dominance by foreign contractors in public sector projects is not unique to Water supply and sanitation (WSS) projects but is a common problem associated with infrastructure development projects especially in developing countries (Phiri, 2016; Ugochukwu and Onyekwena, 2016; Mutoro *et al.*, 2017; Dadzie and Yalley, 2018). WSS public sector projects are those aimed at the development and management of water resources, provision of clean water supply and adequate sanitation for a particular area. Water supply and sanitation projects are often discussed together due to their close connection in addressing basic human needs for clean water and hygiene. While water supply focuses on providing safe water for various purposes, sanitation deals with the safe disposal of waste to prevent disease spread. Access to clean water is essential for hygiene, and poor sanitation can contaminate water sources, posing health risks. Both projects contribute to broader development goals, including public health improvement and economic development. Access to clean water and sanitation is recognized as a fundamental human right crucial for sustainable development and reducing inequalities. These projects are predominantly donor funded (African Development Bank, 2006; World Bank, 2020).

WSS public sector projects stand apart from other forms of infrastructure development due to their unique technical, regulatory and societal complexities. These projects involve the construction and rehabilitation of specialized infrastructure such as water treatment plants, pumping stations, pipelines, reservoirs and sewage treatment facilities for instance (Mays, 2010). Compliance with stringent regulatory standards aimed at ensuring the quality and safety of drinking water and the proper treatment of wastewater adds a layer of complexity to their design and implementation (Sorensen *et al.*, 2017). Moreover, the public health implications of water and sanitation infrastructure underscore the critical importance of these projects, as access to clean drinking water and proper sanitation facilities is fundamental for preventing waterborne diseases and promoting public health (Fewtrell *et al.*, 2007).

Sustainable development principles further necessitate careful consideration of environmental impact, resource management and community engagement throughout the project lifecycle (UNESCO, 2015). As such, WSS construction projects require an

interdisciplinary approach that integrates engineering, environmental science, public health, social sciences and policy analysis (Walters, 2013). Effective stakeholder engagement and collaboration are essential to ensuring the success and sustainability of these vital infrastructure initiatives (Tynan *et al.*, 2020).

WSS projects in developing countries are predominantly executed by foreign contractors and consultants, with local participation being negligible by contract value. The involvement of foreign contractors in WSS projects in developing countries has sparked debates regarding issues of dependency, local capacity building, and economic sustainability. While there is no universal trend, empirical evidence suggests a significant presence of foreign contractors in certain contexts. For example, a study by Bosher *et al.*, (2016) examining infrastructure projects in Africa found that a considerable portion of water and sanitation contracts were awarded to foreign firms, often due to perceived technical expertise or financial capabilities. Similarly, research by Zhang and Sarker (2015) on infrastructure development in Bangladesh highlighted the prominent role played by international contractors in water-related projects, raising questions about the impact on local industry and employment opportunities.

In Zambia, there are just over 8% of registered foreign contractors. However, there is an imbalance tipping towards high award of contracts to non-Zambian contractors and not local contractors (Phiri, 2016; Banda, 2020; Mambwe *et al.*, 2020).

Existing conceptual frameworks evolve around local content policies (Kaufmann *et al.*, 2019), capacity building and skills development (World Bank, 2019), promotion of Small Medium Enterprises (SMEs) and entrepreneurship (OECD, 2020), technology transfer and knowledge sharing (UNCTAD, 2017), partnerships and joint ventures (Bosher *et al.*, 2016). While these strategies may offer approaches for promoting increased local contractor participation in WSS projects based on principles of economic development, capacity building, and collaboration, they fail to holistically address the challenge of reduced participation of local contractors in Zambia and other developing countries.

1.2 The Problem

Despite the critical importance of WSS projects for public health and sustainable development, local contractor participation in executing these projects in developing countries, including Zambia, raises concerns regarding dependency on foreign

contractors and economic sustainability (Phiri, 2016; Banda, 2020; Mambwe *et al.*, 2020). While existing conceptual frameworks offer strategies for promoting increased local contractor participation based on principles of economic development and capacity building, they fail to comprehensively address the underlying dynamics contributing to reduced local contractor participation. Therefore, there is a need to develop theoretical propositions that holistically examine the factors influencing local contractor participation in WSS projects in Zambia and other developing countries, with the aim of informing policy interventions and strategies to promote sustainable and inclusive infrastructure development. The Straussian Grounded Theory approach facilitated an in-depth exploration of these factors, grounded in empirical data and insights drawn from stakeholders involved in WSS project implementation.

1.3 Research Objectives

1.3.1 Study Aim

The aim of the study was to develop a theoretical proposition framework that holistically captures factors influencing enhanced local contractor participation in WSS projects in Zambia.

1.3.2 Specific objectives

Related to WSS public sector projects, this study aims to specifically:

- a) Investigate the underlying factors contributing to the failed dominance of local contractors and consultants in executing WSS projects in Zambia;
- b) Identify the barriers faced by local contractors in participating in WSS projects in Zambia; and
- c) Develop theoretical propositions grounded in empirical data and insights obtained through the Straussian Grounded Theory approach.

1.4 The Research Questions

Related to the specific objectives, this study formulates the following research questions:

- a) Why are local contractors not predominantly involved in executing WSS projects in Zambia?

- b) What are the main barriers and challenges faced by local contractors in Zambia when competing for and securing contracts in WSS projects?
- c) What theoretical propositions can be developed to explain how enhanced local contractor participation can be achieved?

1.5 Significance of the study

The study holds substantial significance within infrastructure development and governance, particularly in the WSS sector in Zambia. By addressing critical challenges and promoting sustainable development through the dynamics of contractor participation in WSS projects, the study endeavours to uncover the underlying factors contributing to the dominance of foreign contractors and the barriers hindering local contractor involvement. The study has direct policy implications, as the findings can inform the development of targeted policies and interventions aimed at promoting increased local participation in WSS projects. By fostering economic empowerment, job creation, and capacity building within the local construction industry, these policies align with national development objectives. The study contributes to enhancing local capacity in the WSS sector by identifying specific challenges faced by local contractors and addressing gaps in skills, knowledge, and resources. This aspect of the research supports the development of a more robust and sustainable local construction industry capable of delivering high-quality WSS infrastructure.

Moreover, the research empowers stakeholders at various levels, including government agencies, development organizations, local contractors, and communities, by providing insights that facilitate collaborative efforts to address the root causes of foreign dominance. This empowerment can lead to more inclusive decision-making processes, greater community involvement, and improved project outcomes. From an academic point of view, the study advances theoretical understanding by employing the Straussian Grounded Theory approach to develop context-specific theoretical propositions. By filling a gap in the existing literature and contributing new insights into contractor participation dynamics in WSS projects, this research provides a basis for further scholarly inquiry in the field of infrastructure development and governance.

Ultimately, the significance of the study lies in its potential to drive positive change and foster sustainable development outcomes, including improved access to clean

water and sanitation services, enhanced public health and poverty reduction. By promoting increased local contractor participation in WSS projects, the research aligns with broader efforts to achieve the Sustainable Development Goals (SDGs) and contribute to inclusive and equitable development in Zambia and beyond.

1.6 Grounded Theory Methodology

This study adopts a Straussian Grounded Theory methodology. This is a methodological approach based on inducing theoretical insights from qualitative data-based interview responses on data from literature and opinionized data. Straussian Grounded Theory uses iterative strategies to go back and forth between data and analysis to conceptualize emergent clusters, interrelationships, consequential phenomena, and theoretical propositions.

1.7 Organisation of the thesis

This thesis is organized into the following Chapters:

Chapter 1 – Introduction: Gives a background and the purpose of this research.

Chapter 2 – History of Construction in Zambia: Provides a historical context of construction in relation to this study.

Chapter 3 – Literature Review: Presents a review of scholarly works relevant to this study.

Chapter 4 – Methodology: Provides the theoretical and conceptual framework and then dives into the research methodology.

Chapter 5 – Results: This Chapter presents all data analyses results following a Straussian Grounded Theory methodology.

Chapter 6 – Discussion of results: This Chapter presents a discussion of results presented in Chapter 5.

Chapter 7– Conclusion and recommendations: as the Chapter heading suggests, drawn conclusions and recommendations are presented in this chapter following the objective of this study.

1.8 Summary of Chapter

This Chapter highlighted the purpose of this study while indulging into giving a first-hand introduction to what this research is about. The next chapter presents the historical perspective of construction in Zambia.

CHAPTER 2: HISTORY OF CONSTRUCTION IN ZAMBIA

2.1 Introduction

This chapter provides an overview of the history of construction in Zambia, tracing its evolution from the pre-independence era to the present day. It explores the socio-economic, political and technological factors that have shaped the development of the construction industry in Zambia, with a focus on WSS projects. By examining key milestones, challenges and achievements, this chapter aims to provide a comprehensive understanding of the historical context within which contemporary construction activities in Zambia operate.

2.2 Post-Independence (1964 – 1991)

In tracing Zambia's historical background particularly with regards to the construction industry, an insight is required into the construction problems during the particular period and the attempts to solve them. Why did the philosophy of humanism adopted by the United National Independence Party (UNIP) Government's development strategies record unprecedented high economic growth rates and a booming construction industry? Why did the economic and construction boom take an irreversible downward trend in the mid 1970's? Are there any lessons to be learnt from Zambia's past in relation to the construction industry when adopting new development strategies?

This in turn makes it imperative to analyse the Zambian construction industry's contemporary problems around national development during this period. These contemporary problems fall categorically under political, economic and social factors.

2.2.1 Political Factors

In the words of Dr. Kaunda, the first president of Zambia, "political independence without matching economic independence is meaningless" (Kaunda, 1969). Foreign investors and their investments in Zambia were regarded as a source of Zambia's underdevelopment problems by Dr. Kaunda. This view was based on the pre-independence figures that showed that, although Zambia's copper sales were relatively high, most of the proceeds from copper were externalised and thus very little economic and social development took place in Zambia (Roberts, Hamilton and Williams, 2021). With the attainment of independence on the 24th of October 1964,

the socioeconomic structure left by the British colonialist became inadequate in meeting the expectations of Zambians. Hence, there was a need to adopt an appropriate development strategy for the country. Expectations were high from the attainment of independence as Zambians expected jobs with good pay, good housing and a high standard of living almost overnight (Mashamba, 1997).

In 1973, Zambia was declared a one-party state in line with the prevailing situation in Africa, Eastern Europe and Asia. The proponents of this system were of the view that having two or more political parties could lead to power struggles hence causing instability to the nation. Other ideological advantages of adopting this system were resource savings from the lack of periodic elections, faster decision making, rapid implementation of government policies, and national integration (Mashamba, 1997; Roberts, Hamilton and Williams, 2021). Drawbacks as well as advantages were seen. Certain economic problems were encountered but some political gains were also registered, especially that of peace and unity amongst Zambians as opposed to conflicts seen in other countries in the 1970's and 1980's (Jedwab *et al.*, 2013).

2.2.2 Economic Factors

At independence from British colonialism in October 1964, Zambia's inherited economy was capitalist oriented. The dominant export came from the copper industry, contributing on average 90% of Zambia's exports and 50% government revenue (Roberts, Hamilton and Williams, 2021). The heavy dependence on copper exports as the main source of government revenue, with its highly volatile prices on the international market became a major cause of Zambia's economic problems, ultimately affecting the construction industry. In times of high copper prices resulting in increased government revenue, the Zambian government was able to carry out large construction projects which consequently increased the value added to the construction industry (Mashamba, 1997; Roberts, Hamilton and Williams, 2021).

In 1965, the Industrial Development Corporation (INDECO) was formed with the key objective of spearheading the "economic disengagement" programme (Roberts, Hamilton and Williams, 2021). Several state-owned companies were formed of which 51% share interest belonged to the state. The economy was recorded to have been growing at an average rate of 15% per year, owing mainly to the new economic programme. The nationalisation measures contained in the Mulungushi reforms of 19th

April 1968, the Matero reforms of 11th August 1968 and finally those of the 10th of November 1970, completely revamped the structure of the Zambian economy (Thomas, 1968). By 1975, seventy large companies in the construction, commerce and road transport sectors had been nationalised or incorporated by the Zambian Government (Mashamba, 1997; Roberts, Hamilton and Williams, 2021).

In as far as nationalisation was concerned, there was an obvious tendency to grant Zambians with inadequate training, positions they were not qualified for as Zambia only had about one hundred university graduates at independence and most previous owners of the companies opted to relocate to Rhodesia or South Africa (Thomas, 1968; Kelly, 1999).

To crown it all and more depressing was the fact that less than 1% of Zambians population had completed primary education (Kelly, 1999). It, therefore, meant that even vocational training of construction works in the areas of carpentry, roofing, plumbing, electrical, bricklaying and so on to replace the expatriate was not possible.

Additionally, in 1964 technical and vocational training institutions were underdeveloped with only fifteen small Trades schools that were available to Africans (Zambians). Furthermore, legislation dating from 1943 barred Africans (Zambians) from apprenticeship training and this situation lasted until 1959 (Kelly, 1999). That severe social and racial discrimination had ramification on Zambia and in particular skill and culture needed for the construction industry to blossom at that early stage. Because of the aforementioned, Africans resented technical training in preference to secondary education (Kelly, 1999). With that dent on the face of Africans (Zambians), construction jobs were undervalued and viewed as low esteem for many years. The effects of this notion continued to adversely affect the construction industry.

In the construction market, the impact of Zambia's economic shortcomings was seen in reduced public investment in housing and severe shortages of building materials. Zambia was very import dependent in terms of building materials. The absence of a thriving private market, for reasons already pointed out, implied that the local private entrepreneur could not capitalise on the situation and promote a local materials industry. Even those with private funds found the situation almost impossible to build, as most building materials could only be obtained from the black market at prices twice or more times the official price (Fewings, 1991).

2.2.3 Social Factors

The main social factor contributing significantly to Zambia's economic and construction boom during this period was the rapid urban population growth rate. Abolition of the colonial pass laws accelerated rural-urban migration which led to the Zambian government increasing budget spending on urban social services. A government mass housing programme was introduced in reaction to this massive rural-urban migration. Government was trying to house its citizens in 'good and high standard' houses with all basic amenities such as water, electricity and water-closet toilets (Mashamba, 1997).

While the initial government mass housing programme failed, a new programme was introduced called the Lusaka Squatter upgrading, site and services scheme in 1974 (Martin, 1975). This was in collaboration with the Lusaka City Council (LCC), The National Housing Authority (NHA) and the World Bank. The scheme covered upgrading of Lusaka's major squatter settlements: Chipata, Chawama, Chaisa and George, serviced plots in the adjacent overspill areas and some new serviced site and service plots (Martin, 1975; Mashamba, 1997). The biggest achievement of this scheme was benefitting about 40% of Lusaka's urban population which at the time was only 401,100. It managed to provide services to 17,000 households in squatter settlements, 7,600 serviced plots in adjacent overspill areas, 3,200 new fully serviced site and service plots (individual water and sewer connections) and a further 1,200 plots with basic services (Communal water supply and pit latrine connections) (Rakodi, 1984). This scheme's failure, however, was due to occupants being unable to pay the monthly ground rents and service charges, which meant that the improved services could neither be sustained in the long run nor replicated to other sites or major towns (Bamberger, 1982).

The squatter-upgrading programme was abandoned somewhere between the late 1970's and early 1980s. Housing continued to be tied to employment and this meant that government had to spend huge amounts of money on accommodating civil servants. This practice was enshrined in the Employment Act and therefore forced parastatal and private companies to follow suit. The immediate effect was the lack of incentive from able bodied citizens to build their own houses as they were guaranteed accommodation as long as they were in full employment. This essentially cut off one of the major clients in the construction industry, potential house owners. Rent control

was another reason that discouraged real estate entrepreneurs from building for rent, let alone for sale as “capitalist tendencies” were repeatedly denounced by the president (Mashamba, 1997).

Ideology allowed state monopoly to carry out construction works and provision of water and sanitation in the Lusaka Squatter upgrading scheme. Inevitably the necessary evolution of Zambia’s local contractors was missing.

2.3 Net Effect of the Political and Social-Economic Factors on the Construction Industry (1964 – 1991).

The late 1960’s and early 1970’s was the boom period for the Zambian construction industry. This boom in the construction industry due to the prevailing socio-economic and political environment at the time, rather than deliberate Government construction policy. The Zambian Government always outlined its policy objectives and achievement levels in its development plans, so that a glance at these plans should reveal the construction industry trends over the years. In the immediate aftermath of independence, the government initiated the transitional development plan which covered the period 1st January 1965 to the 30th of June 1966 (18 months). The initial focus during this period was on military and education projects (Republic of Zambia, 1965).

For the Ministry of Defence, construction expenditure was directed to staff housing, new barracks, new airfields for the air force, and roads to and from the new barracks and airfields. Precise figures are unavailable as they were unreleased as a matter of national security. In the field of education, however, much of the expenditure went into constructing new schools and colleges with the major project being the University of Zambia (UNZA) and its staff housing (Kelly, 1999; Roberts, Hamilton and Williams, 2021). Given the low levels of Zambian professionals, this was to be expected. At independence in 1964, Rakodi (1984) puts the number of Zambian construction contractors in the largest category as only one. From a total of 256 contractors who were registered with the Public Works Department (PWD) to carry out the lowest possible jobs only 26 were Zambian owned. Of the 412 construction professionals (Planners, Architects and Engineers etc.) Rakodi (1984) notes that only 3 were Zambians. Nationalisation in the late 1960’s and early 1970’s resulted into the exodus of foreign contractors and expatriates’ construction professionals. Without

professionals, therefore, the construction industry could not function as efficiently as it supposed to. This shortage of expatriates has been cited by some writers as being the beginning of the end of Zambia's economic boom. A premature 'Zambianisation' programme was initiated to fill the gap left by the expatriates due to nationalisation (Thomas, 1968; Mashamba, 1997).

From its inception, the construction programme was plagued by serious problems inherent with the rest of Zambia's developmental problems. There was heavy dependence on expatriate skilled labour, foreign construction firms and the import of construction materials from the 'white' states of South Africa and Rhodesia. Also, decisions that were made out of political principles rather than economic merit such as economic sanctions on Rhodesia and the closure of southern routes exacerbated the situation. Although the immediate effects of the Unilateral Declaration of Independence in Rhodesia reduced Zambia's growth rate for her economy, however, the long-term effects increased the economic activity substantially. For example, the growth rate in the manufacturing sector fell from 31% in 1965 to 16% in 1966, before recovering to 27 % the year after. As a result, the gross domestic product for the construction sector grew from K20.0m in 1964, to over K115m in 1968 (Bostock, 1971; Christie, 1971). However, the high dependence on imported building materials from South Africa and Rhodesia meant that the multiplier effects did not significantly benefit local industries and the economy. Most of this investment went into constructing hospitals, schools, offices, roads and bridges etc. and minimal formal sector housing was built for the large numbers of migrants that kept coming from the rural areas.

In response to the construction boom, several publicly owned entities were formed, among them INDECO Properties (staff housing), Crushed Stones Sales (Quarry Sales), Kafue Estates (Residential and Industrial township), Progressive Development (factory leasing), Monarch-Zambia (Metal window and door frames, wire mesh, brick and block ties), Zambia Clay Industries (clay-glazed pipes and face bricks), and Chilanga Cement (cement manufacturing and sales), all under the parent Parastatal Company: INDECO (Roberts, Hamilton and Williams, 2021). Initially, the Zambian government was merely a partner in most of these companies until the new Government policy in 1968 through 1970 nationalised all major industries in line with its philosophy of humanism. Further pronouncements were the awarding of Public

Works Department (PWD) contracts amounting less than K100, 000 to Zambians only (Thomas, 1968; Mashamba, 1997).

That declaration disadvantaged expatriate owned firms resulting in most of them selling out to Zambians and leaving the country. For a country with a shortage of professional and skilled labour, the exit of expatriates had an adverse effect on the construction industry and ultimately the economy at large. And noting the fact that expatriates had not imparted adequate skills to Zambians, partly due to poor levels of education amongst the Zambian population because of being disadvantaged during colonial rule. It could be argued that the major problem for the construction industry in the late 1960's all the way through the 1970's was not lack of investment, but capacity shortage in the industry to meet government demand for infrastructure; roads, bridges, housing, factories, offices and so on. For example, government failed to implement some projects during the Transitional and First National Development Plans owing to what they called "a shortage of construction capacity, particularly in the rural areas, the lack of certain types of skilled and professional manpower, and raw materials supply" (Republic of Zambia, 1966). It led to the establishment of the Zambia Institute of Technology (ZIT) in Kitwe to remedy the constraints presented by capacity shortage. The institution trained technologists at diploma level in the fields of Quantity Surveying, Architecture, Civil Engineering, Land Surveying and Town and Country Planning etc. Degree variants of these same courses would later be offered at the Copperbelt University, established in 1988, and The University of Zambia.

With regards to building materials, similar efforts were made to offset the shortages by setting up local building materials firms. However, most of these new companies relied on capital intensive technologies imported from abroad as was the trend then. For example, whilst having vast resources in form of appropriate clays and unemployed labour for brick making, concrete blocks were promoted more and mostly produced by state owned companies using capital intensive technologies. Chakwe (1983) attributed this tendency to the notion in the construction industry to associate bricks and clay tiles with the past and poverty.

In addition to setting up new materials companies, the government nationalised the existing (mainly foreign owned) large private companies by buying 51% shares in them. The net result created state monopolies in the materials market. According to Chakwe (1983) the state monopolies lacked qualified and experienced staff,

organisation and management. They were also plagued by nepotism, corruption, maladministration, and theft.

Conversely, a few remaining semi-private companies managed to cope favourably with the construction boom. Chilanga Cement, owned by the Commonwealth Development Corporation, was able to keep up with demand for its product and produce surplus for neighbouring countries due to good management. It would later sell 40% of its shares to INDECO (Mashamba, 1997).

By 1991, the construction industry was at an all-time low since independence, employing only 33,100 workers. By comparison, it was employing 40,000 workers in 1964 and 71,750 workers at its peak in 1974. The reduction in numbers was a direct response to reduced public sector construction demand, dependence on imported raw and finished construction materials, devaluation of the Kwacha and mismanagement in the nationalised companies. According to Mashamba (1997) aggregated prices for construction materials increased by over 2,500% between 1974 and 1991. Individual construction materials like cement, the main binding material in the construction industry increased by over 2,800% over the same period which increased construction costs.

2.4 The Construction Industry during the Third Republic (1991 – 2001)

In the aftermath of the abolition of the one-party state by the then UNIP government, the major opposition calling for multi-party politics was the Movement for Multi-Party Democracy (MMD). This coalition of mostly academics, trade unionists and politicians wanted the Zambian capitalist record to be restored, a contrast with the humanism (socialist) policies of UNIP. This Chapter outlines some of the policies introduced by the MMD and their effects on the construction industry.

2.4.1 National Policy on the Construction Industry (NPCI)

A new construction policy was initiated in view of the social economic changes brought about with the change of government and development strategy in 1991. Proposals from various institutions and individuals were addressed to the Ministry of Works and Supply in formulating a National Policy on the Construction Industry (NPCI) in Zambia. In 1995, The NPCI document was finally presented and accepted by the Zambian Government. In acknowledging the socio-economic changes made by

the new government, the NPCI drew attention to the crucial role to be played by the private sector in the construction industry by stating in its preamble that:

“The Government has adopted strategies that aim at promoting a market economy where private sector initiative would act as the engine of growth. In the new scenario, the role of the ministry of Works and Supply is largely that of facilitating development of the construction industry in conjunction with other stakeholders. Since the policy direction is one of encouraging the development of the sector through free market-led economic principles, the private sector will have to play leading roles. The new role of the ministry is merely to create an enabling environment in which other partners should be able to function fully.”

(National Policy on Construction Industry: Ministry of Works and Supply, 1995, p. ii).

In order to achieve that aim, the NPCI document went further to set the overall objectives of the Zambian construction industry as follows:

- 1) Promoting and developing private sector participation in the construction industry;
- 2) Providing incentives for investment in equipment for the development of infrastructure in the construction industry;
- 3) Developing and promoting appropriate construction standards and regulation;
- 4) Promoting the use of low-cost construction materials;
- 5) Creating employment and contributing to the balance of payments; and
- 6) Developing and promoting appropriate, sustainable and environmentally friendly infrastructure.

It was in the NPCI document where the creation of a National Council for Construction (NCC) was proposed. NCC would later be established as a statutory body by the NCC Act No. 13 (of 2003) under the laws of Zambia to monitor, promote, develop and regulate the construction industry in Zambia. Other notable statutory bodies founded during this period to support the construction industry were the Zambia Institute of Architects (ZIA) by the Zambia Institute of Architects Act No. 36 of 1995 and the Quantity Surveyors Registration Board (QSRB) under Quantity Surveyors Act No.37 of 1995 (Cheelo and Liebenthal, 2020). It should be noted that ZIA become a statutory body in 1995 but was originally established in 1954 as the Northern Rhodesia Institute of Architects (NRIA). It was renamed to the Zambia Institute of Architects in 1964 at independence.

2.4.2 Privatisation of Public Companies

The Zambian government through the Privatisation Act No. 21 (of 1992) formed the Zambia Privatisation Agency (ZPA) in 1992. The agency was charged with the responsibility of disposing publicly owned companies to the private sector and raise funds for public expenditure. These companies comprised of 80% of the national economy at the time (Mashamba, 1997).

Kaite (2016) sought to establish the impact of privatization on employment, firm performance, and the general economic situation in Zambia. The results showed that while privatization led to some improvements in the economy, the process was rife with irregularities and policy failures. For example, some of these failures were mines being sold to foreign entities at undervalued purchase prices and handing foreign entities concessions that deprived the government huge sums of income through tax holidays (Kaite, 2016). This was not just restricted to the mines, it affected almost all industries in Zambia including manufacturing and construction, in effect giving foreign companies an unfair advantage that substantially contributed to the foreign dominance seen in the construction industry today.

2.4.3 Value Added Tax (VAT)

In April of 1995, government introduced Value Added Tax (VAT) in place of sales and exercise tax with the goal of spreading the tax base. The unique feature of introducing VAT is that it allowed for the offsetting tax paid on business inputs against tax due on sales. In Zambia, this was achieved in two ways: Zero rating and exemption. Zero rating made allowances for VAT incurred in business purchases and other expenses to be reimbursed back from government, whereas exemption allowed for VAT relief on sales, but did not allow for any relief on expenditure incurred on purchases and business expenses (Mashamba, 1997).

While the policy was good on paper, in implementation Mashamba (1997) observed that in its quest to attract foreign investment in the construction industry, the government went to the extent of granting foreign road construction companies, like Astrilda and Phoenix tax rebates, which allowed them to bring road construction machinery into the country tax free. What made this an unfortunate measure is that such tax rebates were not offered to local road construction companies, and they had to pay import duty and VAT on their machinery imported into the country. From a

competitive standpoint, this created an unfair baseline for these companies to compete against the foreign companies which, in addition to getting tax breaks, were also well established and heavily financed with the power of foreign exchange to their advantage. Mashamba (1997) further states that it was this unfair advantage that explained why the road rehabilitation exercises for the Great East Road and the Great North Road both had been undertaken by foreign companies using capital intensive methods. While one could argue that the government at the time was trying to restore investor confidence in the country and prove that it had moved from the nationalisation policies of UNIP, foreign dominance in the construction industry has only grown since then.

2.4.4 Labour Reforms in the Construction Industry

Beginning from 1995, the Zambian Government's human resources development policy for the rest of the construction industry was to be guided by the following aims and objectives: as contained in the National Policy on the Construction Industry:

- 1) Improve national educational and training systems for the construction industry;
- 2) Utilise local technical experts and contractors, as a first option, on all Government construction projects;
- 3) Create mechanisms for facilitating the participation of national professionals on major construction projects undertaken for Government by foreign contractors;
- 4) Develop a cadre of national professionals who will be competent to carry out relevant research and development work for the construction industry;
- 5) Facilitate capacity building of national professional researchers by creating or supporting the infrastructure used for research and development;
- 6) Retain technically qualified personnel in the Ministry responsible for construction by providing improved conditions of service; and
- 7) Strengthen local government administration for the purposes of enforcing and monitoring of construction standards and maintenance of civic infrastructure under their respective areas of jurisdiction.

The human resources policy document on the construction industry went on to propose that all relevant curricula pertaining to the education and training at all levels of personnel in the construction industry was to be reviewed in the light of modern-day requirements of the Zambian construction industry, (NPCI). It further emphasised the

training of small and medium sized contractors, consultants and manufacturers and reaffirmed Government support for construction research and institutions in the country. The document did not, however, specify which institution/s were to carry out these proposed changes, nor who was to finance them, let alone co-ordinate the programme (Mashamba, 1997). By 2001, there were about 150,000 people employed in the construction industry, which was an increase of over 400% compared to just 10 years prior.

The increase in construction employment resulted from further policy evolution. According to Sichali (2008), the MMD in the mid-1990s' decided to sale off existing municipal, government and parastatal housing units to sitting tenants. National Housing Authority (NHA) also sold its stock of houses. This decision only benefitted sitting tenants and maligned other potential beneficiaries. Equally, new employees in government and local councils would no longer be housed. In the meantime, or at the same time councils and NHA remained with very little income to embark on mega housing projects. There was need to address the housing shortfall, thus the launch of the National Housing Policy (NHP) under the umbrella of NHA in January, 1996 (Sichali, 2008). Thereafter, the Presidential Housing Initiative (PHI) was developed.

The PHI required amongst other tasks to mobilize resources to be used for the construction of new houses in all the seventy-two district councils. Secondly, it required to create serviced plots to be allocated to both institutions and private developers and, lastly, upgrade of squatter settlements (Mbatia, 2001).

The first housing units to be built were at the Chainama Bennie Mwiinga Housing Development Scheme sitting on approximately 139 hectares of land. Mushota (2000) added that the main actors in the project were National Housing Authority (NHA), Ministry of Local Government and Housing, Lusaka City Council (Local Authority), Zambia National Tender Board (ZNTB), Zambia Electricity Supply Company (ZESCO) and Lusaka Water and Sewerage Company (LWSC) (Mushota, 2000).

Further, a number of sub-contractors worked on sites undertaking specialist contracting activities; these were responsible for the main contract for material workmanship, performance and contracts (Mushota, 2000). On this project the emergence of local contractors was seen though records to decipher the subcontractors who undertook the water and sanitation works proved difficult.

2.5 Construction Industry Pre and Post HIPC Debt Relief 2005

The Heavily Indebted Poor Countries (HIPC) initiative was launched in 1996 by the International Monetary Fund (IMF) and World Bank with the aim of ensuring that no developing country faces a debt burden it cannot manage. Since its inception, the international financial community, including multilateral organizations and governments, have worked together to lower to sustainable levels the external debt burdens of the most heavily indebted developing countries (IMF, 2020). At the introduction of HIPC, forty-one countries were considered heavily indebted poor countries with thirty-eight being in Sub-Saharan Africa, including Zambia.

Zambia accessed the Initiative in 2000 after reaching what was termed the “decision point”. Creditors participating in the HIPC committed to the provision of US\$3.8 billion in debt relief. This occurred after a three-year track record of macro and structural reforms and sound policies as outlined by the IMF and the World Bank. The process entailed the preparation of the Poverty Reduction Strategy Paper (PRSP), which was to act as a blueprint for national planning and development (Zulu, 2004). Zambia was expected to reach the “completion point” by December 2003 but only managed to effectively meet the conditions of completion in April 2005 after which it qualified for US\$6.6 billion sovereign debt relief (Chikalipah, 2021).

2.5.1 Pre-HIPC

Zambia’s relationship with IMF and World Bank extended as far back as the late 1970s. Continued decline in economic growth, balance of payment problems and urban economic discontent forced the government to turn to the World Bank and IMF for economic recovery. The government adopted IMF and World Bank Neo-Liberal policies in its New Economic Recovery Programme (NERP) that ran from 1987 to 1991. These policies later alienated the government from socialism to more capitalist policies as demanded by the conditions of the IMF assistance. For instance, the Zambian government was for the first time since adopting humanism, willing to accommodate foreign investors, by allowing them to own land and to externalise their profits. However, foreign investors were only to be allowed on projects that required huge capital investment which Zambians would have difficulties in raising such as roads, dams and so on. The major flaw in this construction policy strategy was the dependence on foreign financial inflows. It became apparent when Zambia broke off

relations with the IMF and World Bank in 1989. The flow of funds immediately came to a halt and the construction industry was reduced to mere emergency maintenance of existing infrastructure and the policy/strategy collapsed overnight in 1989. The relationship between Zambia and IMF/World Bank would later re-emerge with the introduction of HIPC in 1996 under the MMD government whose manifesto had Neo-Liberal views that aligned with those of the IMF and World Bank (Mashamba, 1997; Roberts, Hamilton and Williams, 2021).

In 2003, the road sector which included bridges and pontoons was allocated K447.7 billion (ZMW 447.7 million) by the government. Some of the government initiatives during the period 2003-2004 were Chirundu and Katima border post infrastructure, completion of the new Government Complex in Lusaka, rehabilitation of vocational training institutes as well as the Copperbelt University (CBU) and The University of Zambia (UNZA). The projects were funded by the government with the support from the cooperating partners (International Monetary Fund, 2005). These projects including hospitals, health centers and schools were supported under the poverty reduction program.

Most of the major projects were however undertaken by foreign firms mainly from the Republic of South Africa and only a few projects of lesser value were awarded to Zambian Local Contractors. Despite local contractors being awarded projects of lesser value, this era is significant due to the fact that it was largely the beginning or entry point of Zambian local contractors' participation though minute by value. For example, in 2004 Tomorrow Investments Ltd, a Zambian local contractor was awarded to build the Shang'ombo district hospital in Western Province of Zambia.

During this period The National Council of Construction (NCC) attested that the development of a vibrant local construction industry was one of the pinnacles of the government socio-economic development goals (Mwila and Jensen, 2004). Thereafter, the development of Zambian contractors still needed a lot in practical terms.

2.5.2 Post HIPC

Post HIPC, the G8 Finance Ministers put out a strong statement on the Multilateral Debt Relief Initiative (MDRI) in June 2005. This initiative was tailored for countries that had reached the completion point for HIPC. The G7 Finance Ministers (G8 minus Russia) agreed in principle to write off US\$40 billion to US\$55 billion of nominal

debts mainly owed to the International Development Association (IDA), the IMF and African Development Fund (AfDF) (Zulu, 2006).

More initiatives and external support pertaining to infrastructure development was unlocked. A look at the African Development Bank (AfDB) for assistance strategy 2007 – 2010 states in part; the Government of the Republic of Zambia launched its 5th National Development Plan (FNDP) and the vision 2030 in Jan 2006. The 2 documents constituted both medium and long-term agenda. Effort which the bank would support based on two pillars. ‘Pillar 1’ would be support to infrastructure development and ‘Pillar 2’ would support good governance (African Development Bank (ADB), 2007).

Infrastructure development under the FNDP involved construction and rehabilitation of various public infrastructure in transport, telecommunication, energy, water and agricultural sectors. In collaboration with the joint assistance strategy for Zambian partners, the government and AfDB further focused on water and sanitation, including the scaling up of the national rural water and sanitation supply program (African Development Bank (ADB), 2007). Local contractors did participate in these donors’ funded projects but in lower-level projects by value.

2.6 The Construction Industry at Present

2.6.1 Socio-Economic and Political Changes

Zambia’s current population is projected to be at over 18 million inhabitants as of 2022 (Central Statistical Office (CSO), 2013). The urban population is estimated to be at 45.3% and the rural population stands at 54.7%. While the population density in cities averages around 900 persons per km², some districts are still very sparsely populated with population density of as low as 3.0 persons per km². Just like in the 1960s and 1970s, this population disparity still poses a challenge in the expansion of public sector infrastructure to cater for rural areas. Though side-lined from this development, rural areas are equally entitled to roads, electricity, schools, health facilities, water and sanitation etc. (Cheelo and Liebenthal, 2020).

On the other hand, demand for commercial and residential real estate is at an all-time high in densely populated areas such as Lusaka. This has increased the demand for construction services in these areas which would explain why most of the construction firms are concentrated around Lusaka. Having established itself as the preferred destination for private investments in residential housing, as well as in commercial

private buildings for office accommodation and retail space (shopping malls and supermarkets) due to its central nature, the demand for related building construction services has become much greater in Lusaka than in other parts of the country. Added to these human settlement pressures, the current political dispensation is anchored on an economic philosophy of state-led development, to be achieved primarily through public goods infrastructure expansion (Cheelo and Liebenthal, 2020).

In late 2011, when the Patriotic Front (PF) was voted into government, their policy towards construction locked Zambia into an ambitious infrastructure development path that still persists today. The public infrastructure development ambitions of the government were also reflected in the Seventh National Development Plan 2017–2021 (Ministry of National Development Planning, 2017). The 7NDP had ten Strategic Development Outcomes, consisting of one on ‘Improved Transport Systems and Infrastructure’, which focused on construction and rehabilitation of railways; development of aviation infrastructure and operations; construction and rehabilitation of the road network; and construction and rehabilitation of maritime and inland waterways. Some of the notable infrastructure programmes under the 7NDP are Link Zambia 8000 road project, Kenneth Kaunda International Airport, Lusaka Decongestion Project, and the creation of new districts and revitalising of old ones. The creation of new districts implied that new administrative infrastructure (offices and personnel housing, schools, health facilities, road network) was required in these new districts (Ministry of National Development Planning, 2017).

Overall, the demand for construction services in Zambia has continued to be significantly influenced by the public sector’s demand for expenditure on major infrastructure development projects and programmes. In turn, these decisions will continue to be significantly determined by the political dispensation, particularly the appetite for infrastructure development as a key avenue towards economic growth and development (Cheelo and Liebenthal, 2020).

2.6.2 Organisation of the Construction Industry (2001 – Present)

During the early 2000s available records from the Roads Department, National Roads Board, Association of Building and Civil Engineering Contractors (ABCEC) and National Association of Small Scale Contractors (NASSC) indicated that there were

more than 650 Contractors in the Civil Works Sector and of those, 72% were small scale contractors (Mwila and Jensen, 2004).

Table 2-1: Number and distribution of civil works contractors (Mwila and Jensen, 2004)

Contractor	Description	Number	Local	Foreign
Unlimited	Usually foreign firms, better equipped, has access to new or serviceable equipment, normally undertakes donor-funded projects.	35	1	34
Medium	Access to plant and equipment and appropriately qualified staff.	48	48	
General	Limited access to plant, equipment and finance.	99	99	
Small	Limited access to plant/equipment and financial resources. Some have well trained staff, while the majority have not received formal training. Mostly family owned.	475	475	
Total		657	623	34

Mwila (2004) went further to observe that large established contractors in the unlimited category, were predominantly foreign, with only a single local contractor falling somewhere between the unlimited and medium category. These large established contractors were usually well staffed in terms of technical, professional and administrative staff. They had the financial resources and usually owned basic road construction equipment for both unpaved and paved roads.

On the other hand, there were a few Zambian firms registered as medium – scale contractors but failed to grow due to lack of job opportunities. Most of these firms owned aged plant and equipment despite having appropriately qualified staff. Some of these contractors entered joint ventures with either locally based or foreign contractors, and with a level of success managed to build their technical, financial and plant/equipment capacity using this strategy. However, only a few contractors had access to such collaborations (Mwila and Jensen, 2004).

In the current categorisation system introduced by NCC, construction firms are graded based on their capacity to deliver, which is determined by a mix of the firm's previous

contracts, access to credit, numbers of professional and technical staff (human resource competence), financial position (including operating capital endowment), and state of technology. The grading system is numeric, with 1 the highest grade attainable and 6 the lowest. The higher the grade, the higher the annual registration fees a firm is required to pay and the larger the contracts it can bid for (Mwila and Jensen, 2004; Cheelo and Liebenthal, 2020).

Looking at the number of registered contractors as reported by NCC based on these new regulations, it can be seen that the construction industry has continued to grow from the 2000s onwards. According to the 2020 Annual Report, there were 10,097 registered contractors in the country (See Figure 2-1).



Figure 2-1: Contractor registration trend analysis (National Council for Construction (NCC), 2020).

In terms of ownership NCC estimated that most of the firms (97%) were owned by Zambians, with foreign-owned construction firms accounting for only 3%. Despite being a small fraction of the industry, foreign construction firms are the majority of the large-scale categories (Grades 1 and 2) making up 60% of the registrations while the Zambian contractors make up 40% of the Large-Scale contractors (See Figure 2-2).

Despite foreign-owned firms constituting only 3% of registered firms, they generally dominate the industry in terms of the value of contracts awarded as has been the case since privatization in the 90s as shown in the preceding chapters. For instance, in 2014,

foreign-owned construction firms which submitted public tender bids had a 90% success rate, compared with the 3.8 per cent of Zambian-owned firms which were successful in the same year (Cheelo and Liebenthal, 2020).

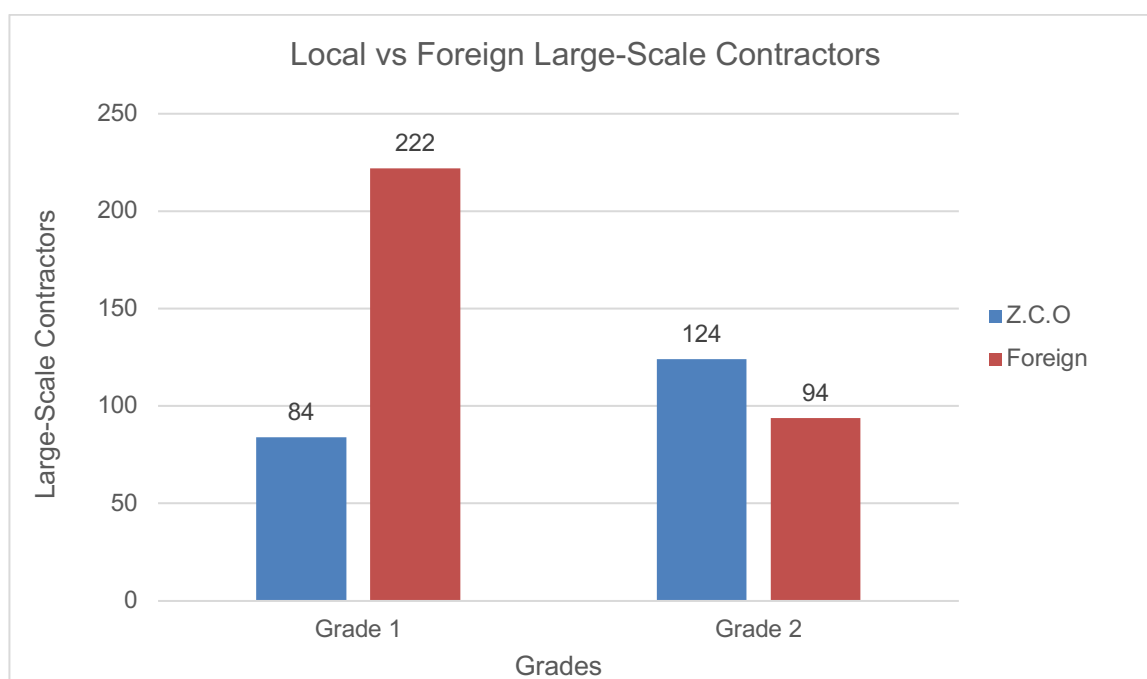


Figure 2-2: Large-scale contractors by ownership (National Council for Construction (NCC), 2020).

In light of this fragmentation in the industry and the limitation it poses on local contractors, Phiri (2016) analysed the 20% subcontracting policy introduced by the Zambian government in 2012 and whether it could assist in developing capacity of local contractors. He found that:

- 1) It would be challenging to grow the capacity of local contractors using the policy because of a limited and weak implementation framework.
- 2) The policy statement only covered the road sub-sector and was silent on the other sub-sectors of construction such as building and energy installation construction.
- 3) The policy did not have any measures or implementation framework for how its objectives would be achieved.; and
- 4) Foreign contractors were not willing to build the capacity of local contractors as there was no incentive for them to do so.

2.6.3 Important Governance and Regulatory Institutions

Under the current governance system, the overarching body for infrastructure development in Zambia is the Ministry of Infrastructure, Housing and Urban

Development. It was previously called the Ministry of Housing and Infrastructure Development created in 2016 and restructured to its current system in 2021. This ministry was created to oversee the designing, procuring and construction of all public infrastructure. It is responsible for various functions, including the following: architecture; aviation infrastructure; building and construction industry policy; education infrastructure; health infrastructure; maritime infrastructure; national housing policy; and land-transport-related infrastructure (Cheelo and Liebenthal, 2020). There are six key statutory bodies are under the governance and direction of the Ministry, namely:

- Association of Consulting Engineers of Zambia (ACEZ)
- Engineering Institution of Zambia (EIZ);
- National Council for Construction (NCC);
- National Housing Authority (NHA);
- Quantity Surveyors Registration Board (QSRB);
- Road Development Agency (RDA); and
- Zambia Institute of Architects (ZIA).

2.6.4 Procurement Systems

In order to regulate and control the procurement of goods and services for the Government and parastatal bodies, the Zambia National Tender Board (ZNTB) was established as a statutory body by the Zambia National Tender Board Act No. 30 of 1982 (Republic of Zambia, 1990). For over the next decade, public procurement reform would be on the Zambian Government's agenda, during which a number of donor-funded projects would support this agenda. For instance, the government adopted the Public Procurement Action Plan in 1996 to decentralize procurement to ministries, facilitate decentralization, establish a cadre of professional procurement staff, support specialised training institutions in building cadre capacity and strengthen and audit oversight functions (World Bank and Republic of Zambia, 2002). In 2002, there was a joint undertaking between the Zambian Government and the World Bank called the Country Procurement Assessment Review (CPAR) to study and analyse the existing public procurement system in Zambia and to recommend suitable actions to improve the economy, efficiency, predictability and transparency of the procurement processes. The following were the findings of CPAR: gaps in the public procurement

system's intentions and practices; legal and institutional weaknesses; weakness in procurement procedures and practices; weakness in procurement management; inadequacies in budget allocation and funds release system; lack of a procurement cadre; lack of capacity building in procurement training institutions; and a handicapped Anti-Corruption Commission (ACC) (World Bank and Republic of Zambia, 2002).

CPAR would recommend a reform program to re-establish the policy and supervisory role of ZNTB and revise the procurement legal framework, among other recommendations. Between 2002 and 2008, the Zambian Government embarked on a procurement reform programme through recommendations from CPAR and other stakeholders (World Bank and Republic of Zambia, 2002). This procurement reform programme culminated into the establishment of the Zambia Public Procurement Authority (ZPPA) as a statutory body under the Public Procurement Act No. 12 of 2008. This act repealed and replaced the Zambia National Tender Board Act of 1982 and renamed ZNTB to ZPPA. Beyond cosmetic rebranding, the act also revised the law relating to procurement so as to ensure transparency and accountability in public procurement; regulate and control practices relating to public procurement in order to promote the integrity of, fairness and public confidence in, the procurement process (World Bank, 2020).

2.7 Summary of Chapter

In this Chapter, it is observed that during the country's period of socialist ideology, private enterprises and in particular local contractor participation in public works was very low. State monopoly edged out local contractors while the capitalist era from 1991 offered space to local contractors or in particular private local contractors. A surge of foreign contractors with already developed capacities marginalized local contractors which led to the insignificant levels of participation by value.

Currently, the Zambian construction industry has failed to play its expected role of providing the basis for socio-economic development and securing improvement in the living condition of the citizens. For that matter certain controls and development strategies are required in the global context. Firstly, wide and regular research must be sponsored and undertaken to develop a practical defined criteria for local contractor development. Secondly, overall corporate development is key to local construction

firms and availability of situation work available with consistent cash flows are important.

In the next Chapter, attention is focused on the review of existing theories, strategies and empirical literature related to this study.

CHAPTER 3: LITERATURE REVIEW

3.1 Introduction

This Chapter builds on the textual analysis of literature reviewed relevant to discussing the topic of local contractor participation, while also reviewing the evolution of Zambia's construction industry.

3.2 Theoretical Perspectives on Contractor Participation in Construction Projects

This section examines theoretical perspectives that underpin the study of contractor participation in construction projects, with a specific focus on WSS infrastructure development. These perspectives are used in part of the familiarization step under the Straussian Grounded Theory methodology adopted for the building of underlying themes from existing contexts associated with low local contractor participation.

Theoretical perspectives are drawn from transaction cost economics, institutional theory, social exchange theory and other relevant frameworks, to provide a deeper understanding of the factors influencing local contractor participation in construction projects, particularly in the context of developing countries like Zambia.

3.2.1 Transaction Cost Economics

Transaction cost economics (TCE) emerged in the 1970s and 1980s as a response to the limitations of neoclassical economics in explaining the boundaries of firms and the prevalence of market transactions (Williamson, 1985). It built upon the works of Coase (1937) and Simon (1957), who highlighted the role of transaction costs in determining the optimal allocation of resources between market and firm.

TCE offers valuable insights into the decision-making processes of contracting parties within construction projects. According to Williamson (1985), transaction costs, including search, negotiation and enforcement costs, influence the choice between market transactions (outsourcing to external contractors) and hierarchical governance (internalization within the organization). In the context of WSS projects, TCE helps elucidate why certain tasks are outsourced to local or foreign contractors based on efficiency considerations, asset specificity, and the risk of opportunistic behaviour (Cheah *et al.*, 2018). Furthermore, TCE underscores the importance of contractual

arrangements and governance mechanisms in mitigating transaction costs and fostering effective collaboration between contracting parties (Wang *et al.*, 2019).

3.2.2 Institutional Theory

Institutional theory gained prominence in the 1980s as scholars sought to understand how organizations and industries are shaped by broader societal forces (DiMaggio and Powell, 1983). It drew inspiration from sociological theories of organizations and organizational ecology, emphasizing the role of institutions in providing stability and coherence to social systems.

Institutional theory posits that formal and informal institutional structures shape actors' behaviour and decision-making processes within organizations and industries (DiMaggio and Powell, 1983). In the construction sector, institutional factors such as regulatory frameworks, legal systems, cultural norms and industry practices exert a profound influence on contractor participation (Shi *et al.*, 2018). For instance, institutional pressures may drive governments to implement local content policies or preferential procurement practices to promote local contractor participation in public projects (Kaufmann *et al.*, 2019). Moreover, institutional isomorphism may lead foreign contractors to conform to local norms and practices to gain legitimacy and social acceptance in host countries (Scott, 2014).

3.2.3 Social Exchange Theory

Social exchange theory emerged in the mid-20th century within the field of sociology, with roots in the work of scholars such as George Homans and Peter Blau (Emerson, 1976). It gained traction in organizational studies as researchers sought to understand interpersonal relationships, reciprocity and trust within organizational settings.

Social exchange theory emphasizes the role of reciprocal relationships and mutual benefits in shaping interactions between individuals and organizations (Emerson, 1976). Applied to the construction industry, social exchange theory elucidates the dynamics of trust, cooperation, and collaboration between clients, contractors, and other stakeholders (Cheung *et al.*, 2020). Local contractors' participation in construction projects is influenced by the perceived benefits of collaboration, including access to resources, knowledge sharing, and reputation enhancement (Mak and Yiu, 2018). Conversely, trust deficits, power imbalances and perceived inequities

may hinder effective social exchange and impede local contractor engagement (Zhao *et al.*, 2017).

3.2.4 Other Theoretical Perspectives

Beyond TCE, institutional theory and social exchange theory, several other theoretical perspectives offer valuable insights into contractor participation dynamics. Resource dependence theory highlights the interdependence between organizations and their external environments, emphasizing how contractors rely on clients, suppliers and regulatory bodies for resources and legitimacy (Pfeffer and Salancik, 1978). Stakeholder theory underscores the importance of considering the interests and expectations of various stakeholders, including local communities, government agencies, and non-governmental organizations, in shaping contractor participation strategies (Freeman, 1984).

Incorporating transaction cost economics, institutional theory, social exchange theory, and other relevant theoretical perspectives enhances our understanding of the complex factors influencing local contractor participation in construction projects, particularly within the WSS sector. By examining the interplay between economic rationality, institutional pressures, social interactions, and stakeholder dynamics, researchers and practitioners can develop more nuanced strategies to promote inclusive and sustainable contractor participation in development projects.

3.3 Empirical Studies on local contractor participation in construction projects

3.3.1 Overview

Foreign dominance in the construction industry impacts all types of infrastructure and both the public and private sectors. Since the public sector includes infrastructure that supports the basic needs of the local populations, those works are often the most discussed. Developing countries face the most challenges with local participation; however, developed countries still struggle with operational and maintenance related activities.

Local contractor participation has been an ongoing issue globally. Various strategies have been developed to encourage local communities to engage in construction works, increasing access to critical facilities, like water and sanitation treatment systems, as well as employment opportunities and skill development. Most of these strategies

started with simple systems, like road construction and maintenance. However, they could be extended to cover other types of infrastructure. Both contracting and subcontracting are affected by foreign dominance, but contracting faces specific challenges, which include:

- A lack of project management and financial skills;
- A lack of access to technology; and
- Access to adequate capital needed to complete high-value construction projects.

3.3.2 Public vs Private Construction Projects

The public construction sector is much more government regulated than the private sector. Public construction projects are also heavily funded by local governments and are a dominating force in the construction industry. While private construction projects are still significant economic drivers, the public sector is where local participants are most critical in developing countries. Public sector projects include housing, road, water and sanitation infrastructure, which are vital systems needed to build an economy and reduce poverty. Thus, most government bodies and studies have focused on the public sector.

While foreign dominance is not as significant in developed countries, other issues like infrastructure maintenance are still an issue. This has prompted private sector participation in places like the United States of America (USA). Therefore, a long-term plan for developing any country should include the private sector, including when private participants get involved in public infrastructure.

Governments, including Zambia, Nigeria and other developing countries, have set many programs, institutions, acts and regulations to encourage more local contractors and subcontractors to bid on public sector projects. An example of this is the 20 Percent Subcontracting Policy implemented in 2012, raising the threshold of local contractor procurement from 10% to 20%.

Within the private sector specifically, a study was conducted in the USA (Albalade, Bel and Geddes, 2012) using municipal and state-level data from 472 projects between 1985 and 2008. The study analysed what motivated private participation in public sector projects. Involving the private sector clients to participate in local infrastructure

has been crucial since the existing infrastructure is not adequately maintained and is deteriorating. State and local governments cannot keep up with the costs of maintaining roads, bridges, tunnels, transit systems, schools and wastewater treatment plants.

About thirty-one American states have created public-private partnerships enabling laws to involve the private sector in resolving these maintenance deficits. Contracts govern the public-private partnerships, making provisions for various terms, such as having a private party operate a facility like those mentioned above. The four main contract types were:

- Design and build contracts;
- Management contracts;
- Design-build-finance-operate (DBFO) and concession agreements; and
- Asset sales.

These contracts have a public sponsor who takes care of the variables that the private firm does not agree to facilitate. For example, when a private firm enters into a design and build contract, the firm takes care of all the design and build requirements of the infrastructure project. There are several types of contracts within private-public partnerships beyond what is listed above. In the case where a new facility is built by the public sector, it is called a greenfield project. When a private firm pays a concession fee, it is called a brownfield project.

3.3.3 Developing vs Developed Countries

The data shows that local participation in developing countries seems to be much more of a problem than in developed countries; however, many developed and even developing countries can serve as an example for insight on improving local contractor participation in developing countries that are still struggling. Using the USA and developing countries like Singapore, India, and China, we can explore strategies and mechanisms that can be implemented to increase local participation in countries like Zambia, Nigeria, Ghana and some areas of Africa.

In 2015, Mr Hlobotha Nkunika, the Northern Province Secretary in Zambia, expressed that low participation was still an issue. He urged local contractors to fast-track skill

and technical knowledge transfers, using the 20 Percent Subcontracting Policy and the launch of new training facilities like the Lukashya Trades Training in Kasama (Lusaka Voice, 2015).

These strategies often include legislation requiring local purchases of services and materials, which further drives local employment, business opportunities and economic growth. Successes in increasing local participation exist in both developed and developing countries.

The USA significantly increased local participation through the Buy America Act (1933) and subsequent legislation mandating that materials, supplies, articles or services must be substantially American. In 2005, 94% of payments made by the USA Federal Government went to local companies (McCrudden, C, 2007). Over the past 50 years, the United Kingdom (UK) government has sponsored several reviews of its construction industry. These reviews were performed to improve the way the industry is organised and how construction work is procured. Developing countries like Singapore, India, and China, have successfully implemented policies to raise local material and service procurement. We can use both developed and developing countries as examples to apply policies and programs to aid in increasing local participation in those countries that are still struggling with low local contractor participation in civil projects, particularly in developing countries where most projects are donor funded.

3.3.4 Type of Infrastructure (Building, Water and Roads)

Public infrastructure construction, like roads, housing and water/sanitation infrastructure, are the areas where development is most needed in developing countries. In contrast, developed countries require more maintenance and operational development than developing countries.

As discussed, developing countries, like Zambia, lack crucial public infrastructure. Notably, developing countries require a focus on improving local contractor participation to develop public infrastructure and build local capabilities. While governments are in charge of developing public infrastructure, involving private-sector clients as partners may add additional funds and skill transfer opportunities to public sector projects.

The 20 Percent Subcontracting Policy in Zambia and other policies aimed at the same goal of involving higher levels of local participation, should extend beyond just road construction and maintenance. This policy has not addressed infrastructure in the housing, energy and building sectors adequately. Furthermore, most studies are mainly focused on the road sector; therefore, more research should be conducted on other infrastructure, particularly concerning local participation and local procurement of materials and services.

3.3.5 Sub-Contractor vs Main Contractor

Zambia's 20 Percent Sub-Contracting Policy primarily targets subcontracting and is highly dependent on the foreign contractor or client participation and enforcement. Foreign contractors have a conflict of interest in this, as there is little incentive provided to them for complying with the terms of the policy and the policy is difficult to enforce in its current form.

Main contractors require project management skills and financial and technical skills above those of most local contractors' expertise in developing countries. It is difficult for local contractors in developing countries to acquire these skills, as they are not provided with many opportunities for training and building these skills through employment and/or workshops (Phiri, 2016). Though subcontracting is widely used in developed countries, it is not as common in less developed countries (Mlenga, 2002).

Subcontracting is a more feasible entry into the construction industry by local contractors for developing countries. It would facilitate skill and technology transfers, ensuring that proper strategies and programs are implemented and enabling future opportunities as the main contractor. There are various ways to participate in subcontracting, as subcontracting mainly requires labour rather than business management activities.

3.4 Empirical Studies on local contractor participation in infrastructure projects

3.4.1 Hindrances to Participation

Several studies have been conducted to analyse developed and developing countries and reveal the main hindrances to local construction participation. In Tanzania, a study conducted in 2021 (Salim *et al.*, 2018) identified that the main issues contributing to a lack of local contractor participation in local civil works were:

- A lack of work opportunities caused by corruption, favouritism, bureaucracy and a lack of registered local contractors;
- The lack of work opportunities makes it hard for workers to build adequate skills. Local contractors lack many skills, which affects their ability to finance, manage and perform the construction work, lowering client trust;
- Local contractors have limited finance options, such as loans with low-interest rates. Non-payment from clients is another common obstacle that further creates difficulties in financing the work to be completed during a construction contract. These financial issues prevent local participants from competing for larger projects, limiting growth;
- The financing issues create equipment deficits, as local contractors cannot purchase or maintain the equipment needed to complete the works; and
- Materials also become financially cumbersome, as the local materials are often low quality at higher rates and there is frequent price fluctuation.

Studies done in Ghana, South Africa, Nigeria, Zambia, Tanzania and Iran all identified the same or similar issues:

- A Ghanaian contractor study (Dadzie and Yalley, 2018) was conducted on 310 locals comprised of procurement officers, building and civil construction professionals and managing directors of construction and consultancy firms. The review showed that local contractors provided low quality work due to a poor organisational structure, staff retention, and unskilled labourers.

Government activities were believed to give foreign contract companies advantages over local firms that affect the bidding phase, making it less competitive. The

gathered data concluded that more skilled labourers and better government policies are needed within Ghana.

- In South Africa, a 2009 study (Thwala and Phaladi, 2009), using a questionnaire collected from 57 local contractors, found that the major issues, according to those in the Northwest Province, were that the local contractors did not have the financial means or proper skill sets to complete contracts. The government caused financial issues within public sector projects by not making timely payments. Another main contributor was a lack of access to other capital, such as loans. Technical and business skills, like project management, were significantly deficient, making it hard to gain competitiveness in the local construction industry.
- For Nigeria, where a 2020 report (Akinsiku, 2020) showed that foreign contractors were involved in 95% of larger construction activities, a questionnaire was distributed to both contractors and clients in Lagos. This questionnaire was done to identify why local participation was meagre. The researcher and two trained research assistants conducted these questionnaires in person, using simple multiple-choice questions.

The participants were primary stakeholders in the local construction industry. 25 causal factors were identified and 18 factors on how to improve local participation. They were organised based on the level of impact using a Likert scale. Using this scale, five leading challenges were assessed:

- a) Lack of profit on projects;
 - b) Untimely payments;
 - c) Poorly conducted tendering and estimation; and
 - d) Inadequately skilled labourers.
- In 2014, another report on local contractors in Nigeria (Ugochukwu and Onyekwena, 2014) found that they struggled to get large construction projects due to mismanagement of finances. The mismanagement of finances caused a higher rate of bankruptcy, poor quality work and project abandonment. This study used a literature review, field studies and interviews to assess why contractors struggled with these financial constraints.

This study showed that local contractors lacked an essential awareness of project management, specifically regarding managing funds during the duration of the

construction. Other issues were that they lacked access to adequate funding and often faced cash flow obstacles, such as non-payment. Additionally, the costs of procuring services and goods are often fluctuating due to inflation.

- Tanzania conducted a relevant study in 2021 (Makenya and Mhando, 2021) The study revealed that within local civil works (road sector), low participation was from:
 - a) Lack of capital and financial resources;
 - b) Few contract opportunities;
 - c) Insufficient equipment and skills; and
 - d) Improper facilities.

The data was collected from road project reports from Tanroads and oral interviews with road sector stakeholders.

- Another study was done in Zambia in 2020 (Banda, 2020) in the Lusaka District. This study used a questionnaire, interviews and focus group discussions to gather primary data. The data was then analysed using the statistical package for social sciences.

The study showed that frequent project delay and abandonment were attributed to:

 - a) poor business and management skills;
 - b) high bank interest rates and lack of financial resources;
 - c) various risks specific to the housing industry;
 - d) late payments from clients;
 - e) lack of collateral; and
 - f) inadequate technical skills.

The studies presented above were primarily focused on the public sector. However, a notable study was conducted in 2021 (Arabi and Sarvari, 2021) regarding the private sector. The study used a questionnaire to gather 60 expert opinions from the public and private sectors. The opinions were gathered to identify the main challenges preventing local contractors from participating in urban projects. Then, SPSS software was used to analyse the data. The data collected was analysed using various methods,

like the Delphi method, the Kolmogorov-Smirnov test and the Friedman test. Additionally, interviews were conducted after collecting the data.

The barriers identified were classified into three groups:

1. technical and organisational;
2. financial; and,
3. political and legal.

The three barrier categories were further broken down using the Friedman test to rank them from most to least prioritised. Project management ranked as the biggest issue preventing local contractors from participating in private sector projects. Thirteen (13) different groups of barriers were broken down as shown in Table 3-1-2:

Table 3-1: Barrier Groups from Study Conducted on Private Sector Local Participation (Arabi and Sarvari, 2021)

Rank	Barriers
1	Lack of project management knowledge
2	Lack of contractor attention to finding the most economical cost solutions
3	Lack of systematic interaction between sectors
4	Lack of application in new methods and tools regarding financing
5	High political relativism in project assignment
6	Lack of legal and technical infrastructure
7	Weak equipment and technology availability and application
8	Fluctuating maintenance and operation costs from inflation
9	Lack of competent managers in public policymaking
10	Lack of public sector personnel with scientific expertise regarding development project implementation
11	Conflicts of interest between project beneficiaries
12	Poor communication between the private sector and organisations
13	Lack of liquidity in the private sector

Based on the various studies conducted, the main issues were very similar, mainly in developing countries. These issues affect every type of infrastructure in both the private and public sectors. Therefore, these studies can be combined to design and implement frameworks and solutions to increase local construction industry participation for both contractors and subcontractors.

3.4.2 Effects of Low Participation

Poverty is the most apparent effect of low participation. This comes in the form of underdeveloped critical infrastructure, like housing, water and sanitation and a lack of

jobs and opportunities for local communities. Less critical infrastructure means less access to vital resources like water and sanitation - this further results in water/sanitation-related diseases and high healthcare costs for local communities (Rakodi 1999; Hatontola 2017; MWDSEP 2020).

A study conducted in 2010 (Laryea, 2010) cites an article written in the April 17-23, 2010, edition of *The Economist* by Wooldridge (2010). The article states that other than poverty, the developing countries experiencing low local contractor participation were also facing:

- Poor distribution systems;
- Unpredictable income streams;
- Environmental pollution;
- Unsatisfactory government intervention; and
- Inadequate basic infrastructure and services.

An article from the *Zambia Daily Mail* (Zambia Daily Mail, 2019) observes that 'Every developed country can attest that it takes citizens to develop a country.' It explains that no country can grow and develop without its citizens. The foreign dominance is funnelling the wealth from the construction industry into other countries. However, with nothing to stop foreign contractors from benefiting their own countries from the money gained in construction, locals need to become proactive and engage in the industry to turn the tides.

A case study on the Lusaka District was done in 2020 (Chibemba, 2020), analysing the effects of Chinese contractors dominating the local road construction industry. The findings showed that foreign domination in road construction affected other industries, like mining, manufacturing and agriculture. That is because these industries rely on proper road infrastructure to thrive.

Furthermore, the more Chinese contractors there were, the more local contractors were regressing or completely shutting down their businesses. The study utilized the following research criteria to show that foreign dominance greatly impacts unemployment for local construction workers:

- a questionnaire with closed ended questions;
- in-depth interviews;
- focus group discussions; and

- literature review.

Another issue that the above-mentioned study revealed was that since the local contractors were struggling to participate in significant construction contracts, they were prevented from benefiting from foreign contractors' skills and ideas.

An analysis of Zambia's 20 percent subcontracting pronouncement (Phiri, 2016) infers that skills transfer and knowledge acquisition occur through diverse mechanisms within the construction industry. Local construction firms' involvement as subcontractors to international firms plays a crucial role in technology transfer and enhancing the capabilities of domestic contractors.

The Zambian government is cognizant of this issue, urging local contractors to start engaging so that the transfer of skills and technical knowledge could be expedited (Lusaka Voice, 2015).

A group of engineers (Engineers Against Poverty) from the Institution of Civil Engineers (ICE) assembled a report (Wells and Hawkins, 2008) aimed at increasing local content in infrastructure project procurement. The report identified that poverty was further caused by a lack of local procurement in both services and goods used in construction projects.

The lack of local procurement further creates unemployment and lowers operating and maintenance job opportunities, and affects the goods being sold in the local community. Furthermore, these opportunities would help build more skills in the population, reduce poverty, and drive economic growth.

The ICE report also identified an issue that dramatically affects the community and economy. That issue is a lack of maintenance on already existing infrastructure. Foreign dominance in construction projects means that those who design and complete the works may not remain available to ensure proper facility maintenance. With inadequate necessary infrastructure, like water and sanitation, the issues are further compounded by existing services breaking down due to a lack of maintenance. The breakdown of existing facilities contributes to more significant struggles in alleviating poverty and stimulating economic growth.

Low participation further feeds into the causes, as low skill development leads to low quality work. Suppose the local contractors are delivering poorly when awarded contracts. In that case, clients feel hesitant to hire them and award the projects to

foreign contractors. In addition to this, ethical issues exist, and further distrust is stimulated in both clients and local contractors from cases of blackmail, criminal prosecutions, fines and reputational risk (Adnan *et al.*, 2012).

3.4.3 Successes in Relatively High Participation

Some programs and methods have improved local contractor participation in both developed and developing countries. These programs and methods have been mostly applied to public sector projects. Some noteworthy success stories collected in research by Wells and Hawkins, 2008 are as follows:

- In the early 1900s, Latin America formed “Cooperative Enterprises.” These cooperatives were primarily created to address local road maintenance and focused on having those living in the immediate areas work on improving the road conditions in their own areas.

This formation introduced more jobs, training and education. Because those working on the roads were directly affected, the quality of work was greatly improved, and accountability heightened. In addition, these programs created payment structures to ensure on-time payments and incentives using tracked performance indicators (www.zietlow.com).

- In Malawi, the UK Department for International Development led a program for primary school construction that used small contractors from a local graded register, the National Construction Industry Council. These contractors required approval from the Ministries of Health and Education, which meant they were screened before being contracted to complete the works.

Since these small business owners were afforded the ability to bid on several projects per year, they could obtain regular work and build more comprehensive skill sets. Building designs were also regulated so that the schools would be built to proper standards more consistently. There were further standards to ensure the local firms could profit, and incentives were provided to complete the contracts on time.

Using local contractors rather than international contractors or large firms saved over 40% and improved the local contracting industry, creating more opportunities

within the local communities. This program created a fully visible procurement process, lowering ethics and corruption issues, encouraging contractors to participate confidently.

- New ways of creating contracts and performing tender evaluations were introduced in the UK. These new ways of procuring services have led to increased partnering between clients and smaller construction firms.

One example is a local council that created a framework agreement to construct primary schools. This framework changed the tender process, so turnover was not considered until after selection. Three small firm contractors were awarded a three-year contract, where they were assigned, work equalling 25% of their annual turnover (Khalfan, MMA and P. McDermott, 2006). In South Africa, a system was implemented using a targeted procurement procedure aimed at social and economic development and alleviating poverty (The Structural Engineer, August 2006). This procedure involved:

- analysing target groups;
- unbundling contracts;
- granting preferences;
- incentivising;
- implementing Key Performance Indicators (KPIs);
- creating contractual obligations; and
- providing third-party management support and evaluating the procurement outcomes.

A project that targeted water mains in Durban due to about 2,500 km of ageing asbestos pipes was conducted by eThekweni Water and Sanitation. This project applied a delivery model that separated target costs from establishing work scope and socio-economical deliverables. Further, workers were provided with pipe-laying training and health and safety training (including HIV/AIDS).

eThekweni staff was active in ensuring the contractors procured could gain appropriate experience to be added to the local professional register, provided mentorship to establish business systems, and KPIs were measured at regular intervals. For additional local participation, approximately 3,800 unemployed persons were hired

and rotated quarterly to perform unskilled labour, like digging trenches. The client would source the funding for projects following this model and then procure the services needed (Watermeyer, R.B., Larkin, D. and van Huyssteen, S., 2007)

3.4.4 Strategies or Mechanisms for Increased Participation

Three main areas exist where strategies and mechanisms for increased participation have been successful or recommended. These strategies often work within both private and public sectors but have been chiefly researched within the public sector. These main areas are:

1. Government Intervention:

- a. Scale-up efforts to increase the capacity of local contractors through skills development and transfer and increased access to finance;
- b. Improve or create more policies, like the 20 Percent Subcontracting Policy, to reach all sectors and transform it into an enforceable law to enhance monitoring and compliance. Ensure such policies provide precise application and strategies for building local contractor capacities;
- c. Assist in removing market entry barriers;
- d. Create programs that address training requirements to build more skills within the local community, specific to the construction industry and current project; and
- e. Strategic planning for encouraging and developing local contractor capacities.

A strategy for this may be adding requirements for the public sector. These strategies could encourage a focus on economic growth and ensure that contractors comply with policies and regulations that improve local employment, training and skill development.

This strategy has been applied in South Africa; however, strategies such as this would have to be implemented in conjunction with considerations that help to avoid monetary constraints.

2. Indigenous Intervention:

- a. Local participation should start in the initial planning. Indigenous contractors can participate in developing a project, including setting up operation and maintenance strategies. In interviews conducted for a journal article (Mambwe *et al.*, 2020) to develop a framework for local contractor participation, the interviewees gave a consensus that “work allocation has to be done by the engineer/consultant at design stage instead of foreign or main contractors in order to remove bias.”

3. Client Intervention:

- a. Client and stakeholders review project needs and work scope before procuring services, including contractors, material suppliers and consultants;
- b. Participates in procurement of subcontractors to overcome conflicts of interest for foreign contractors hired to manage the project; and
- c. To prevent capital and cash flow issues from affecting project completion, provide advance payments to fund the subcontracting work required.

The ICE study discussed (Wells and Hawkins, 2008) in the previous section laid out a comprehensive strategy revolving around increasing local content, building more local participation and resolving challenges creating foreign dominance. Using the research conducted in this study, a seven-part recommendation was laid out as follows:

1. **Initial Planning:** involve local participants in designing and planning the project;
2. **Detailed Design:** designs should give specifications to dictate parameters around technology and work methods within local contractors’ capacities. Additionally, local sourcing specifications further drive business opportunities in the supply industry;
3. **Appointment of Consultants:** carefully reviewing consultants while considering precise client requirements, such as work scope;
4. **Procurement Strategy:** clients alleviate financial constraints by setting up a proper payment plan, waving the need for bonds, and separating the procurement of the labour and materials. Accountability could be generated through the involvement of the local community;

5. **Appointment of Contractor:** prequalifying local contractors to ensure that the right people are assigned to the contract while referring to local registers can be used to improve work quality. Clients could unbundle contracts into a diverse range of contract sizes so firms with various capabilities would have more access to opportunities;
6. **Contract Agreement:** appropriately sized contract agreements should be written in local languages, potentially requiring locally sourcing unskilled workers. Governments could find ways to assist local firms in obtaining loans with lower interest rates; and
7. **Handover, Operation and Maintenance:** The contractor who is rewarded the contract could be tasked with guiding the team in charge of operation and maintenance (O&M) before completing the project. However, suppose another is appointed to take care of the O&M. In that case, the other steps should be used, as applicable, to that selection.

As exhibited in the case studies, this seven-step strategy can provide an exceptional framework to improve local participation, along with better government policies and regulations.

3.5 Empirical Studies on local contractor participation in public WSS infrastructure projects

A study on water projects in Kenya was conducted to figure out why there were project delays even after substantial investments were made (Asinza *et al.*, 2017)

Table 3-2: Results from Study Conducted in Kenya on Delays in Water Construction Projects

%	Opinion
92.9%	Felt that local contractors did not have adequate financial resources to complete construction projects.
64.3%	Felt that local contractors did not have adequate skilled personnel for project participation.
64.3%	Felt that local contractors did not have adequate tools and equipment to complete the construction works required.
92.9%	Felt that local contractors did not have goodwill from material suppliers to obtain materials on credit.
57.1%	Felt that local contractors did not have adequate, relevant construction skills to complete many projects.
71.4%	Felt that local contractors did not have adequate site management skills.

78.6%	Felt that local contractors did not have updated skills and methods to use in construction works.
85.7%	Felt that local contractors did not have an appropriate level of control over hired subcontractors.
92.8%	Felt that local contractors did not comply with Health, Safety and Environmental requirements.
85.7%	Felt that local contractors did not comply with local labour laws.

This study used the following to obtain data:

- 50 water projects;
- Gathered 200 engineers, using the census technique, from the 50 water projects;
- A questionnaire was distributed to the engineers as mentioned above, receiving an 84% response rate; and
- Variables were measured using frequencies and percentages and Karl Pearson's correlation to explain relationships between variables.

The main issues identified in this study were inadequate contractor capacity of resources and experience. Other issues uncovered are included in Table 3-2.

A note released by the World Bank in 1995 (Environmentally and Socially Sustainable Development Network, 1995) expresses that those using water and sanitation utilities are rarely involved in developing them. This note uses an example from Kenya, showing that local participation in designing and managing water and sanitation infrastructure helps with many attributes. Involving local participants helps reveal demand and create more accountability within the operation and maintenance of these facilities, making them more sustainable.

The case study from Kenya involving a rural water project showed that when locals were encouraged to participate in these projects, communities initiated the mobilization of both labour and materials for construction, while also taking part in the operation and upkeep of the completed facilities. As the project neared completion, community groups, aided by the NGO, had reshaped its trajectory significantly. They successfully initiated constructive discussions with the Municipal Council regarding the strategic placement and timing of additional infrastructural amenities like roads, a police station, and a post office within the village.

Programs have addressed water infrastructure specifically. There is inadequate water and sanitation infrastructure in Zambia, and the existing facilities are deteriorating due

to a lack of maintenance. Due to these issues, several Zambian programs have been created and include:

- Zambia National Rural Water Supply and Sanitation Program (NRWSSP) (Hatontola 2017; MWDSEP 2020);
- Project for Strengthening Capacity of Urban Water Supply Infrastructure in the Republic of Zambia (PSCUWS) (The Republic of Zambia Ministry of Water Development Sanitation, Environmental Protection (MWDSEP) and National Water Supply and Sanitation Council (NWASCO), 2019); and
- The Ministry of Water Development, Sanitation and Environmental Protection, the Ministerial Strategic Plan (2018-2021) (MSP) (MWDSEP, 2022)

These programs have identified that issues specific to Zambia's water/sanitation infrastructure included insufficient systems for managing water resources, often due to poor financial mechanisms, institutional/legal framework, and management resources.

While the NRWSSP implemented plans to cover all the deficiencies, including gathering financial resources, PSCUWS specifically works to create operational and maintenance mechanisms and improve the appropriate technologies.

The MSP reviewed applicable policies and legislation to help implement a program to create effective and sustainable plans to develop water, sanitation, and environmental resources.

These strategies were developed in response to the Seventh National Development Plan and the Vision 2030 (<https://zambia.un.org/index.php/en/93848-zambia-7th-national-development-plan>, 2017) to create actionable milestones. Part of the Vision 2030 plan is to have clean water and sanitation for the locals to improve general health and well-being and reduce poverty. Using self-administered questionnaires and further, in-person interaction, various stakeholders were engaged to collect input on potential improvements that could be applied.

This program identified that in addition to a need for more funding mechanisms, fluctuating interest rates, exchange rates and oil prices (both international and domestic) impact business costs, reducing targeted infrastructure projects and service

delivery. In just two years, from 2014 to 2016, the inflation rate went from 8% to 20% and then reduced significantly again by the end of 2016.

The NRWSSP program explicitly acknowledges the need for local participation within the water/sanitation sector. It implements the use of local contractors and materials within its procurement plan. The program lists objectives to have local workers, with various percentages specific to the participation of women, varying from 30% to 50%, trained in the construction of local sanitation facilities at various points in the program. The program aims to build an overall Water Supply, Sanitation and Health Education (WASHE) strategy to build local utilities and have local contractors, consultants, and the general community participate in the entirety of the program.

Additionally, the program intends to reduce government centralisation and create more local authority councils. The targeted communities have a government extension that helps coordinate, monitor, and ensure compliance within the region. These councils oversee financial activities relative to the community, receiving the financial resources directly from the Ministry of Finance and National Planning. Area Development Committees facilitate dialogue and ensure successful local participation.

3.5.1 Funding Mechanisms

Government funding for the water/sanitation sector has historically been low. Poverty Reduction Strategy Papers (PRSP) budget allocations totalled USD 42.4M between 2002 and 2004, only 3.5% of the PRSP budget. Of this USD 42.2M, only 32% was disbursed by summer 2004.

Due to the lack of funding mechanisms within public sector construction, the NRWSSP addresses this too. This program was formed to develop the public WSS sector, improve hygiene awareness, create more institutional support and build capacities.

The program costs were estimated at USD 77.43M. The funding mechanisms for this program collected from donors and government funding amounted to approximately USD 46.9M annually in 2006 within the water sector.

The key donors, who essentially formed a cooperative group of private firms, were:

- World Bank;

- Danish International Development Agency;
- German Government, through the German Bank for Development;
- German Agency for Technical Cooperation;
- United Nations International Children's Emergency Fund;
- Japan International Cooperation Agency; and
- African Development Bank.

The members above have been vocal about the need for improved water and sanitation facilities for several years and formed a cohesive partnership for delivering on the goals within the Vision 2030 program and the NRWSSP.

They have provided substantial donor support. This support has reached over into:

- technical assistance;
- developing more capacity within local and national governments; and
- providing insight into best practices and program/project supports.

This group of donors has provided financial support to eleven operations within the water/sanitation sector (as of 2006) totalling USD 93.2M, such as:

- Lusaka and Kitwe Water Supply Rehabilitation projects;
- Central Province Rural Water Supply Project; and
- Eight Centres Water Supply and Sanitation Projects.

Due to much involvement within the water/sanitation sector in previous projects, these donors developed strategies to carry forward and implement in the NRWSSP.

This experience helped with:

- more effective follow-up and consultation to avoid financing delays;
- more effective monitoring to ensure smooth flow of activities and mission launches;
- better packaged and sequenced construction contracts, enabling local participation; and
- more consultation with cooperation partners during missions to maximize support.

The program mentioned above also received funding from an ADF Loan of USD 15M and USD 3.9M from the community.

However, even with all this support, long-term sustainability is still a major requirement for any water/sanitation program to succeed. To create sector stability, the program planned to appoint a long-term Program Management Advisor and Financial Management Advisor to work with government staff to manage the ongoing objectives.

The ADF Loan obtained was to be applied to 15 districts to:

- rehabilitate 777 water points;
- construct 1,876 new water points;
- construct 747 sanitation facilities for schools, health centres and public places;
- sector development activities and program management; and
- encourage local participation from women as follows:
 - 50% V-WASHES (Village Water, Sanitation and Hygiene Education);
 - 30% in the D-WASHES (District Water, Sanitation and Hygiene Education);
 - 50% of participants in training programs for water/sanitation infrastructure operations and management; and
 - 25% in training for latrine construction.

3.5.2 Eligibility Criteria

The NRWSSP implemented eligibility criteria for gaining local participation and deciding which areas to apply to the program. The procurement of consultants/contractors was done through competitive bidding by the Zambia National Tender Board or District Tender Boards, ensuring that communities were trained before being commissioned. The areas of development were also selected based on the locals' preparedness to participate in the program objectives. As mentioned previously, the criteria included a specific percentage of women participants, included to encourage gender equity and women empowerment.

One major difficulty that this program had to address regarding eligibility criteria involving local participation was the community's willingness to pay. Infrastructure requires ongoing operational and maintenance activities. Creating accountability can be challenging when it comes to a community initiative.

Each household was expected to pay only approximately \$10 - \$12 annually within the most expensive scenario. Furthermore, the community was expected to assist with constructing water points and sanitation facilities. To build willingness, past projects have shown that the benefiting communities need to be aware of how the infrastructure directly contributes to their quality of life. The community's willingness was key. They were expected to take 100% responsibility for the O&M Plan that was a part of the program.

For the PSCUWS, local experts were hired based on their knowledge of local habitual tendencies of which the Japanese participants in this program would not be aware.

These participants must also be able to:

- understand the local technologies and have the capability to apply them efficiently;
- communicate differences between local technology from Japanese; and
- maintain, communicate, and implement project activities.

While these requirements would not help unskilled participants with project management, in particular, it could aid with skill transfer if this project was combined with other projects.

There is little discussion regarding local participation in the final report released from this project, so its project aims would have to work in conjunction with other projects to improve local participation, in particular. However, this project does provide much structure for project management and a detailed plan for Human Resources Development.

In another project involving oil and gas pipelines in Alberta, Canada, Indigenous Participation Plan (Midwest Pipelines Inc., 2021), a formal employment process has been formulated. This Employment process uses a Contractor (Midwest Pipelines Inc.) and an Indigenous and Community Relations Advisor (ICR) team to screen indigenous applicants.

The application process requires the following:

- a current resumé/cover letter with the applicant's full name (optional);
- current contact information, such as an address, phone number, email;
- information about skills and capabilities, such as the ability to drive;
- desired position;
- which community they are from (optional); and
- copies of current safety and training tickets, if applicable.

The accepted applicants are provided with some functional training and tickets needed for their appointed position.

The training tickets that the program provides include:

- Standard First Aid - Level C with CPR (SFA-C);
- Pipeline Construction Safety Training (PCST);
- Ground Disturbance Level 2 (GD2, ABCGA Endorsed) as needed;
- Workplace Hazardous Materials Information System 2015 (WHMIS 2015); and
- Defensive Driving (for individuals required to operate a contractor vehicle).

Table 3-3: Eligibility Challenges and Solutions Applied in Canada's Indigenous Participation Plan

Challenge	Solutions Applied
There are limited capacities in terms of trained workers	Training needs were identified before the project and provided during the onboarding phase.
Many cultural differences exist, even among indigenous participants	The program collaborators have received awareness training to ensure that they research the specific communities they are working with
Some participants only have "life experience," which requires additional consideration and review when trying to include these experiences as work experiences	A weekly reporting system was implemented to track these challenges so that each case could be addressed separately along the way.
Cooperation amongst Indigenous Agencies, Federal/Provincial Governments, Non-Government Organisations, and urban communities (municipalities)	Michels Canada created a "Framework for Cooperation," to facilitate conversations for developing a plan together based on identified priorities.
Encouraging local participants to apply to the program	The Contractor (Midwest Pipelines Inc.) for the program was tasked with directly engaging the indigenous communities before the project.

	The Contractor would aim to identify goals, capabilities, and look for both training and subcontracting opportunities during these engagements.
Issues with participants working as a team and applying appropriate problem-solving techniques	Training implemented into the onboarding process in collaboration with community organisations and leaders.

During the on-boarding process, the applicants are provided with the Contractor's project and payroll requirements, which include:

- Valid Pipeline Construction Safety Training (PCST);
- Valid Standard First Aid with CPR Level C(SFA);
- Valid Workplace Hazardous Material Information System 2015(WHMIS);
- Valid Ground Disturbance Level 2 ABCGA Endorsed (GD);
- Other industry-related training tickets;
- Valid driver's license or Valid Government Issued Photo ID;
- Driver's Abstract – dated within the last six months;
- Social Insurance Number (SIN);
- Banking Information (void cheque or direct deposit form from bank); and
- Current Address.

There are often multiple follow-ups required to obtain all of this information from those who would like to participate in the projects, so the ICR team was appointed to support applicants and enhance their chances of success.

Further steps included in this employment process for eligibility screening were:

- a drug and alcohol test;
- employee provided Personal Protective Equipment (PPE), such as CSA Approved steel-toed work boots and seasonally appropriate clothing; and
- the ability to travel to and from the job site on their own.

Some of the challenges and solutions that this program identified in recruiting local participants are outlined in Table 3-3.

While the Canadian project is not for sanitation and water infrastructure, the issues and solutions may be applicable in any infrastructure project to engage local participation.

3.6 Critique of existing literature

Existing literature provides a comprehensive overview of the challenges and potential strategies related to local contractor participation in construction projects, particularly in the WSS sector, both globally and within the context of Zambia. While the review highlights numerous studies examining the hindrances to local participation and successes in addressing them, several critiques can be made to support the problem statement and objective of the study.

While the literature acknowledges the existence of various hindrances to local contractor participation, such as a lack of project opportunities, financial constraints, and inadequate skills and resources, it primarily focuses on identifying these challenges rather than exploring the underlying factors contributing to them. This limited focus prevents a deeper understanding of the systemic issues within the construction industry that perpetuate foreign dominance and hinder local participation. For instance, while studies in Tanzania, Ghana, South Africa, and Nigeria highlight common issues such as corruption, bureaucratic barriers, and inadequate skills, they do not delve into the institutional, regulatory, and policy frameworks that sustain these challenges.

Moreover, while the literature discusses some successful programs and strategies aimed at improving local participation, such as the Buy America Act in the United States and targeted procurement procedures in South Africa, it lacks critical analysis of the contextual factors influencing the effectiveness and scalability of these interventions in the Zambian context. Importing strategies from developed countries or other developing nations without considering the unique socio-economic, political, and institutional context of Zambia may lead to ineffective or unsustainable outcomes.

Furthermore, the literature predominantly focuses on the public sector's role in infrastructure development, particularly in the WSS sector, neglecting the potential contributions of the private sector and civil society organizations. Given the increasing recognition of the importance of multi-stakeholder partnerships and innovative financing mechanisms in infrastructure development, overlooking these actors limits the exploration of holistic solutions to enhance local contractor participation.

While literature briefly mentions the role of legislation and policy frameworks, such as the 20 Percent Subcontracting Policy in Zambia, it does not critically examine their

implementation challenges or their effectiveness in promoting sustainable local participation. Understanding the gaps between policy intent and implementation realities is crucial for identifying areas for intervention and policy reform.

By and large, literature reviewed provides valuable insights into the challenges and opportunities for local contractor participation in WSS projects in Zambia, but lacks a critical analysis of the underlying structural, institutional, and policy factors influencing foreign dominance and limited local involvement. Addressing these gaps will be essential for developing comprehensive theoretical propositions and actionable recommendations to promote sustainable and inclusive local participation in WSS projects in Zambia.

3.7 Summary of Chapter

This Chapter presented a review of literature relevant to local contractor participation in the public sector. The next Chapter discusses the methodology inclusive of the theoretical and conceptual framework adopted for the study.

CHAPTER 4: METHODOLOGY

4.1 Introduction

Chapter 4 outlines the research methodology, paradigms and strategies adopted to carry out the research presented in this thesis. These are systematically predetermined by taking a Straussian Grounded Theory Methodology. This Chapter introduces this methodology and the considerations leading up to the adoption of such a method of inquiry.

4.2 Conceptual Framework

This study focuses on addressing what should constitute enhanced local contractor participation in the WSS sub-sector. Following that this study adopts a Grounded Theory methodology, Figure 4-1 presents the conceptual framework built on the key constructs defined as: (a) emergent issues contextualizing deterrents to local contractor participation, (b) consequential phenomena and implied strategies, (c) theoretical propositions for enhanced local contractor participation. The aspects of the Grounded Theory are presented in subsequent sections, and especially the Straussian Grounded Theory which informs these constructs.

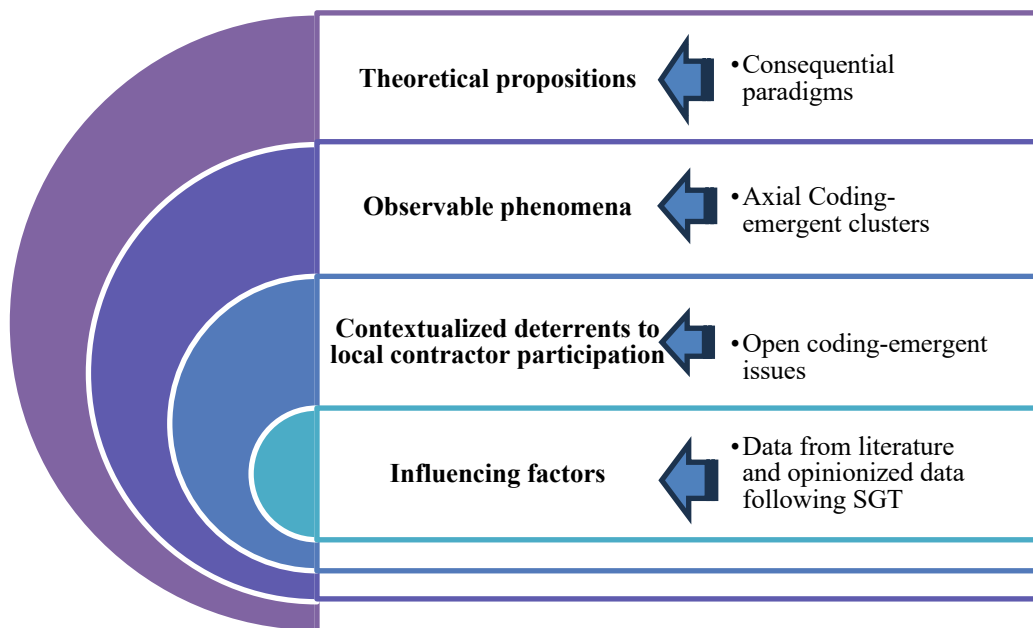


Figure 4-1: Methodological Framework based on Straussian Grounded Theory (SGT).

4.3 Grounded Theory

Grounded Theory has evolved through the years from as far back as 1967, with multiple variations existing today (Glaser and Strauss, 1967; Strauss and Corbin, 1990; Goulding, 2002; Clarke, 2005; Corbin and Strauss, 2008; Maz, 2013; Charmaz, 2014). It is a systematic qualitative research method that collects empirical data first, and then creates a theory 'grounded' in the results. It can be argued that these variations are based on the following three Grounded Theories:

4.3.1 Glaser and Strauss' Classical Grounded Theory

From an ontological standpoint, the Classical Grounded Theory (CGT) of Glaser and Strauss is the most positivist-like and most heavily inspired by objectivism. They held the opinion that a sound theory ought to be applied and capable of predicting future occurrences. Glaser and Strauss therefore emphasized the significance of predictions and applications in this theory, which serves as the basis for grounded theory. CGT is an analytical approach that is driven more by the desire to develop theory than by the necessity of obtaining data, and it does not impose any rigor or limits on data collection processes. This seems to go against a lot of the institutional norms and practices that are in place today (Glaser and Strauss, 1967).

4.3.2 Constructivist Grounded Theory

A fundamental tenet of constructivist grounded theory, as proposed by Charmaz, is the involvement of the researcher and participant in the process of creating knowledge and assessing the type of information that is learned. Unlike conventional GT, which maintains that theory comes from facts and is developed by the researcher in the capacity of an impartial yet thoughtful scientific observer, constructivist GT completely incorporates the researcher in the construction of data and hypotheses.

With this approach, individuals actively contribute to the growth of knowledge. Instead of being presented publicly as assertions, the collected data is subsequently given as a component of an interpretative depiction. But this intrinsic subjectivity makes it difficult to produce objective research results that, for example, may support broad-based practical or policy responses to institutional or societal concerns. For this reason, it was essential that this method is not used for this investigation (Charmaz, 2006; Charmaz, 2014).

4.3.3 Strauss and Corbin or Straussian Grounded Theory

The Straussian Grounded Theory (SGT) is ontologically influenced by objectivism and reflexivity. The latter two are the foundations of the Strauss and Corbin approach, which hold that there is an objective, external world that the researcher can uncover and report on. However, Corbin's more recent editions of the Strauss and Corbin approach soften the application of technical processes and support the researcher's reflexive role more strongly than they did in earlier editions. In contrast to the conventional method, Glaser and Strauss's CGT, Strauss and Corbin's data analysis follows a precise outline with an emphasis on ongoing validation and a blend of induction and deduction. This has influenced people's belief that a properly Grounded Theory must be produced via a step-by-step, planned process (Corbin and Strauss, 2008).

Three fundamental principles underpin all of these grounded theories, setting them apart from other research methodologies: (a) Theory Generation; (b) Theory grounded on empirical research (c) Concurrent systematic collection and analysis of data.

4.3.4 Theory Generation

Grounded Theory is based on hypothesizing the explanation to a research question induced from data collected (Corbin and Strauss, 2008; Cooney, 2010'; Charmaz, 2014). Thus, any Grounded Theory approach is an inductive method of inquiry (Heath and Cowley, 2004; Corbin and Strauss, 2008; Milliken, 2010; Maz, 2013). This is in contrast to quantitative studies in which a researcher takes a deductive method of inquiry as he already has hypothesized factors or theories wished to be tested (Kivunja and Kuyini, 2017).

4.3.5 Theory Grounded in Empirical Research

The term "Grounded Theory" refers to how the explanation or theory that emerges from the study is supported by the data collected. In contrast to theory testing, the research process in Grounded Theory is unaffected by preconceived preconceptions about what is happening. The research process itself creates explanation (theory), which is subsequently backed by it.

As a result, Grounded Theory is best suited to studying issues that have never been examined previously, or when previous research has major gaps that may require a new perspective (Heath and Cowley, 2004; Corbin and Strauss, 2008; Milliken, 2010; Maz, 2013; Charmaz, 2014). This encourages the use of this technique in this study in response to the previously described information gaps as part of the problem that this research aims to solve.

4.3.6 Concurrent Systematic Collection and Analysis of Data

Compared to Grounded Theory, other qualitative approaches concentrate on collecting a large amount of data and letting it "speak for itself." In contrast, Grounded Theory, ideas and theories are developed through an ongoing process of data comparison, which also includes developing hypotheses to explain behaviour and testing them with additional data collection (Heath and Cowley, 2004; Corbin and Strauss, 2008; Milliken, 2010; Maz, 2013; Charmaz, 2014).

Despite being primarily an inductive approach, Grounded Theory has aspects of deduction. When thoughts about what is going on arise during the first rounds of data collection, the researcher creates plausible explanations for the observed behaviour, indicating the next data gathering step required to complete his or her knowledge. The theory grows and is tested using data obtained using a technique known as theoretical sampling, which is supported by the theory-generation ethic. As the investigation continues, a picture of what happened and why emerges (Heath and Cowley, 2004; Corbin and Strauss, 2008; Milliken, 2010; Maz, 2013; Charmaz, 2014).

Therefore, in taking a Grounded Theory methodology this study provides a non-biased investigation into factors negating local contractor participation while giving an in-depth understanding of how such factors are deterrents.

4.4 Research methodology

This study adopted the qualitative method embedded in the Straussian Grounded Theory inquiry approach in developing Local Contractor Participation (LCP) theory. Figure 4-1 illustrates the research methodologies adopted in this study based on an onion presentation.

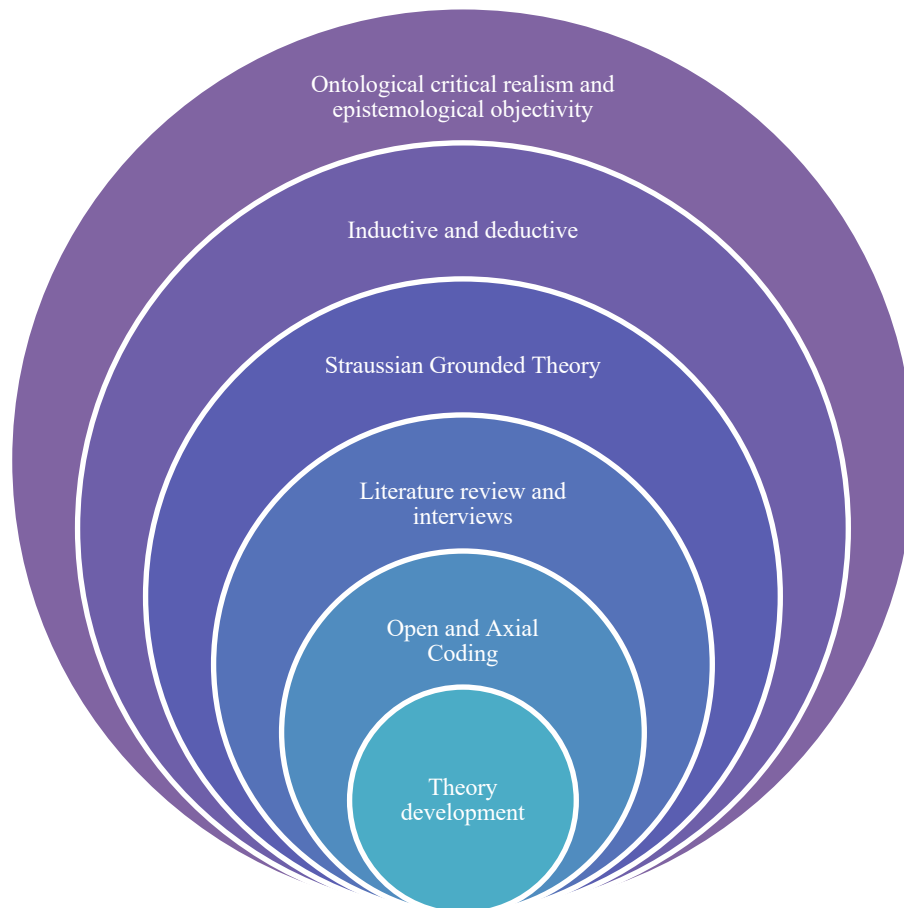


Figure 4-2: Straussian Grounded Theory Research Methodology for LCP theory development

4.4.1 Research strategy and philosophy

The study adopted a philosophical standpoint characterized by ontological critical realism and epistemological objectivity, which aligns with interpretivism or social constructivism. By embracing both deductive and inductive paradigms, the study sought to capitalize on this philosophical stance. Consequently, the decision to employ a Grounded Theory approach was justified, as it resonated with the philosophical framework of ontological critical realism and interpretivism, allowing for a holistic exploration of the underlying issues surrounding local contractor participation (LCP) and the frameworks for enhancing LCP.

In contrast to other qualitative approaches, grounded theory emphasizes simultaneous and systematic data collection and analysis. While other qualitative methods often involve gathering extensive data and allowing it to "speak for itself," grounded theory takes a different approach. Here, ideas and theories are developed through an ongoing process of comparing data, which includes formulating hypotheses to explain behaviour and then testing these hypotheses through further data collection. Despite

being primarily an inductive methodology, grounded theory incorporates elements of deduction. In adopting a Grounded Theory approach, this allowed the research to develop potential explanations for observed behaviour as ideas emerged during initial rounds of data collection, signalling the need for additional data collection to deepen understanding. Grounded Theory evolves and is refined through a process known as theoretical sampling, guided by the principle of theory generation. The result was a comprehensive description of the phenomenon closely tied to the collected data.

As previously noted, different primary types of Grounded Theory exist, but the Straussian Grounded Theory approach has a leverage on the other approaches. Firstly, it allowed for familiarization with the research area aligned with LCP through building on existing contexts from defined theoretical perspectives in the preceding chapter and systematic review of literature. Secondly, it facilitated the development of theories with a dense conceptual framework, going beyond mere descriptive accounts. Thirdly, it involved a detailed process of systematic coding, including open, axial, and selective coding techniques. Fourthly, it coded responses at the sentence level, enabling a wider range of textual analysis. Additionally, it advocated for the use of interrogative questioning, employing words such as "who? what? why? when? and how much?" to open up the data for various interpretations. Finally, it promoted comparative thinking to further explore the data. In adopting the Straussian Grounded Theory approach, it allowed for constant comparison of data collected until saturation and ultimately theory development.

The Straussian Grounded Theory enabled the distinguishing between notions that "compel" facts and those that "allow the formation" of new categories. This was made possible by the successful application of theoretical knowledge founded on solid methodological and epistemological principles. Therefore, the Straussian methodology was adopted this defined data collection and analysis procedures.

4.4.2 Data collection

A thorough literature study was conducted to contextualize theoretical knowledge and issues related to local contractor involvement. Existing literature was utilized to support the research's analytical methodologies, rather than as a theoretical framework. As a result, the researcher continued to employ the principles from the reviewed literature to assist explain developing data.

In taking a Straussian Grounded Theory (SGT) approach, this provided a method of inquiry that set out to emerge theory from data systematically obtained using semi-structured interviews and analysed using open-coding and axial coding analysis. These interviews were conducted with the inclusion of players in the WSS with at least 20 years of experience spanning from working or associating with government, WSS commercial utilities and regulatory boards and authorities such as Zambia Public Procurement Authority (ZPPA) and National Water Supply and Sanitation Council (NWASCO). These respondents included key informants selected based on snowball sampling technique, with saturation reached after interviewing 9 respondents.

4.4.3 Ethical issues

The ethical issues in this study were related to the data collecting and analysis for administered inter-personal interviews. These issues concerned voluntary participation, participant anonymity and data protection addressed through using positive response mechanisms including:

- i. the researcher obtained informed consent, maintaining that each participant was willing to participate, the researcher did not coerce or compel them;
- ii. to ensure participant anonymity, the researcher did not gather personal or private information; and
- iii. the researcher ensured confidentiality by not disclosing any information to other parties and only used it for research and academic reasons.

4.4.4 Data analysis

This study followed predetermined Grounded Theory data analysis methodologies, also known as coding. The researcher also determined phenomena and constructed theories. The steps and approaches taken in this study were predetermined by the existing structured methodological procedures for Grounded Theory. Figure 4-2 illustrates these data analysis procedures to include open coding, axial coding and development of core categories.

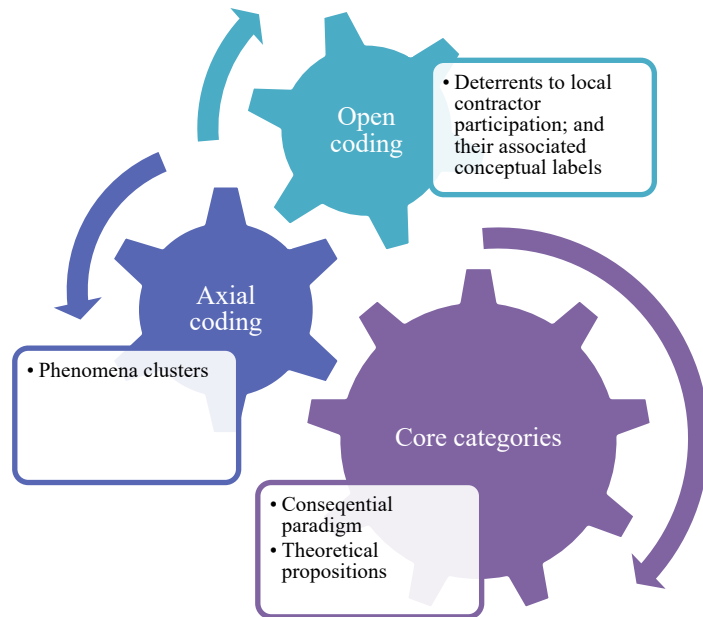


Figure 4-3: Straussian Grounded Theory data analysis

a) Open Coding Process

Qualitative data was broken into discrete parts, closely examined and compared to each other for similarities and differences.

b) Axial Coding Process

This analytical effort sorted, synthesized, and organized the large amounts of data and reassembled them in new clusters after open coding. It is through axial coding that observed phenomena were coded.

c) Core Categories

The researcher took an iterative approach of data collection and analysis in defining core categories, ensuring that all the clusters from axial coding are associated to a core category. It is these core categories in which consequential paradigms were defined leading to the formulation of theoretical propositions.

4.4.5 Theoretical Saturation

Central to the data collection and analysis process in accordance with the SGT was the concept of Theoretical Saturation. The researcher adopted this method to ascertain the point at which to conclude the iterative cycle of data collection and analysis.

Theoretical Saturation was deemed achieved when minimal new information surfaced, signalling that the saturation point had been reached.

4.5 Summary of Chapter

This study took a Straussian Grounded Theory, with predetermined methodological approaches from data collection to data analysis presented in this Chapter.

CHAPTER 5: RESULTS

5.1 Introduction

As presented in the previous Chapter, a Straussian Grounded Theory approach was adopted. In taking this methodology, Chapter 5 presents deterrents, observable consequential phenomena aligned to local contractor participation in the public sector water and supply sanitation projects in Zambia. Figure 5-1 illustrates these findings and their associations. This chapter further unveils theoretical propositions hypothesized from these consequential phenomena. The primary contribution from this study is the single theory that posits these three theoretical propositions in holistically addressing the problem of local contractor participation. This is the Local Contractor Participation (LCP) theory.

5.2 Deterrents to local contractor participation

Deterrents from the coding of text from interview responses in identifying descriptors and associated conceptual labels, were conceptualized as indicated in Figures 5-1 and 5-2 to include:

- Code 1: Procurement and Taxation;
- Code 2: Source of Funding;
- Code 3: Plant and Equipment Resource Constraints;
- Code 4: Evolution of Construction Sector;
- Code 5: Policy, Regulation and Enforcement;
- Code 6: Specialized Financial Support;
- Code 7: Support from Professional Bodies;
- Code 8: Government Capacity Building Efforts;
- Code 9: Long Term Perspective on Capacity Building Efforts;
- Code 10: Multilateral Funding Targeted at Local Contractors;
- Code 11: Sector Specific Vision for Local Contractor Participation Development;
- Code 12: Promotion of Sub-contracting;
- Code 13: Local Contractor Legal Knowledge;
- Code 14: Regulatory Implementation; and
- Code 15: Political interference

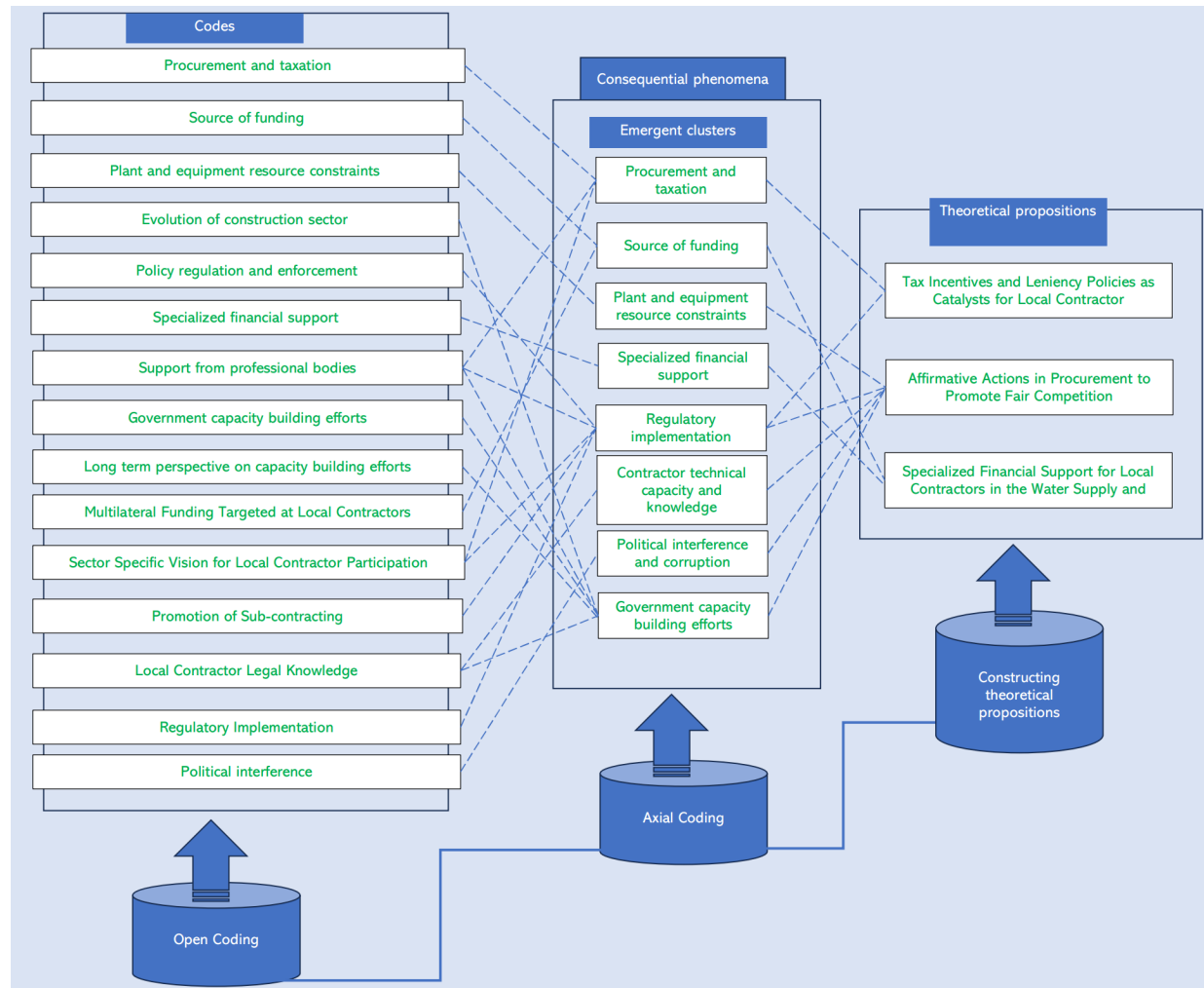


Figure 5-1: Matching diagram for deterrents, consequential phenomena and theoretical propositions aligned to local contractor participation



Figure 5-2: Open coding analysis: emergent issue categories and associated conceptual labels.

Associated conceptual labels were induced from statements coded within these interview responses and example quotes are presented as part of data analysis. Figure 5-2 illustrates the codes earlier highlighted and their associated conceptual labels.

These findings address research objective one and an in-depth look at these results is presented in the subsequent sections 5.2.1 to 5.2.15.

5.2.1 Code 1: Procurement and Taxation

The responses obtained included statements highlighting concerns and observations regarding the participation of local contractors in public sector projects:

- i. Ownership and Commitment: Local contractors express a sense of ownership and commitment to their work compared to foreign contractors who are perceived as profit-driven entities.
- ii. Procurement Routes and Local Participation: Questions arise regarding whether the procurement methods used in public sector projects hinder the involvement of local Zambian contractors.
- iii. Interconnected Issues: There is acknowledgment of the interconnected nature of challenges, spanning from procurement processes to funding availability and capacity building.
- iv. Registration and Treatment: Concerns are raised about the treatment of newly registered contractors, suggesting they face undue scrutiny and pressure.
- v. Taxation Policies: Calls are made for leniency in taxation policies to support the growth of small contractors, allowing them to build up their businesses.
- vi. Lack of Discrimination: Despite claims of targeting local contractors in bids, there is perceived ambiguity, with foreign contractors often having an advantage.
- vii. Technical Capacity vs. Requirements: Local contractors are believed to possess the technical capacity required for projects, but they are disadvantaged by bidding document requirements.
- viii. Disadvantages in Procurement: The procurement system is criticized for imposing requirements that disadvantage local contractors, particularly in terms of financial resources and equipment.

- ix. Bias towards Foreign Contractors: The procurement system is seen as biased towards foreign contractors, favouring them due to emphasis on financial resources and equipment, thus disadvantaging local contractors.

These summarized perspectives are presented in the expanded view of results under the contextualized description, identified quotes, and established conceptual label.

A. Description: Procurement and taxation systems impacting local participation.

B. Example Quotes:

- "With local contractors, you know there is ownership, that this is ours, whereas the foreign contractors, they are coming to make money and to go."
- "Could the procurement routes taken in these public sector works affect the participation of the local Zambian contractors?"
- "But yeah, so I like the way you're asking me because as we can see, the issue is cross cutting from procurement to the availability of funding and the capacity building."
- "So, the moment this guy registers himself, you descend on him as if he has been there for years."
- "There was need for a deliberate move to just relax the taxing of these small people, for them to just build up. You can have a tax regime, but one which is very lenient on them and one where they can easily afford."
- "But what has happened is that in most of these bids, there is no clear discrimination on targeting the local contractors."
- "Even when we say that these bids are targeting the local contractors, foreign contractors are open to participate and most of the requirement actually they favour the foreign contractors."
- "Local contractors or local companies do have the technical capacity but it's just the requirements that are put in bidding documents that disadvantage them."
- "The procurement system clearly disadvantages local contractors by insisting on certain requirements..."
- "The procurement system is skewed towards favouring foreign contractors because the emphasis, the undue emphasis on the capacity in terms of financial resources and equipment clearly disadvantages local contractors."

C. Conceptual label: Local contractors disadvantaged by procurement and taxation systems:

- Disadvantage local participation by requiring bank guarantees, but due to collateral demands by banks coupled with the perception that foreign contractors are better than local contractors, these guarantees are a challenge;
- Taxation disadvantages the transitioning and growth of small-medium enterprise (SME) local contractors from emergence to been competitive with foreign contractors in bidding; and
- Lack of deliberate local contractor bias/discrimination as part of procurement processes.

In the procurement process for contracts, it was observed that the local contractors are disadvantaged by the adoption of eligibility requirements that are applied in developed countries but are copied here without taking into consideration the local environment. For example, in the developed world they have a developed structure with corresponding categories where contractors can access these requirements such as bid guarantees, performance guarantees, loans (at very low interest rates, if any), letters of credit, and advance payment guarantees. These facilities are meant to advantage the contractors domiciled in the first world for continued dominance in these sectors in the developing world.

Ironically, the local contractors here face a lot of difficulties to access these facilities, even with a proven track record of performance, because the financial markets do not have financial institutions that specifically support the growth of local contractors in tandem with growth of the construction sector. In addition, the bulk of procurement processes adopted are developed by the developed world and copied without customizing them to suit the local environment.

On taxation, the lack of tax rebates/concessions to spur the sustainable growth of the local contractors is a major hindrance to their effective participation in the sector. For instance, a local contractor must pay value added tax once they have invoiced following successful certification of an interim payment certificate. However, despite invoicing, the contractor continues to await payment, but the tax component must be paid to tax authority. The foreign contractor on the other hand, is not as heavily impacted because financial institutions in their countries mitigate these taxation

constraints. Below, are the deterrents to local contractor participation in local projects that have been developed as the emergent categories and their associated conceptual labels in this study.

This necessitates affirmative action and to level playing field for local contractors to be able to compete with foreign contractors.

5.2.2 Code 2: Source of Funding

The responses obtained highlighted various factors affecting local participation in infrastructure projects, particularly in the water and sanitation sector:

- i. Donor Funding and Parameters: Many high-value projects in the sector are funded by donors, who set specific parameters and conditions for project implementation.
- ii. Influence of Donors: Due to the funding source, donors exert significant influence over project criteria and selection processes.
- iii. Nature of Projects: Some projects, such as drainage structures, are perceived as straightforward and feasible for local contractors, regardless of technical complexity.
- iv. Project Requirements: However, certain conditions, like previous project experience, pose challenges for local contractors to qualify for participation.
- v. Local Technical Expertise: Despite these challenges, local contractors possess technical expertise comparable to foreign counterparts, particularly in infrastructure projects.
- vi. Government Attention: There is a perception that the water and sanitation sector has not received adequate attention from the government in terms of prioritization and support for local participation in infrastructure projects.

These summarized perspectives are presented in the expanded view of results under the contextualized description, identified quotes, and established conceptual label.

A. Description: Impact on local contractor participation following that the source of funding for most water supply and sanitation projects are donor funded.

B. Example Quotes:

- "The first one is that most of these high-value projects are donor funded."
- "Because money is coming from the donors, they have their parameters."

- "For instance, this millennium project, which was sponsored by the Americans, those were basically drainage structures which anyone who has gone to school can easily do."
- "For instance, they put in the conditions that for you to qualify to do that project, you must have done three or so of such projects in the last ten or so years."
- "But in terms of comparing the local contractors or local participation to foreign in some of these projects, technical expertise we do have as locals."
- "In terms of infrastructure projects, the water and sanitation sector, in my view, has not attracted the due attention from government."

C. Conceptual label: There is little control on the influence of project requirements, and in turn may impose requirements that disadvantage local contractor participation, even for projects that an indigenous company can successfully implement. Therefore, the high reliance on donor funding for such projects, and not seed money from government, inevitably creates a potential rift that disadvantages local participation in water supply and sanitation projects.

The donor or international source of funding comes with guidelines and conditionalities on the eligibility criteria for participating contractors, consultants, and suppliers. These guidelines and conditionalities are difficult for local contractors to meet, but deliberately advantage foreign contractors. Contractors who are domiciled in the countries that are providing the donor funding are usually advantaged.

There is need for high investment from government seed money in the water supply and sanitation sector.

5.2.3 Code 3: Plant and Equipment Resource Constraints

The responses obtained emphasized the challenges faced by local contractors in competing with foreign counterparts in bidding for projects:

- i. **Resource Requirements:** Projects demand various resources, including equipment, human resources, and others, which may pose obstacles for local contractors.
- ii. **Unequal Competition:** Local contractors often lack the resources mentioned, yet they are expected to compete on equal terms with foreign contractors during the bidding process.

These summarized perspectives are presented in the expanded view of results under the contextualized description, identified quotes, and established conceptual label.

A. Description: Resource limitations affecting local contractor bidding competitiveness and project implementation.

B. Example Quotes:

- "And these resources imply the equipment, the human resource and other resources."
- "For the local contractors, they may not have all these resources which have just given examples, but during the bidding time, they have to compete on the same basis as the foreign contractors."

C. Conceptual label: Predominantly, local contractors are not on the same playing field as foreign contractors with regards to technical capacity, more specifically plant and equipment. They are already discouraged to bid looking at some of the plant and equipment requirements needed at procurement and for project implementation.

Procurement needs to adopt segmenting of contracts into manageable lots that require less plant and equipment resources and advantage local contractor participation by reducing constraint on the type and/or number of such resources.

5.2.4 Code 4: Evolution of Construction Sector

The responses obtained shed light on the historical context and challenges faced by local contractors in Zambia's water and sanitation sector:

- i. **Historical Context:** Historically, Zambia lacked the capacity of local contractors, with predominantly white contractors serving the infrastructure needs, particularly catering to the white population.
- ii. **Foreign Companies' Advantages:** Foreign companies possessed both financial and technical capacity, along with access to materials not locally manufactured, giving them a competitive edge.

- iii. **Post-Independence Development:** Post-independence, the government prioritized infrastructure development, including housing and water and sanitation infrastructure.
- iv. **Government Initiatives:** To build capacity within the sector, the government continued developing the public works department, which undertook significant infrastructure projects.
- v. **Lack of Indigenous Entrepreneurs:** Few indigenous Zambians were entrepreneurs at the time, with limited awareness or encouragement for setting up companies to participate in projects.
- vi. **Education System Limitations:** The education system did not support entrepreneurship or the idea of individuals establishing themselves independently.
- vii. **Emergence of Local Contractors:** Participation of Zambian contractors in the water supply and sanitation sector began predominantly in the 1990s, marking a shift towards local involvement in the industry.

These summarized perspectives are presented in the expanded view of results under the contextualized description, identified quotes, and established conceptual label.

A. Description: Evolution of the construction sector in Zambia from pre-independence to post-independence periods, with a focus on capacity development and emergence of local contractors.

B. Example Quotes:

- “Zambia didn't have the capacity of local contractors because at the time, you know, it was mostly the whites and even when we talk about the water and sanitation, this mostly was to cater for the white population than the black population.”
- “Foreign companies had the financial capacity, to add the technical capacity in terms of knowledge. Further, they also had the ability to source the materials, because the materials were not being manufactured in Zambia.”
- “But immediately after independence, the government then what they did was to quickly develop the infrastructure in the country, especially the housing, together with the water and sanitation infrastructure to go with that”.

- “In order to develop capacity within the sub-sector, the government, what they did, immediately after independence, was to continue and develop the public works department, which did most of these works.”
- “But also, what should be noted was that very few of the locals, the indigenous Zambians, were entrepreneurs at the time. The thinking of going to set up a company to participate, it was not there.”
- "Even the education system did not support that one can walk away and get established by himself."
- "The participation of the Zambian contractors in the water supply and sanitation sub-sector predominantly started in the 90s."

C. Conceptual label: Low participation by local contractors, from pre-independence to post-independence period, following the low number of indigenous companies formed - mainly due to capacity and political environment influences:

- Shift leaned more towards creating local government capacity in implementing water supply and sanitation sub-sector works, than towards creating an enabling environment for emergence of indigenous contractors;
- Low number of indigenous companies formed was also alluded to by low financial and technical capacity challenges presented in sourcing materials and project implementation; and
- Government initiatives were not focused on growth of local contractors in water supply and sanitation sector.

Even with increased emergence of local contractors formed there is still a problem of foreign contractor dominance in bidding and participation. There is need for a more enabling environment that not only encourages the emergence of these companies but one that stimulates the transition and shift in growth of SME local contractors.

5.2.5 Code 5: Policy, Regulation and Enforcement

The responses obtained underscored various observations and opinions regarding government policies and efforts to support local contractors in the water supply and sanitation sector:

- i. **Lack of Deliberate Policy:** There is a perceived absence of deliberate policies aimed at building the capacity of local contractors by providing resources such as finance, machinery, personnel, and necessary infrastructure.

- ii. **Oversight by Councils:** The attention given by local councils to supporting local contractors in the sector is deemed insufficient.
- iii. **Insufficiency of Reforms:** Reforms aimed at supporting local contractors occur infrequently and are often insufficient to meet the sector's demands.
- iv. **Need for Opportunity:** There is a call for local contractors to be given greater opportunities, suggesting the necessity of implementing policies to ensure their inclusion.
- v. **Government Attempts:** While government attempts to support local contractors are acknowledged, there is a consensus that more work needs to be done to effectively address the challenges they face in the sector.

These summarized perspectives are presented in the expanded view of results under the contextualized description, identified quotes, and established conceptual label.

A. Description: The role of government in policy, regulation and enforcement enabling growth of local contractors to topple foreign contractor supremacy.

B. Example Quotes:

- “Though government channels a lot of work in the sub-sector, there has never been deliberate policy in terms of capacity to the contractors with the resources: financial, machinery, personnel and the necessary infrastructure and systems you know to build the local contractors.”
- "And unfortunately, even our councils, this is not something which they pay particular attention to."
- “But probably these attempts and reforms, they happen very rarely, fairly not to meet the demands."
- "Local contractors, I think, they need to be given the opportunity. As a matter of policy, I think need to be given that opportunity."
- "What I would say is that there has been attempts from the government. But still, there remains a lot of work to do."

C. Conceptual label: Inadequate policy, regulation and enforcement toppling over the dominance of foreign contractors due to supremacy in financial capacity; technical expertise; and credit line, plant and equipment, and material sourcing networks, often leaving local contractors at a disadvantage:

- Inadequate deliberate policies aimed at fostering local contractor development targeted at growth towards a shift in been able to compete with foreign contractors;
- Focus of government is more on policing sub-contracting of works; and
- Insufficient enforcement of regulations and guidelines.

5.2.6 Code 6: Specialized Financial Support

The responses highlighted observations regarding the banking sector's focus on specific industries, particularly within the construction sector:

- i. Industry-specific Focus: Some banks specialize in financing particular segments of the construction industry, such as roads or water and sanitation projects.
- ii. International Examples: Examples from countries like China, where there are dedicated construction banks focused solely on the construction industry, illustrate specialized financial institutions' potential impact.

These summarized perspectives are presented in the expanded view of results under the contextualized description, identified quotes, and established conceptual label.

A. Description: Discussion on the necessity for dedicated financial institutions to support the construction and infrastructure development sector.

B. Example Quotes:

- "But even within the construction industry, within there, you find that there are some banks which only focus, for instance, on roads. There are banks which focus on water and sanitation."
- "When you go to countries like China, they have a construction bank, which just looks at the interest of the construction industry."

C. Conceptual label: There is an inadequacy, and therefore a need, in dedicated financial institutions to support the construction and infrastructure development sector.

5.2.7 Code 7: Support from Professional Bodies

The responses highlighted a lack of prioritization and advocacy for a particular agenda within professional bodies:

- i. **Lack of Advocacy:** Professional bodies such as the Engineering Institution of Zambia, the Association of Consulting Engineers, and the Association of Contractors are not actively promoting a specific agenda.
- ii. **Low Priority:** The mentioned agenda is not considered a priority by these professional bodies.

These summarized perspectives are presented in the expanded view of results under the contextualized description, identified quotes, and established conceptual label.

A. Description: Highlighting the inadequacy in proactive support from professional bodies in advocating for local contractor development in the water and sanitation sector.

B. Example Quotes:

- "But unfortunately, this agenda is not pushed even by the professional bodies. When I say professional bodies, I mean for instance, the Engineering Institution of Zambia, the Association of Consulting Engineers, the Association of Contractors."
- "Yes, we are not pushing this agenda. This agenda is not a priority in number one."

C. Conceptual label: Proactive support from professional bodies in advocating for local contractor development in the water and sanitation sector is inadequate. There is thus need for affirmative action by professional bodies in providing support in the fostering of local contractor development.

5.2.8 Code 8: Government Capacity Building Efforts

It was emphasized that acquiring specialized equipment often requires a significant upfront investment, with the expectation that profits will be generated from multiple projects over time to cover the costs.

This summarized perspective is presented in the expanded view of results under the contextualized description, identified quotes, and established conceptual label.

A. Description: Highlighting the inadequacy in government capacity building efforts in advocating for local contractor development in the water and sanitation sector.

B. Example Quotes:

- "When you get specialized equipment, you are not expected to make profit on the first project and pay for it. But maybe to take two, three projects for you to finish paying for that specialized equipment."

C. Conceptual label: There is an inadequacy in the deliberate efforts taken by government in addressing the potential competence of local contractors in comparison to foreign contractors, by taking the capacity-building efforts needed to level the playing field. For instance, there is need for specific training and capacity building programs to develop local contractors.

5.2.9 Code 9: Long Term Perspective on Capacity Building Efforts

The responses suggested that acquiring the necessary technical skills for local contractors to perform on par or better than foreign contractors can be achieved within a relatively short timeframe, potentially within ten years. This involves completing courses ranging from two to three years, indicating that with focused efforts, significant progress can be made in a relatively brief period.

These summarized perspectives are presented in the expanded view of results under the contextualized description, identified quotes, and established conceptual label.

A. Description: Addressing the need for long term perspective in government capacity building efforts in advocating for local contractor development in the water and sanitation sector.

B. Example Quotes:

- "But that is not a lot of time we are talking about; this can be done within a short period."
- "In terms of craft space, some courses are two years, some courses are three years. So, within ten years, this can be achieved in terms of having the necessary technical skills for the local contractors perform even better than the foreign contractors."

C. Conceptual label: Lack of a long-term local contractor development and strategic plan hampers the need to address process of developing local contractor capacity gradually, and this could have led to the hampering of effective transition to local contractor emergence.

There is need to make a long-term perspective strategic plan, not just looking at policy, for developing local contractor capacity and set a vision timeframe to achieve a level playing field with foreign counterparts. This includes envisioning how improved investments in other sectors can have a ripple effect in the competency and/or growth of local construction industry. Take for instance investment in education such as in Technical, Trade and Craft Schools, this could create a shift in local technical proficiencies.

5.2.10 Code 10: Multilateral Funding Targeted at Local Contractors

Funding, especially multilateral, has increased significantly, with a focus on community development. There's a growing emphasis on the health sector, especially during health crises. Government investment in this sector is crucial for community hygiene and health.

These summarized perspectives are presented in the expanded view of results under the contextualized description, identified quotes, and established conceptual label.

A. Description: Taking advantage of multilateral funding from government seed money.

B. Example Quotes:

- "Particularly now, when most of the money is multilateral, there's still some bilateral, but I think multilateral funding, in our own government funding now, with this opportunity that we have under community development fund (CDF), I think the levels of financing of funding have gone quite high."
- "And particularly now in a period of health epidemics maybe the health sector is getting more, is heard more."
- "It's time that government started investing money in this sector because it affects the hygiene of the community and also health-wise."

C. Conceptual label: Responding to public health epidemics is two pronged by investing not only in health sector but also in addressing poor water supply and sanitation. There is a gap in deliberate affirmative action in directing high investment, from government seed money to water supply and sanitation sector fostered towards local contractor works and capacity building initiatives.

5.2.11 Code 11: Sector Specific Vision for Local Contractor Participation Development

The importance of crafting sector-specific visions that incorporate the development of local contractor participation was emphasized. An example provided was the creation and delivery of the National Water Resources Management Strategy for Zambia in 2022.

These summarized perspectives are presented in the expanded view of results under the contextualized description, identified quotes, and established conceptual label.

A. Description: Need for sector specific visions taking into consideration local contractor participation development.

B. Example Quotes:

- "Development of the National Water Resources Management Strategy for Zambia, which we did and finally delivered actually in 2022."

C. Conceptual label: Sector specific visions are constructed with little focus on considering integrating local contractor participation development as part of strategies formed. There is need for sector specific visions to take more deliberate strategic planning that considers the role, influence, and growth envisioned for local contractor participation.

5.2.12 Code 12: Promotion of Sub-Contracting

The responses indicated the presence of numerous subcontractors, suggesting a potential avenue for promoting local contractors. It was proposed that starting with subcontracting arrangements could be the most effective approach for supporting and training local contractors, ultimately facilitating their involvement in projects.

These summarized perspectives are presented in the expanded view of results under the contextualized description, identified quotes, and established conceptual label.

A. Description: Local contractor participation development limitations by focussing on promotion of sub-contracting.

B. Example Quotes:

- "There is quite a lot of sub-contractors."

- "Now, the best way, clearly, to promote local contractors is start with sub-contractors."
- "You come up with a project. It's that to be used to train local contractors."

C. Conceptual label: There is a perception that local contractor development is best through taking routes that promote sub-contracting to indigenous companies. However, because there is little external action that can be taken in controlling the type of sub-contracting works, local contractor advancement is hampered and limited to the type of sub-contracted works. In case of Zambia sub-contracting policy of 20% further limits financing capacity advancement from this work. There is need for deliberate affirmative action that promotes local contractor participation through joint-venture or private-public partnerships (PPPs), with the aim of indigenous company capacity advancement.

5.2.13 Code 13: Local Contractor Legal Knowledge

The responses emphasized the importance of engineers and contractors being knowledgeable about laws, contracts, and legal aspects related to their field. They highlight the necessity for training that places equal emphasis on both technical and legal aspects to ensure comprehensive preparation.

These summarized perspectives are presented in the expanded view of results under the contextualized description, identified quotes, and established conceptual label.

A. Description: The importance of local contractor knowledge with regards to legal requirements and aspects associated to participating in the different government and donor funded projects.

B. Example Quotes:

- "Laws, contracts, legal aspects; all those things a good engineer, a good contractor, should have a clue."
- "Training is important and with this, what I've suggested ever comes to fruition, there has to be as much emphasis on the technical as well as on legal aspects."

C. Conceptual label: Local contractors have a knowledge gap in understanding the legal requirements and aspects associated to participating in the different government and donor funded projects. There is also a knowledge gap in procurement laws and regulations. This postulates disqualification at preliminary

evaluation or at technical evaluation when assessing any legal requirements and aspects that need the contractor to make a submission that is considered as acceptable. The importance in training tailored towards closing such knowledge gaps cannot be stressed enough. There is need for specific training programs to develop local contractors.

5.2.14 Code 14: Regulatory Implementation

The responses highlighted challenges in implementing existing legislation, particularly due to pressure from politicians seeking benefits for specific party members from projects. This situation often distorts the overall framework of law implementation.

These summarized perspectives are presented in the expanded view of results under the contextualized description, identified quotes, and established conceptual label.

A. Description: Highlighting challenges related to the effective implementation of regulations and laws supporting local contractor participation.

B. Example Quotes:

- "The main issue I have seen in my experience as a contractor has been poor implementation of the existing legislation."
- "But the people who are charged with the responsibility to implement these laws more often than not get overwhelmed, especially by politicians who would like maybe certain functionaries in their parties to benefit from these projects."
- "So that tends to distort the whole implementation framework of the law."

C. Conceptual label: The challenges related to effective implementation of regulations and laws supporting local contractor participation include:

- Poor implementation of the existing legislation; and
- Political interference.

5.2.15 Code 15: Political interference

It was highlighted that challenges faced by those responsible for implementing laws were particularly due to pressure from politicians who may seek to benefit certain party members from projects.

This summarized perspective is presented in the expanded view of results under the contextualized description, identified quotes, and established conceptual label.

A. Description: Discussing the influence of political factors and corruption on the implementation of regulations and laws supporting local participation.

B. Example Quotes:

- "But the people who are charged with the responsibility to implement these laws more often than not get overwhelmed, especially by politicians who would like maybe certain functionaries in their parties to benefit from these projects."

C. Conceptual label: Political interference hampers local contractor participation, more particularly during procurement processes.

Political interference and corruption are vices that must be fought. However, though political interference and corruption are presented as the major deterrents to local contractor participation, from our experience, these constitute a very small fraction of the problem. The major problem is incompetence and lack of robust policy framework to develop the sustainable participation of local contractors in the sector. This has led to total erosion of confidence in the ability of local to execute projects according to specifications. This is further qualified by the fact that even in developed countries there is political interference and corruption, but their local contractor participation is a major component of their construction sector.

5.3 Consequential phenomena aligned to local contractor participation.

This study extracted the underlying phenomena and their impact on local contractor growth and competitiveness in infrastructure development. This was the second research objective of this study, and consequential phenomena were presented in clusters derived from the axial coding performed on the developed emergent coding categories, using associated conceptual labels derived from conceptualized codes aligned to deterrents to local contractor participation. These clusters and their associated codes are illustrated in Figure 5-3. Each phenomenon was aimed at providing a detailed and descriptive insight into the issues and challenges surrounding local contractor participation in the WSS sector, as well as potential solutions and avenues for improvement.

5.3.1 Procurement and taxation

Taxation policies that disproportionately burden local contractors impede their financial growth and competitiveness, necessitating the implementation of tax incentives and leniency to support their development.

The absence of deliberate bias towards local contractors within procurement processes restricts their ability to compete, highlighting the need for affirmative actions by procurement entities to level the playing field and promote fair competition.

Furthermore, proactive support from professional or regulatory bodies, such as the National Council for Construction, for the development of local contractors in the water and sanitation sector is insufficient. This underscores the necessity for these bodies to take a more active role and collaborate with procurement and government regulatory authorities to advocate for procurement and taxation policies that foster the growth of local contractors.

Additionally, sector-specific visions often overlook the integration of local contractor participation development in the structuring of procurement and taxation policy, regulatory instruments, and processes. This emphasizes the importance of strategic planning in the formulation and restructuring of procurement and taxation policies, statutory instruments, and processes to include and promote the growth of local contractors within the water and sanitation sector.

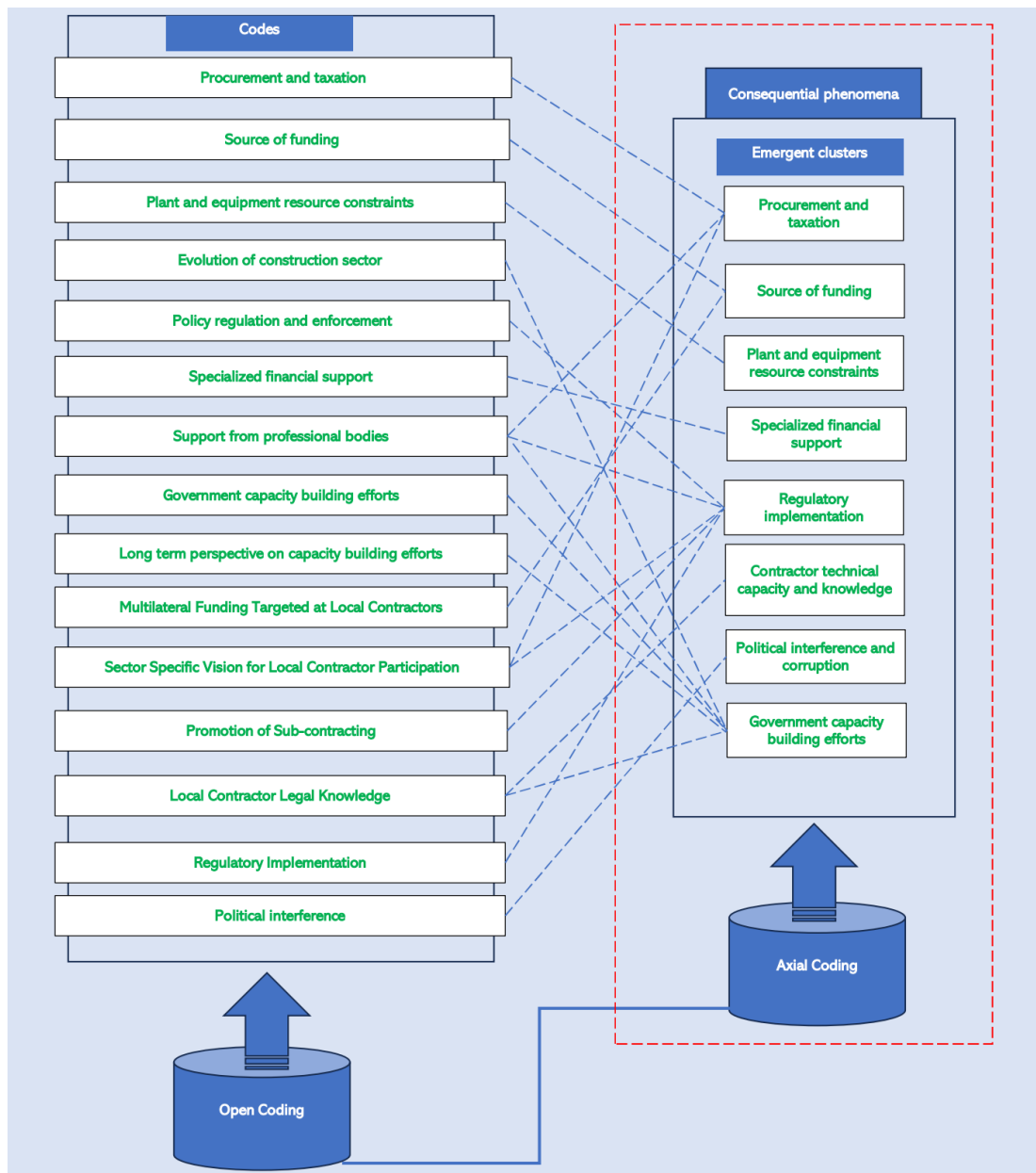


Figure 5-3: Axial coding analysis: emergent clusters and associated codes

5.3.2 Source of funding

Lack of government-initiated investment from seed money hampers local contractor participation, highlighting the need for increased funding from domestic sources to promote local involvement in the sector. The dominance of donor-funded projects creates a dependency on external funding, limiting government control and flexibility in promoting local contractor participation, highlighting the need for greater self-sufficiency: (i) donor-imposed project requirements favouring technical expertise over local capacity disadvantage local contractors, necessitating negotiations for more

inclusive project criteria that support indigenous contractors; and (ii) overreliance on donor funding inhibits the development of a robust local construction industry, emphasizing the importance of diversifying funding sources and encouraging domestic investment.

Utilizing multilateral funding opportunities and directing government seed money towards water supply and sanitation projects presents a strategic avenue to boost local contractor participation and enhance community hygiene and health. Harnessing multilateral funding opportunities, coupled with robust government investment, provides a sustainable pathway to amplify local contractor participation, while simultaneously addressing public health concerns: (i) directing funds towards WSS projects can have a transformative impact on community health and hygiene, making it imperative to allocate resources strategically to promote local contractor engagement; and (ii) multilateral funding, when channelled effectively, serves as a catalyst for local contractor growth and involvement, fostering economic development and improving quality of life for communities.

5.3.3 Plant and equipment resource constraints

Imbalanced resource availability between local and foreign contractors results in unequal competition during bidding, necessitating a shift towards segmented contracts that alleviate plant and equipment limitations and favour local contractors.

Disproportionate resource requirements in procurement processes hinder local contractors' ability to compete effectively, underscoring the necessity for adaptable procurement strategies that accommodate varying capacities: (i) segmented contracts that align with local contractors' resource capabilities enhance their competitiveness by enabling them to bid on projects suited to their technical and equipment strengths; and (ii) shifting from rigid resource-focused criteria to outcome-based assessment methods in procurement processes can level the playing field and promote local contractor participation.

5.3.4 Specialized financial support

Dedicated financial institutions are lacking, hindering local contractor participation in the construction and infrastructure development sector, necessitating the establishment

of specialized financial institutions to support the industry's growth. Establishing specialized financial institutions dedicated to construction and infrastructure development offers local contractors increased access to funding, promoting their growth and participation: (i) dedicated construction bank(s), similar to models in other countries, can provide tailored financial solutions to local contractors, addressing their unique funding challenges and fostering sector-specific growth; and (ii) integrating specialized financial support within the water supply and sanitation sector encourages local contractor development and reduces financial barriers, allowing for more competitive bidding and participation.

5.3.5 Regulatory implementation

Inadequate policies, regulations, and enforcement mechanisms have perpetuated the dominance of foreign contractors, highlighting the need for comprehensive policy reform and active enforcement to create a level playing field. Local contractor development requires a comprehensive policy framework that includes affirmative actions, regulation enforcement, and transparent procurement processes to counteract the dominance of foreign contractors:

- i. fostering local contractor participation demands a collaborative effort between regulatory bodies, government, and professional associations to design and enforce policies that promote equal competition; and
- ii. addressing the lack of policies and regulations that prioritize local contractors necessitates a multifaceted approach that involves legal reforms, enhanced enforcement mechanisms, and active industry engagement.

Proactive support from professional bodies for local contractor development in the water and sanitation sector is insufficient, calling for a more active role in advocating and fostering local contractor growth. The role of professional bodies must extend to actively driving local contractor growth through regulating foreign contractor registration and participation eligibility such as enforcing joint ventures with local contractors for selected projects.

Sector-specific visions often overlook the integration of local contractor participation development, highlighting the need for strategic planning that includes and promotes the growth of local contractors within the WSS sector. This study for instance postulates that relying solely on the promotion of sub-contracting limits local

contractor advancement, requiring a shift towards joint-ventures or private-public partnerships (PPPs) to provide a more comprehensive avenue for indigenous company capacity development. While promoting sub-contracting is beneficial, it must be accompanied by comprehensive measures that empower local contractors to advance beyond limited subcontracting roles, promoting greater autonomy and growth:

- i. sub-contracting should be part of a broader strategy that includes joint ventures, partnerships, and capacity-building initiatives, enabling local contractors to evolve into competitive industry leaders; and
- ii. focusing solely on sub-contracting may limit local contractor participation to specific tasks, hindering their overall growth potential, underscoring the need for a multifaceted approach that supports holistic development.

5.3.6 Contractor technical capacity and knowledge

The lack of knowledge among local contractors regarding legal requirements and aspects of government and donor-funded projects hampers their participation, necessitating targeted training programs to address these knowledge gaps. Bridging the knowledge gap in legal requirements and aspects is pivotal for local contractors to navigate government and donor-funded projects effectively, enabling them to participate more confidently and competitively. Strengthening local contractor legal knowledge, by for instance publicizing such information and having deliberate free education programs, enhances their overall participation and success in water supply and sanitation projects, fostering an environment of compliance and transparency.

5.3.7 Political interference and corruption

Political interference during procurement processes negatively affects local contractor participation, emphasizing the importance of reducing political influence to promote fair competition and local involvement. Poor implementation of existing regulations and susceptibility to political interference hinder the successful execution of laws supporting local contractor participation, highlighting the need for improved implementation mechanisms, and reduced political influence. Thus, addressing challenges in regulatory implementation demands a coordinated effort to enhance transparency, streamline processes, and mitigate political interference, fostering an environment conducive to fair competition.

5.3.8 Government capacity building efforts

There is an inherent gap in government capacity building efforts aligned to making local contractors more knowledgeable regarding legal requirements and aspects of government and donor-funded projects. This calls for training programs, through the support of professional and regulatory bodies such as National Council for Construction and Zambia Public Procurement Authority, that provide a comprehensive understanding of legal intricacies and project regulations empower local contractors to engage in bidding processes and project implementation with enhanced expertise.

The lack of a comprehensive, long-term local contractor development plan has hindered the gradual growth and capacity building of local contractors, necessitating the creation of a strategic plan to achieve balanced competition with foreign counterparts over time. Developing a comprehensive long-term local contractor development plan is essential for nurturing gradual growth, fostering competitiveness, and achieving parity with foreign contractors over an extended timeframe:

- i. strategic planning that spans years, rather than short-term initiatives, allows for a systematic approach to capacity building and skill development, facilitating the emergence of a robust local construction industry; and
- ii. a forward-looking perspective that integrates local contractor growth within broader national development goals can drive meaningful change and enable indigenous contractors to excel and lead in the sector.

Historical development of the construction sector from pre-independence to post-independence periods has led to limited growth opportunities for local contractors, requiring a shift in focus towards fostering their emergence and advancement. Government initiatives have often favoured creating local government capacity over enabling indigenous contractor growth in the water supply and sanitation sector. Historical underinvestment in local contractor development has perpetuated their limited growth and participation, calling for a comprehensive policy shift towards nurturing indigenous companies in the sector:

- i. government initiatives should focus on not only creating capacity but also nurturing local contractor growth, fostering an environment conducive to their emergence and competition with foreign counterparts; and

- ii. promoting local contractor participation necessitates integrating their growth into sector-specific developmental strategies, ensuring that historical limitations are addressed, and indigenous contractors thrive.

5.4 Theoretical propositions for enhanced local contractor participation.

Employing a Straussian Grounded Theory approach, this study firstly establishes three theoretical propositions. It is these theories that this study bases on introducing a single theory. This is the Local Contractor Participation (LCP) theory and posits tax incentives, fair procurement actions, and financial support as mechanisms to boost local participation. This Chapter later presents what constitutes this theory.

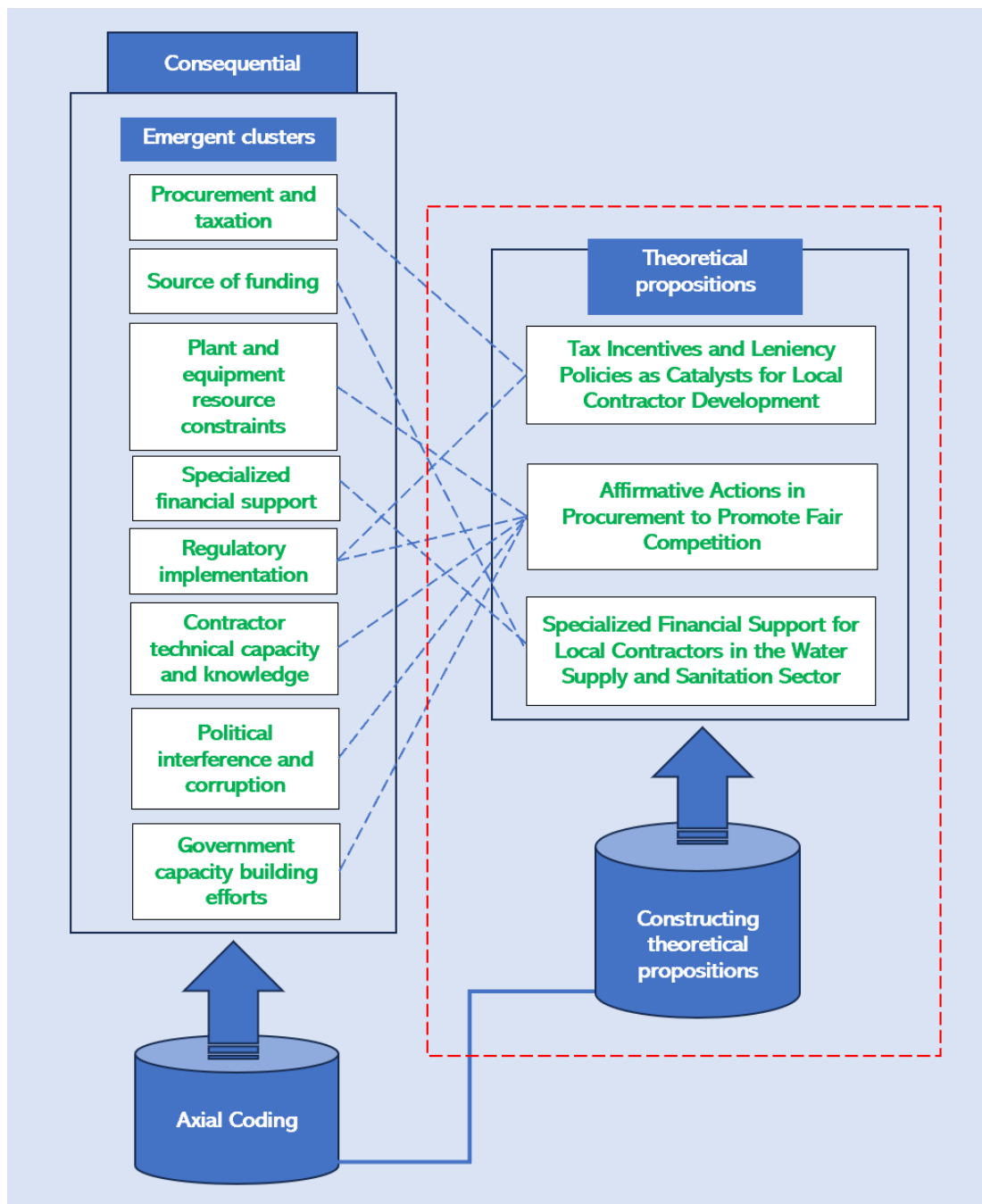


Figure 5-4: Theoretical propositions

These theoretical propositions and their associated consequential phenomena and codes are illustrated in-depth as Figures 5-5 to 5-7. Each codes associated conceptual label are as earlier presented in Figure 5-2.

5.4.1 Theoretical proposition 1: Tax incentives and leniency policies as catalysts for local contractor development

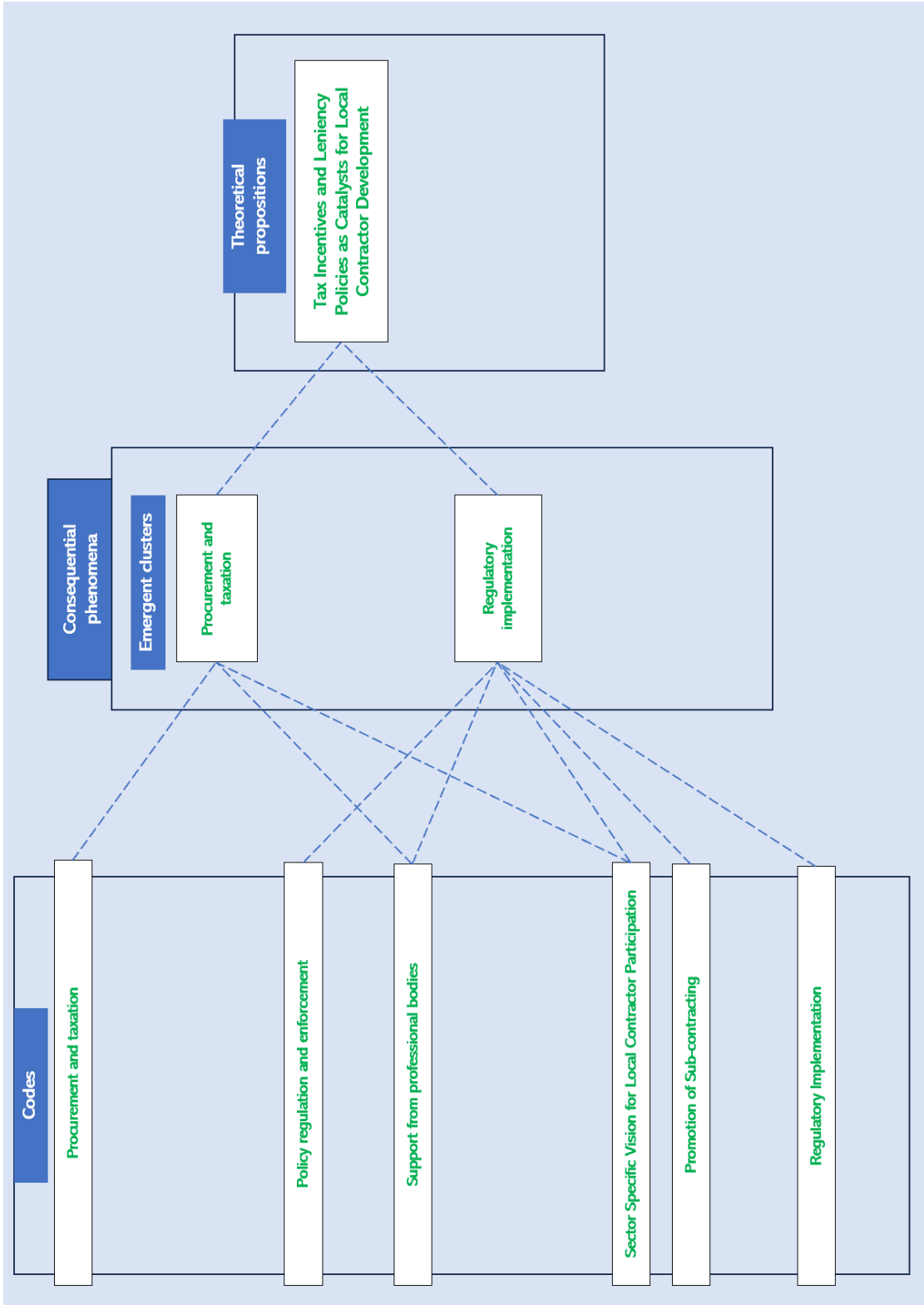


Figure 5-5: Theoretical proposition 1

Theoretical proposition 1 is associated to procurement and taxation, and regulatory implementation as illustrated in Figure 5-5. This figure also illustrates the codes associated, with each code's associated conceptual label earlier depicted in Figure 5-2.

Implementing tax incentives and leniency policies for local contractors can stimulate their financial growth and enhance competitiveness in the construction industry.

By reducing the tax burden on local contractors, they can reinvest more in their businesses, leading to increased financial stability and improved competitiveness.

5.4.2 Theoretical proposition 2: Affirmative actions in procurement to promote fair competition

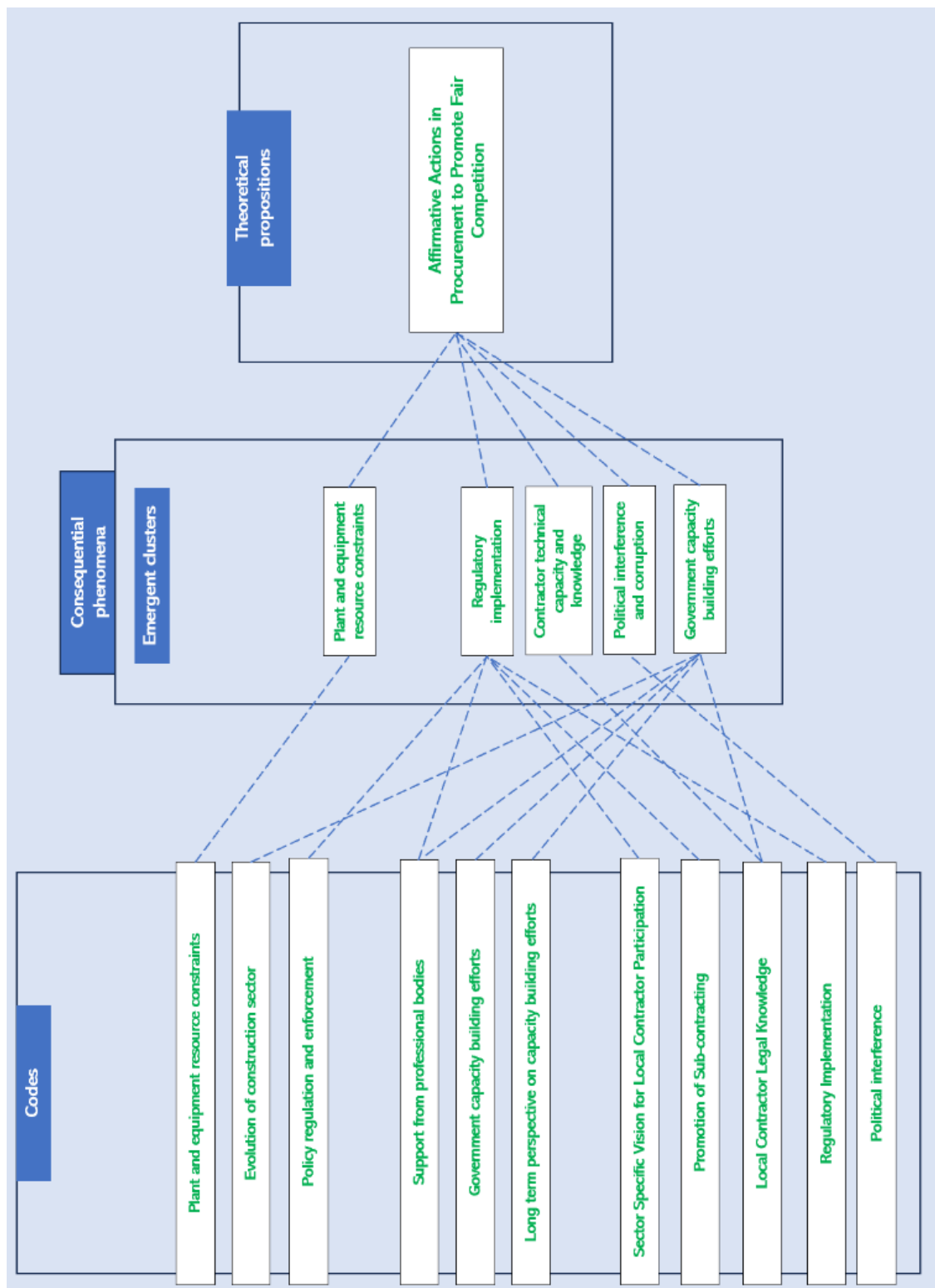


Figure 5-6: Theoretical proposition 2

Theoretical proposition 2 is associated to plant and equipment constraints, regulatory implementation, contractor technical capacity and knowledge, political interference and corruption, and government capacity building efforts as illustrated in Figure 5-6. This figure also illustrates the codes associated, with each code's associated conceptual label earlier depicted in Figure 5-2.

The adoption of affirmative actions in procurement processes can effectively level the playing field for local contractors, promoting fair competition and enhancing their ability to compete with larger, often foreign, competitors.

Without deliberate bias-correcting measures in procurement, local contractors may face significant disadvantages. Affirmative actions can bridge these gaps, fostering a more equitable business environment.

5.4.3 Theoretical proposition 3: Specialized financial support for local contractors in the water supply and sanitation sector

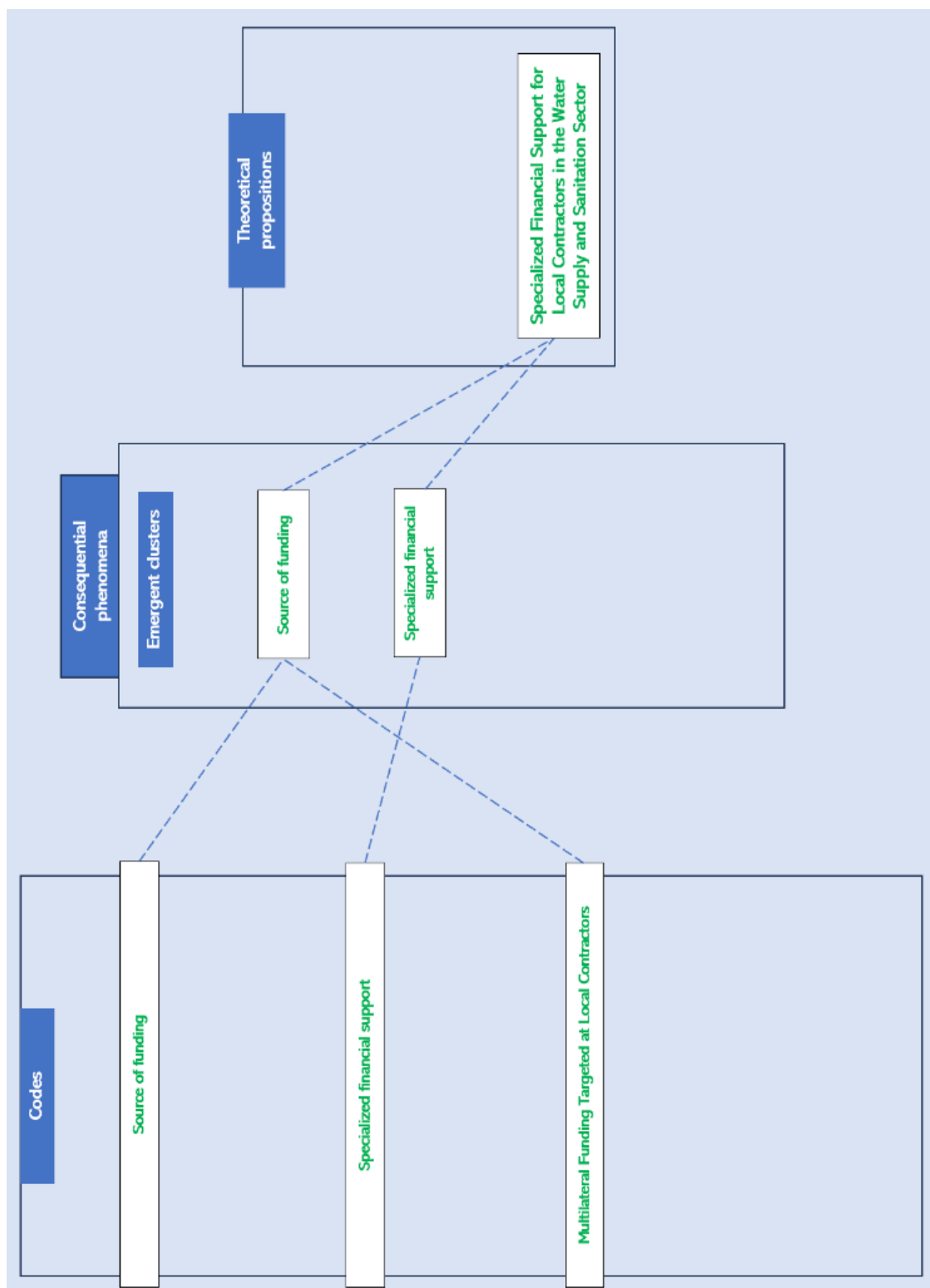


Figure 5-7: Theoretical proposition 3

Theoretical proposition 3 is associated to source of funding and specialized financial support as illustrated in Figure 5-7. This figure also illustrates the codes associated, with each code's associated conceptual label earlier depicted in Figure 5-2.

Integrating specialized financial support within the water supply and sanitation sector can reduce financial barriers, foster the development of local contractors, and enhance their capacity to bid competitively for projects.

Financial support tailored to the unique needs of local contractors operating in specific sectors can enhance their ability to participate in projects and promote competitiveness within the industry.

5.4.4 The Local Contractor Participation (LCP) theory

This study introduces the LCP theory as the primary contribution of this study, and it is postulated based on the three theoretical propositions established in this study. Thus, the LCP theory can be thought of as a three-pronged theory as illustrated in Figure 5-8. Through the synergistic application of the strategies associated to these theoretical propositions, the LCP theory aims to enhance the capacity and engagement of local contractors, ultimately fostering a more equitable and competitive construction industry landscape, particularly in the realm of WSS projects.

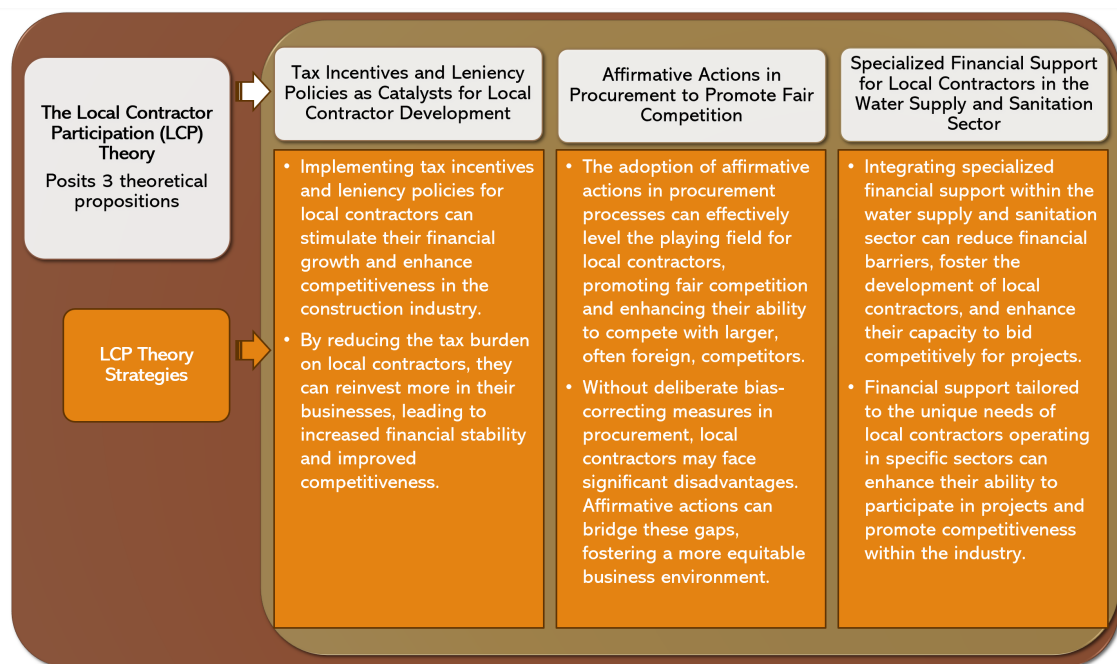


Figure 5-8: LCP theoretical proposition framework

The LCP theory posits that a holistic approach combining tax incentives, affirmative procurement actions, and specialized financial support can significantly boost the involvement and competitiveness of local contractors in the construction industry, particularly within the water supply and sanitation sector. By implementing tax incentives and leniency policies, local contractors experience reduced financial burdens, allowing for reinvestment in business growth and improved financial stability. Simultaneously, affirmative actions in procurement ensure fair competition, levelling the playing field against larger foreign competitors and mitigating inherent disadvantages. Additionally, integrating specialized financial support tailored to the unique needs of local contractors within the sector addresses financial barriers and facilitates their participation in projects.

Following the consequential phenomena and strategies these posited theories are based on, the holistic strategies and reforms associated with these three theoretical propositions include: Revamping Taxation Policies and Procurement Practices; Diversifying Funding Sources for Sustainable Growth; Creating Equitable Opportunities through Procurement Strategies; Establishing Specialized Financial Support Institutions; Establishing Specialized Financial Support Institutions; Strengthening Policy Frameworks and Enforcement Mechanisms; Bridging the Knowledge Gap for Local Contractors; Mitigating Political Interference for Fair Competition; and Enhancing Government Capacity Building Initiatives.

- a) **Revamping Taxation Policies and Procurement Practices:** To empower local contractors in the water and sanitation sector, there is a pressing need for significant revisions in taxation policies and procurement practices. Current taxation policies disproportionately burden local contractors, impeding their financial growth and competitiveness. Therefore, the implementation of tax incentives and leniency is crucial to support their development. Additionally, there's an evident absence of deliberate bias towards local contractors in procurement processes, which restricts their ability to compete fairly. Introducing affirmative actions within procurement entities can level the playing field and promote equitable competition among contractors.
- b) **Diversifying Funding Sources for Sustainable Growth:** Ensuring sustainable growth in the water and sanitation sector requires diversifying funding sources to reduce dependency on donor-funded projects. Increased government investment from domestic sources is imperative to promote local contractor participation. Moreover, leveraging multilateral funding opportunities can provide strategic avenues for boosting local contractor involvement while addressing community hygiene and health concerns. By directing government seed money towards water supply and sanitation projects and exploring multilateral funding, a sustainable pathway can be established to amplify local contractor participation.
- c) **Creating Equitable Opportunities through Procurement Strategies:** To address the unequal competition faced by local contractors, there's a need to shift procurement strategies. Segmenting contracts aligned with local contractors' resource capabilities and adopting outcome-based assessment methods can alleviate plant

and equipment limitations. These strategies aim to level the playing field and enhance the competitiveness of local contractors in bidding processes.

- d) **Establishing Specialized Financial Support Institutions:** Recognizing the lack of dedicated financial support hindering local contractor participation, there's a proposal to establish specialized financial institutions. These institutions would cater specifically to the construction and infrastructure development sector, offering tailored financial solutions to local contractors. By integrating specialized financial support within sector-specific initiatives, barriers to financial access can be reduced, enabling more competitive bidding and participation.
- e) **Strengthening Policy Frameworks and Enforcement Mechanisms:** Addressing the dominance of foreign contractors necessitates comprehensive policy reform and active enforcement. Collaborative efforts among regulatory bodies, government, and professional associations are essential to design and enforce policies promoting equal competition. Strengthening policy frameworks and enforcement mechanisms will mitigate political interference and create an environment conducive to fair competition.
- f) **Bridging the Knowledge Gap for Local Contractors:** To enhance local contractor participation, targeted training programs are proposed to bridge the knowledge gap regarding legal requirements and project aspects. These programs aim to empower local contractors with the necessary knowledge to navigate government and donor-funded projects effectively, fostering compliance and transparency.
- g) **Mitigating Political Interference for Fair Competition:** Ensuring integrity in procurement processes requires measures to mitigate political interference. Strengthening implementation mechanisms and reducing political influence will uphold fairness and promote local contractor participation.
- h) **Enhancing Government Capacity Building Initiatives:** There's a need to enhance government capacity building efforts tailored to local contractors. Collaborative training programs with professional and regulatory bodies will provide comprehensive understanding of legal requirements and project regulations. Strengthening these initiatives will empower local contractors and enhance their participation in water and sanitation projects.

5.5 Summary of Chapter

This Chapter introduced the LCP theory, while also presenting other key findings associated to the development of this theory.

CHAPTER 6: DISCUSSION

6.1 Introduction

In the previous Chapter, deterrents to local contractor participation in the WSS, consequential phenomena, and a hypothesised theory for enhanced local contractor participation were all presented as this study's key findings.

6.2 Summarized Key Findings

Initially, various emergent issue clusters and their resulting phenomena were outlined, grouped into thematic descriptors in the preceding chapter. These included clusters associated with procurement and taxation, funding sources, constraints on plant and equipment resources, specialized financial support, contractor technical capacity, governmental capacity building efforts, and regulatory enforcement.

Furthermore, three theoretical propositions were formulated, as discussed in the previous chapter. The LPC theory was introduced, comprising three interconnected theories derived from these propositions and their resultant phenomena. These theories were supported by strategies aimed at promoting increased participation of local contractors, derived from identified deterrents to local contractor involvement and their corresponding conceptual frameworks detailed in the study.

6.2.1 Deterrents and consequential phenomena

This study conceptualizes thematic clusters representing emergent categories, as earlier presented, encompassing established deterrents and consequential phenomena discussed with reference to existing literature.

i. Procurement and taxation

The current process for engaging contractors for water and sanitation projects is not favourable to local contractors. In Zambia, the bulk of water and sanitation projects are donor funded. The funding comes with set criteria eligibility conditions which largely disqualify local contractors from participating in the bidding process because they cannot meet the set conditions. In spite of the enactment of the Zambia National Tender Act of 1986, and the adoption of the the Public Procurement Action Plan in 1996 to, among many targets, decentralize procurement to ministries, establish a cadre

of professional procurement staff, support specialised training institutions in building cadre capacity and strengthen and audit oversight functions (World Bank and Republic of Zambia, 2002), these actions fell short of addressing the low participation of local contractors in the water and sanitation sub-sector in particular, and construction of public works in general. This is so because the internal procurement guidelines have little impact on donor funded projects which come their guidelines. The problem of low participation by local contractors has continued.

On the issue of taxation, the sustainability of the local contractor is hampered by tax obligations which are standardized, irrespective of the financial capacity of contractors. Even in the absence of an opportunity to undertake a project, tax obligations are mandatory for the local contractor. Moreover, even when a local has project their value added tax obligations fall due once they invoice, irrespective of the receipt of payment. For the foreign contractor however, though tax obligations are also mandatory, they are cushioned by their financial muscle and the opportunity to undertake various projects in different countries, including their countries of origin.

ii. Source of funding

As mentioned above, the bulk of the source funding for water and sanitation projects is predominantly donor funded. The donor, therefore, dictates the terms and conditionalities to be adopted when executing these projects. Therefore, local guidelines and recipient countries have little input in these documents.

iii. Plant and equipment resource constraints

Because foreign contractors enjoy access to financial facilities that local contractors cannot access because there is no specialized financial institution in Zambia whose mandate it to support local contractors, foreign contractors are better resourced with equipment, personnel, and materials suppliers. In a study in Kenya, Asinza *et al.*, 2017, report that 64.3% of respondents felt that local contractors did not have adequate tools and equipment to complete the construction works required. The workers also reported that 92.9% of the respondents felt that local contractors did not have goodwill from material suppliers to obtain materials on credit. From this work, it was observed that the materials supplies, and the plant and equipment were not major deterrents to the low participation of local contractors. It was reported that the acquisition of materials,

plants and equipment can be easily structured if a local contractor is given an opportunity to execute a profitable project where all stakeholders meet their obligations.

iv. Specialized financial support

Foreign contractors enjoy access to various financial instruments from their countries, such as low/zero interest credit facilities, contingent financial instruments, letters of credit, long lease facilities, various forms of financial support etc. These financial instruments are accorded to foreign contractors even in the absence of proportionate collateral. Local contractors do not enjoy such privileges. Foreign contractors, therefore, have a big advantage over local contractors. Asinza *et al.*, 2017, in their study report very high proportion of respondents felt that local contractors did not have adequate financial resources to complete construction projects. Similarly, Arabi and Sarvari, 2021, on a study to identify the main challenges preventing local contractors from participating in urban projects, cite the lack of liquidity in the sector as a major contributing factor to low local contractor participation. Further, Banda, 2020, report high bank rates and lack of financial resources as contributing factors to frequent project delays and abandonments in the execution of civil public works by local contractors. There is need for the Government of the Republic Zambia to establish a specialized financial institution to support local contractors in the construction industry.

v. Regulatory implementation

The Government of the Republic of Zambia, having noticed the problem of low local contractor participation in local civil works, enacted several pieces of legislation in a bid to mitigate this problem. Prominent among these pieces of legislation, is the 20% Subcontracting Policy implemented in 2012, raising the threshold of local contractor procurement from 10% to 20%. Whereas this was a well-intentioned policy, it is not enforceable on donor-funded projects. Even on government-funded projects, implementation of this policy has failed. There is need for government to review and understand the technicalities involved in the implementation of this policy.

vi. Contractor technical capacity and knowledge

Though Arabi and Sarvari, 2021 report the lack of project management knowledge by local contractors, local contractor technical capacity and knowledge have not been a major deterrent to local contractor participation in civil in Zambia. However, there is a gap in more specifically legal and procurement knowledge.

vii. Political interference and corruption

Though Arabi and Sarvari, 2021, include high political relativism in project assignment as one of the main challenges preventing local contractors from participating in urban projects, this was not observed as a main deterrent in the literature survey conducted in this work. Salim *et al.*, 2018, identified that among the main issues contributing to a lack of local contractor participation in local civil works were a lack of work opportunities caused by corruption, favouritism, bureaucracy and a lack of registered local contractors. In a regulated project by the UK Department for International Development on a program for primary school construction that used small contractors from a local graded register in Malawi, it was observed that the project created a fully visible procurement process, lowering ethics and corruption issues, encouraging contractors to participate confidently. Corruption was not reported as a major problem contributing to low local contractor participation in the water and sanitation sub-sector in this study. Lack of opportunities for local contractors is not largely due to corruption, but in this study, it was reported to be more of incompetence and lack of confidence by the client.

viii. Government capacity building efforts

In a study conducted by the World Bank in conjunction with the Zambian government in 2002, (World Bank and Republic of Zambia, 2002) under the Country Procurement Assessment Review, it was reported that among the various gaps in the public procurement system, was the lack of capacity building in procurement training institutions. This problem persists. The government should, therefore, deliberately create sustainable opportunities for local contractors which will result into sustainable capacity building. It was observed in this study that most respondents did not seem to realize that the lack of sustainable opportunities for local contractors hindered capacity building.

6.2.2 Theoretical propositions

Three theoretical propositions were developed following the three core categories formulated from interrelationships and similarities established from the consequential paradigms observed in this study. The three propositions present the most critical intervention pathways that are required to mitigate the uneven playing field for local contractor participation in the Water and Sanitation Sub-Sector as observed in this study. The following are the propositions that were identified:

A. Proposition 1. Tax Incentives and Leniency Policies as Catalysts for Local Contractor Development.

In the deterrents, we identified the absence of tax rebates and incentives as deterrents to local contractor participation in the sector. Implementing tax incentives and leniency policies for local contractors can stimulate their financial growth and enhance competitiveness in the construction industry. By reducing the tax burden on local contractors, they can reinvest more in their businesses, leading to increased financial stability and improved competitiveness. Currently, local contractors, even without any running projects, are still expected to continue their tax obligations (PAYE, VAT, Company Tax, NAPSA). These tax obligations present serious constraints on the sustainable survival of local contractors and have led to winding up of business by some local contractors. These situations negate the little capacity despite the belief by government that capacity is being built in the sector.

Currently, as soon as the local contractor invoices the client, the tax authority demands immediate VAT payment, despite the local contractor not having been paid. This situation creates financial stress on the local contractor who resorts to borrowing at exorbitant interest rates and thus leading to financial distress. This can lead to closure of a business. It is important therefore, that leniency policies be deliberately instituted to mitigate these common situations of financial distress on local contractors. Additionally, it would be prudent for government to protect local contractors who have demonstrated successful performance and resilience spanning over a period of, for example, more than five years against liquidations triggered by failure to meet tax obligations, particularly under the current conditions. Salim *et al.*, 2018 present a lack of work opportunities caused by corruption, favouritism, and bureaucracy as contributing factors to low local contractor participation in civil works in Tanzania.

The workers note that the lack of work opportunities makes it hard for workers to build adequate skills. Deliberate government policies including Tax Incentives and Leniency would potentially catalyse local contractor participation in civil works in developing countries through capacity building and help to make the playing field competitive for local contractors.

B. Proposition 2: Affirmative Actions in Procurement to Promote Fair Competition.

Among the deterrents to local contractor participation in the water and sanitation sector in Zambia is the absence of deliberate government affirmative actions to support the sustainable involvement of local contractors in local projects. Foreign contractors have a financial competitive advantage (tax incentives, access to cheap credit facilities), and are therefore, not as heavily impacted by Proposition 1 above, compared to local contractors. Foreign contractors enjoy a lot of privileges such as bank guarantees, bid guarantees, loans, and overdrafts provided by their countries of origin. Local contractors do not have access to the incentives that their foreign counterparts enjoy. It is necessary that local contractors are accorded similar incentives to counter the domination by foreign contractors, in national interest. The adoption of affirmative actions in procurement processes can effectively lead to a gradual increase in the successful participation of local contractors, and potentially promoting their dominance in the sector. Without deliberate bias-correcting measures in procurement, local contractors may continue to face significant disadvantages, particularly lack of opportunity to undertake any project despite participating in many tenders. In a study conducted in Ghana by Dadzie and Yalley, 2018, it was reported that Government activities were believed to give foreign contractor companies advantages over local contractors, thus affecting the bidding phase. This disadvantaged local contractors. The researchers concluded that better government policies and more skilled labourers were needed. Affirmative actions implemented by governments can bridge these gaps, and positively contribute to the national economies of developing countries. The government needs to prevail over the eligibility criteria to accommodate the limitations of local contractors.

C. Proposition 3: Specialized Financial Support for Local Contractors in the Water Supply and Sanitation Sector.

Foreign contractors can easily access bank guarantees, loans, and letters of credit from their countries of origin. Local contractors do not have access to such privileges and therefore, fail to meet the eligibility criteria for projects in most instances. Integrating specialized financial support within the water supply and sanitation sector can reduce financial barriers, foster the development of local contractors, and enhance their capacity to bid competitively for projects. Currently, financial institutions as perceive local contractors in civil works as a high-risk investment. In a study on the main problems contributing to a lack of local contractor participation in local civil works in Tanzania, Salim *et al.*, 2018, report, among other obstacles, that local contractors have limited finance options, such as low-interest loans. They also reported the non-payment from clients as another common problem that further creates difficulties in financing the work to be completed during a construction contract. Similar observations were made on several studies in other countries: Thwala and Phaladi, 2009 (South Africa), Ugochukwu and Onyekwena, 2014 (Nigeria), Makenya and Mhando, 2021 (Tanzania), and Banda, 2020 (Zambia) reported the problem of the need for specialized financial support to help sustain local contractors to effectively compete against their foreign counterparts. Therefore, governments can help to de-risk the local contractors by bridging the financial support to local contractors. Financial support tailored to the unique needs of local contractors operating in specific sectors can enhance their ability.

6.3 Summary

Research shows that low local contractor participation is an endemic problem in developing countries. In this work, this Chapter discusses the key findings alluding to the deterrents to local contractor participation as main contractors in Zambia, underlying phenomena and their impact on local contractor growth and competitiveness in the water and sanitation sub-sector development. Finally, this Chapter discusses the three theoretical propositions posited by the LCP theory introduced as the key contribution of this study.

CHAPTER 7: CONCLUSION AND RECOMMENDATIONS

7.1 Introduction

The challenges of low local contractor participation in donor-funded civil public works in Zambia is well-acknowledged. Whereas there has been substantial work done to establish the main underlying causes, impacts, and propose remedial actions by all stakeholders, there seems to be little effort by scholars to establish and present comprehensively, the underlying phenomena, strategies and mechanisms that are essential for enhanced local contractor participation in public sector projects. The problem persists and, potentially, increasing as more donor funding is applied in the public works in general, and the water and sanitation sub-sector, in particular. This work has endeavoured to show the importance of increased local participation in developmental projects; and investigate the barriers to local participation in developmental projects. The work has investigated the key deterrents to local contractor participation as main contractors in the water and sanitation sub-sector in Zambia. From the key deterrents, the underlying phenomena and their impact on local contractor growth and competitiveness in infrastructure development were extracted. Finally, the work introduces the LCP theory for enhanced local contractor participation in the WSS sector.

7.2 Summary of Key Findings

As presented above, the main objective of this study was to establish a theory behind enhanced local contractor participation in WSS. The significance of this study is that it will contribute to the theoretical debate on what should constitute a mechanism for enhanced local contractor participation in WSS. Theoretical Implications

In this study, several emergent categories from which consequential phenomena have been derived were presented during data mining. Several of these emergent categories have been presented by other workers on the subject. These theoretical propositions thus create a shift in the understanding of what constitutes deterrents to local contractor participation, and thus in turn what strategies to put in place to diminish foreign contractor dominance. This study recognises the critical importance of tax incentives and leniency policies as catalysts for local contractor development and affirmative actions in procurement to promote fair competition. These are non-sector specific

while this study proposes specialized financial support for local contractors in the WSS sector. However, in this work, these presented theoretical implications and their associated deterrents and consequential phenomena have either not been well-covered or completely misrepresented in previous studies.

It was shown in this work that problems of incompetence and lack of confidence from the government, project managers, and generally society (Zambia) have resulted in diminished opportunities for local contractors in the sector. The problem of incompetence arises from the fact that it is observed that engineers trained from the same pool are deemed competent or incompetent depending on whether they work for the client or the local contractor, respectively. Consequently, engineers representing the client are more comfortable when a contract has been awarded to a foreign contractor rather to a local contractor because it is consistent with the perception of the client, the project managers, and society, since these decisions attract almost zero queries from investigative wings of government. This has culminated into unwarranted negative publicity for local contractors.

Another theoretical implication that emerged from this study is the fact that issues of corruption by the client, while being presented in the literature review as a deterrent to local contractor participation, was not observed as a critical problem in this study. Corruption is a behaviour that is unethical and must be eliminated whenever it arises. However, it was observed that corruption is mitigated by the fact that these works are guided by engineering estimates which scientifically present some safeguards against abuse. Furthermore, contractual requirements include furnishing the client with a performance guarantee (usually 10% of the contract sum). If advance payment guarantee is required, the contractor furnishes a further advance payment guarantee which usually ranges from 10-20% of the contract sum. This means that the client at any given time is holding a higher value of guarantees compared to the funds paid to the contractor. It is against this background that engineers' estimates are prepared with a 15-25% profit expectation. With the guarantees to the client, it becomes illogical to have corrupt practices involving more than the designated profit. Therefore, corruption cannot be a critical deterrent to low local contractor participation in view of these safeguards.

7.3 Practical Implications

This study postulates that the adoption of the LCP theory would lead to enhanced local contractor participation in the water and sanitation sub-sector.

The primary practical implication of this study is with regards to its influence on policy and legal instruments. It provides government and professional bodies such as Zambia Public Procurement Authority with a basis for policy and legal instrument decision making, structuring, and restructuring. These theoretical propositions are anchored on the will of the government to introduce and implement a strategic plan to for the sustainable increased of local contractors in the water and sanitation sub-sector in Zambia. Professional bodies can augment government efforts by actively advocating for improved competence by the client and instilling confidence in the performance of local contractors.

7.4 Contributions to the Body of Knowledge

The problem of low local contractor participation in the water and sanitation sub-sector in Zambia is an established fact that has existed for a long time. Many researchers have highlighted the impact of the problem and listed the challenges. However, previous works did not present a theory that single handedly addresses enhanced local contractor participation. This study takes a Straussian Grounded Theory methodology and introduces the LCP theory to address this problem. By adopting this methodology, this study provides a holistic theory and in-depth understanding to what should constitute a mechanism for enhanced local contractor participation based on this single theory, as presented in a framework and captured as inferred strategies and policy reforms.

7.5 Limitations of the Study

The biggest limitation of this study is that it ends at postulating a theory for enhanced local contractor participation in the WSS sector. Thus, this study is limited to hypothesizing this theory, the theoretical propositions upon which it is based, and associated consequential phenomena and strategies.

7.6 Conclusions

This work showed that the promotion of local contractor growth and competitiveness in the context of infrastructure development in the WSS Sub-Sector can be significantly enhanced through the adoption of the LCP theory. This was the major conclusion of the study and is presented as part of theoretical proposition framework that captures the theoretical propositions and strategies advocating for enhanced LCP. This theory posits that a holistic approach combining tax incentives, affirmative procurement actions, and specialized financial support can significantly boost the involvement and competitiveness of local contractors in the construction industry, particularly within the WSS sector. By implementing tax incentives and leniency policies, local contractors experience reduced financial burdens, allowing for reinvestment in business growth and improved financial stability. Simultaneously, affirmative actions in procurement ensure fair competition, levelling the playing field against larger foreign competitors and mitigating inherent disadvantages. Additionally, integrating specialized financial support tailored to the unique needs of local contractors within the sector addresses financial barriers and facilitates their participation in projects.

7.7 Recommendations

This study makes the following recommendations:

- i. The Government of Zambia, Zambia National Public Procurement Authority (ZPPA) and other regulatory bodies such as NWASCO, and WSS commercial utilities should adopt mechanisms aligned with the proposed LCP theoretical framework.
- ii. The role players identified would benefit from enhanced LCP should they advocate for this framework coupled with its inferred strategies and policy reforms aligned with Revamping Taxation Policies and Procurement Practices; Diversifying Funding Sources for Sustainable Growth; Creating Equitable Opportunities through Procurement Strategies; Establishing Specialized Financial Support Institutions; Establishing Specialized Financial Support Institutions; Strengthening Policy Frameworks and Enforcement Mechanisms; Bridging the Knowledge Gap for Local Contractors; Mitigating Political Interference for Fair Competition; and Enhancing Government Capacity Building Initiatives.
- iii. There is need for further scholarly work related to:

- A quantitative study to test this study's theoretical propositions as well as the nature of relationships of the variables is necessary, and
- Development of a robust local contractor participation enhancement model based on the results of broader construction industry would be valuable.

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APPENDIX 1 – ETHICAL CLEARANCE



THE UNIVERSITY OF ZAMBIA
DIRECTORATE OF RESEARCH AND GRADUATE STUDIES

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APPROVAL OF STUDY

IORG No. 0005376
HSSREC IRB No. 00006465
REF NO. NASREC: 2022-SEP-016

30th September, 2022

Mr. Chanda Katotobwe
The University of Zambia
P.O. Box 32379
LUSAKA

Dear Mr. Katotobwe

**RE: "A FRAMEWORK FOR LOCAL CONTRACTOR PARTICIPATION IN PUBLIC
SECTOR PROJECTS: CASE OF ZAMBIA WATER SUPPLY AND SANITATION
SUB-SECTOR".**

Reference is made to your protocol dated as captioned above. NASREC resolved to approve this study and your participation as Principal Investigator for a period of one year.

REVIEW TYPE	ORDINARY REVIEW	APPROVAL NO. NASREC-2022 - SEP - 016
Approval and Expiry Date	Approval Date: 30 th September, 2022	Expiry Date: 29 th September, 2023
Protocol Version and Date	Version - Nil.	29 th September, 2023
Information Sheet, Consent Forms and Dates	• English.	To be provided
Consent form ID and Date	Version - Nil	To be provided
Recruitment Materials	Nil	Nil
Other Study Documents	Questionnaire.	

Specific conditions will apply to this approval. As Principal Investigator it is your responsibility to ensure that the contents of this letter are adhered to. If these are not adhered to, the approval may be suspended. Should the study be suspended, study sponsors and other regulatory authorities will be informed.

CONDITIONS OF APPROVAL

- No participant may be involved in any study procedure prior to the study approval or after the expiration date.
- All unanticipated or Serious Adverse Events (SAEs) must be reported to NASREC within 5 days.
- All protocol modifications must be approved by NASREC prior to implementation unless they are intended to reduce risk (but must still be reported for approval). Modifications will include any change of investigator/s or site address.
- All protocol deviations must be reported to NASREC within 5 working days.
- All recruitment materials must be approved by NASREC prior to being used.
- Principal investigators are responsible for initiating Continuing Review proceedings. NASREC will only approve a study for a period of 12 months.
- It is the responsibility of the PI to renew his/her ethics approval through a renewal application to NASREC.
- Where the PI desires to extend the study after expiry of the study period, documents for study extension must be received by NASREC at least 30 days before the expiry date. This is for the purpose of facilitating the review process. Documents received within 30 days after expiry will be labelled "late submissions" and will incur a penalty fee of K500.00. No study shall be renewed whose documents are submitted for renewal 30 days after expiry of the certificate.
- Every 6 (six) months a progress report form supplied by The University of Zambia Natural and Applied Sciences Research Ethics Committee as an IRB must be filled in and submitted to us. There is a penalty of K500.00 for failure to submit the report.
- When closing a project, the PI is responsible for notifying, in writing or using the Research Ethics and Management Online (REMO), both NASREC
- and the National Health Research Authority (NHRA) when ethics certification is no longer required for a project.
- In order to close an approved study, a Closing Report must be submitted in writing or through the REMO system. A Closing Report should be filed when data collection has ended and the study team will no longer be using human participants or animals or secondary data or have any direct or indirect contact with the research participants or animals for the study.
- Filing a closing report (rather than just letting your approval lapse) is important as it assists NASREC in efficiently tracking and reporting on projects. Note that some funding agencies and sponsors require a notice of closure from the IRB which had approved the study and can only be generated after the Closing Report has been filed.
- A reprint of this letter shall be done at a fee.

- All protocol modifications must be approved by NASREC by way of an application for an amendment prior to implementation unless they are intended to reduce risk (but must still be reported for approval). Modifications will include any change of investigator/s or site address or methodology and methods. Many modifications entail minimal risk adjustments to a protocol and/or consent form and can be made on an Expedited basis (via the IRB Chair). Some examples are: format changes, correcting spelling errors, adding key personnel, minor changes to questionnaires, recruiting and changes, and so forth. Other, more substantive changes, especially those that may alter the risk-benefit ratio, may require Full Board review. In all cases, except where noted above regarding subject safety, any changes to any protocol document or procedure must first be approved by NASREC before they can be implemented.

Should you have any questions regarding anything indicated in this letter, please do not hesitate to get in touch with us at the above indicated address.

On behalf of NASREC, we would like to wish you all the success as you carry out your study.

Yours faithfully,



Dr. E. M. Mwanaumo

**CHAIRPERSON
THE UNIVERSITY OF ZAMBIA NATURAL AND APPLIED SCIENCES RESEARCH
ETHICS COMMITTEE - IRB**

cc: Director, Directorate of Research and Graduate Studies
Assistant Director (Research), Directorate of Research and Graduate Studies
Assistant Registrar (Research), Directorate of Research and Graduate Studies

APPENDIX 2 – PUBLICATION INDEX

Katotobwe, C., Kaliba, C., and Lungu, K. (2024). Enhanced Local Contractor Participation: Case of Zambia Water Supply and Sanitation Sub-Sector. *International Journal of Engineering and Management Research*, 14(1), 246–260.
<https://doi.org/10.5281/zenodo.10819950>