AN EVALUATION OF THE IMPACT OF CORRUPTION, ECONOMIC STATUS AND POLITICAL INFLUENCE ON THE MALAWIAN CONSTRUCTION INDUSTRY

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ABSTRACT

The key objectives of this MSc (Construction Management) dissertation are to evaluate the negative impact of: corruption; political influence, and the poor economy on the construction industry; in order to gain insight regarding the management of the sector to achieve the desired project deliverables, which are:

- Achievement of a functional fit for purpose built environment, which is to the clients' requirements;
- Achievement of a Financially viable product in line with the clients' budget;
- Achievement of a successful and timely completion, and
- Achievement of the required quality standard of the final product.

To achieve the above mentioned project deliverables, the study entailed the following prominent findings:

- There is a need to manage political greed in the distribution of development projects, and functionality of the product to suit the client / community;
- There is a need to manage, mitigate and combat corruption in order to diminish the dominance of unscrupulous contractors over others, and to achieve clients' desired quality standards;
- There is a requirement to manage the construction policy formulation process and governance of laws and regulations to revamp the retrogression of the industry, and
- There is a requirement to manage project cost to significantly boost the ailing economy.

In conclusion, the study evaluates the Malawi construction industry status and improvements there on. The management of the industry’s phenomena and mindset is of paramount importance to the success of the findings in this study.

Recommendations to improve the status quo relative to the findings are: to train all active stakeholders in construction management courses; a national initiative
to sensitise the community regarding the powers granted to them, as an electorate of the stakeholders; to change the phenomenon of and mindset relative to bribes, and finally to derive a passion for construction and for the associated built environment.

Keywords: Corruption, construction, development, politics, projects
DECLARATION BY STUDENT

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QUALIFICATION: MSc (CONSTRUCTION MANAGEMENT)

DECLARATION

I hereby declare in accordance with Rule G4.6.3 that the above mentioned dissertation, which is my own work, has not been submitted to any other institution for assessment to acquire another qualification.

SIGNATURE: ______________________________

DATE: ______________________________

______________________________________________________________

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STATEMENT OF ORIGINALITY

This research entitled ‘An evaluation of the impact of corruption, economic status and political influence on the Malawian construction industry’ has been conducted, computed and compiled by myself. Including, correct referencing from authentic literature sources as listed in the references section.

_________________________________________    _____________________
MULIMA PHIRI      DATE
ACKNOWLEDGEMENTS

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- Wiza Phiri and the late Joshua Phiri, my daughter and son respectively – for the motivation to succeed;
- My parents and mother-in-law – for the love and acceptance as a son;
- Rodric Chilipunde, my friend and colleague – for the lighter moments, and
- All respondents – for the prompt and accurate response.
CONTENTS OF THE STUDY

Chapter one presents a brief background of the Malawian construction industry and the politics that surround it. The status of the problem is elaborated and divided further into four sub-problems; the four hypotheses, which form the basis of the study, emanate from the four sub-problems. This chapter further outlines the importance of the study, the objectives, and the assumptions made to conduct the research.

Chapter two illustrates the political background of the country. The chapter further discusses the effect and impact of corruption: its corruptive measures; the multiplier effects, and the anti-corruption measures and costs. The flaws in policy formulation and the governance of the rules and regulations are discussed. The chapter studies the economic hardships in third world and developing countries, with reference to the Malawian setting. Furthermore, political greed is analysed and discussed in detail.

Chapter three delineates the research design and the criteria used to collect data. The admissibility of the data collected is discussed. The chapter also addresses research methodology, the scope of the study, and case studies. Furthermore, sampling is strategised, discussed and quantified. Lastly, the results of the pilot survey are summarised and the recommendations arising from the study are implemented.

In Chapter four the statistics are presented in Tables, and the results and findings of the research are discussed. The Chapter further outlines the response and non response bias; incentives and cut off dates, and the sponsorship of the survey. Lastly, the biographical data is recorded and tabulated.
In chapter five, the interpretation of the results are presented, which led to the testing of the four hypotheses.

In chapter six the research results are summarised. The conclusions reached are presented, and lastly, recommendations for future research studies are listed.

Thereafter the references are presented followed by the appendices which include the cover letter, the research questionnaire and the reminder letter.
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CHAPTER 1

1.0 THE PROBLEM AND ITS SETTING

1.1 INTRODUCTION

Politics plays a major role in governing a country, state or constituency. Political leaders attain power from the respective political positions when elected into government. Consequently, this power is used to the good or abused to influence decision making, perceptions and overviews of the populace, investors and other concerned stakeholders.

The construction industry in Malawi is negatively influenced by the political factors outlined below:

- Political greed;
- Corruption;
- Flaws in policy formulation, and
- The poor economy.

Devereux et al. (2004: 32) in the Institute of Development Studies (IDS) Research Report 56 strongly acknowledge the existence of political greed and political interference regarding project allocation and scope change. The report also states that the chances of Malawi Social Action Fund (MASAF), which is a grant aided community based and managed project fund, evolving into a development institute depended on the incumbent President’s authorisation, the stance of the next elected president and the ability of the Executive Directorate to secure political support without political interference.
Corruption has a negative impact on the construction industry in the form of influencing the award of contracts for personal gain, which results in particular contractors dominating others. The monotonous use of one contractor over others creates a belief of indispensability and arrogance which leads to the selected contractor not conforming to the clients’ / consultants’ quality procedures.

The principal policy makers are political stakeholders. In this case, political stakeholders comprise of influential government personalities, Members of Parliament (MP), and board directors of construction related organisations. In most instances, these political stakeholders are not construction professionals and lack construction etiquette, which leads to inappropriate bills passed on to parliament for approval. These bills are approved in parliament by parliamentarians interested only in political gain and favour.

Furthermore, World Bank Report (2006: 34) confirms that most construction projects are affected by economic constraints. Inflation is a key factor which affects the project process in that the local currency has to be pegged to the United States Dollar (USD) for devaluation security. The procurement and sourcing of raw material such as bitumen, steel reinforcement, facades and cladding have to be imported due to unavailability on the local market.

Malawi as a country is divided into three regions of approximately the same area in magnitude, namely the Northern region, Central region, and the Southern region. These regions are divided into districts, and the districts are sub-divided into constituencies (Bloom, 2004: 8).

Most areas in the Northern region are not as developed as counterpart areas in either the commercial Southern region or the administrative Central region. For example the Karonga-Chiweta road project, which joins the Karonga and Chitipa districts in the Northern region, received a budget allocation for construction in
August 2001. The project commenced and was abandoned four months later, where it was reported that the funding was diverted to a prioritised project in the Southern region (Lunda, 2005: 3).

This attitude of prioritising the central and southern regions has led to emigration of people from the northern region to the more developed and populous central and southern regions.

![Figure 1.1: Malawi and the comprising districts](image)

In review of political commitment and politicisation of Malawi social action fund (MASAF) projects, Devereux et al. (2004: 36) state that the Institute of
Development Studies (IDS) team reviewed the positive and negative aspects of the relationship between MASAF and the political process. Findings include:

- Members of Parliament had limited influence over the choice of community sub-projects, although the ruling party’s MPs had more influence in comparison to the independent and opposition party MPs, and
- There were complaints about petty corruption; however, a large portion of the funds reached the community.

1.2 THE RESEARCH PROBLEM

1.2.1 THE STATEMENT OF THE PROBLEM

The construction industry in Malawi is negatively influenced by political greed, corruption, flaws in policy formulation, and the poor economy.

1.2.2 THE SUB-PROBLEMS

- The inequitable distribution of development projects;
- Certain contractors dominate over others;
- The construction industry has retrogressed, and
- Resource limitations to standard building specifications

1.3 THE HYPOTHESES

- Political greed affects the distribution of development projects;
- Corruption does create a dominance of particular contractors over others;
• Retrogression in the construction industry is due to the flaws in the formulation of construction industry policies, and

• The economy limits the standard specifications used during construction.

1.4 THE DELIMITATIONS

• This study is based on community based projects in the Malawian construction industry;

• The study does not concentrate on the criterion boards governing how civil engineering construction activities operate, but concentrates on the associated short falls and solutions;

• Four districts were sampled per region; each region has an average of eight districts, and

• Three constituencies were sampled and studied per district; each district has an average of six constituencies.

1.5 THE DEFINITION OF TERMS

August House: The Parliament buildings where seating of parliament in Malawi is held (Baneli, 2004: 3).

Bung: This is a bribe sum paid out to influence a decision into the favour of the payee (Lunda, 2005: 2).

Constituency: A division thereof that demarcates a political governance division headed by a Member of Parliament (Makins, 2005: 38).
Consulting engineers: A firm undertaking the detailed engineering design, inspection, and quality assurance (Datta, 2000: 34).

Corrugated roof sheeting: Victorian Profile sheeting is a sinusoidal profile sheet, which can be used for both roofing and side cladding (Youngman, 2007: 2).

District: A subdivision of a region which demarcates a governance administrative division (Makins, 2005: 61).

IBR roof sheeting: An angular trapezoidal-fluted sheet, designed for use as a roof covering and side-wall cladding (Youngman, 2007: 2).


Kwacha: Unit of currency, pegged at MK140 to USD1 (Le Roux, 2006: 6).

Large scale contractor: The firm carrying out the actual construction works and registered in the unlimited category (Murray, 2000: 819).

MASAF: A grant sponsored project funded by the European Union which involves low cost community development projects to be carried out by the community for the community (Osisa, 2007: 16).

Member of Parliament: An individual elected by the populace of a constituency to represent it in parliament (Baneli, 2004: 3).

NCIC: A government organisation established by an Act of Parliament to monitor and evaluate building and civil contractors (Baneli, 2004: 7).
Oligopolist: Firms which connive with other firms to dominate a particular market, usually infrastructure projects (Soreide, 2006: 182).

Parastatal: An organisation partly funded by government and part of owned by the private sector (Makins, 2005: 180).

Road agency: Any institution or body whether or not incorporated, charged under any written law with the responsibility of maintaining, rehabilitating or developing public roads, and includes any institution or body designated as a roads agency by the Minister of Public Works by notice published in the national gazette (OSISA, 2007: 28).

Region: A large administrative unit that has geographical, political, or cultural characteristics that distinguish it from others existing within a country (Makins, 2005: 218).

Small scale contractor: The firm carrying out the actual construction works on the cold face and registered in the MK10 million categories (Murray, 2000: 818).

1.6 ABBREVIATIONS

ACB: Anti-corruption Bureau

ESCOM: Electricity Supply Commission of Malawi

EU: European Union

BC: Before Christ

BEEPS: Business Environment and Enterprise Performance Survey
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>BIMS:</td>
<td>Business Integrated Management Systems</td>
</tr>
<tr>
<td>CBD:</td>
<td>Commercial Bearing District</td>
</tr>
<tr>
<td>CDD:</td>
<td>Community Driven Developments</td>
</tr>
<tr>
<td>CIOB:</td>
<td>Chartered Institute of Building</td>
</tr>
<tr>
<td>CPAR:</td>
<td>Country Procurement Assessment report</td>
</tr>
<tr>
<td>CPS:</td>
<td>Crown Prosecution Services</td>
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<tr>
<td>DANIDA:</td>
<td>Danish International Development Agency</td>
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<td>DDC:</td>
<td>District Development Committee</td>
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<tr>
<td>GDP:</td>
<td>Gross Domestic Product</td>
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<tr>
<td>HIPC:</td>
<td>Heavily Indebted Poor Countries</td>
</tr>
<tr>
<td>IBR:</td>
<td>Inverted Box Ribbed</td>
</tr>
<tr>
<td>IDS:</td>
<td>Institute of Development Studies</td>
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<tr>
<td>IFCE:</td>
<td>International Federation of Consulting Engineers</td>
</tr>
<tr>
<td>IMF:</td>
<td>International Monetary Fund</td>
</tr>
<tr>
<td>JICA:</td>
<td>Japanese International Cooperation’s agency</td>
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<tr>
<td>KDP:</td>
<td>Kecematan Development Project</td>
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</tbody>
</table>
LSC: Large scale Contractor

MASAF: Malawi Social Action Fund

MCP: Malawi Congress Party

MK: Malawi Kwacha

MP: Member of Parliament

NCIC: National Construction Industry Council

NGO: Non-Governmental Organisation

NRA: National Roads Authority

OBA: Output Based Aid

OED: Operations Evaluation Department

PWC: Price Waterhouse Coopers

PS: Principal Secretary

RMSP: Road Management Support Programme

SADC: Southern Africa Development Committee

SHC: Stein Hansen Consulting
SSC:  Small Scale Contractor

UDF:  United Democratic Front

UNSTATS:  United Nations Statistical Survey

USD:  United States Dollar

TI:  Transparency International

1.7 THE ASSUMPTIONS

• There is political influence on the Malawian civil engineering sector of the construction industry, and

• Political stakeholders, as policy makers, do play a role in the construction industry.

1.8 THE IMPORTANCE OF THE STUDY

This study provides an analysis on the award of contracts by the central body and assesses the capacity of contractors commonly assigned to projects and determines the flaws in governance of projects. Therefore, the study established ways to improve the standard of structures constructed and methodology of the construction process. Bearing in mind the contingency theory, which states that there is no one way to manage a project, it is dependent upon the problem; in this case, sub-standard works in hand (Kast & Rosenzweig, 2003: 74).

In-depth investigations were conducted to determine the selection criteria of contract award based upon resources. The rational distribution of contractors to
the given scales were considered and thereby creating a wider range of contractors eligible for tender pre-qualification phase.

Currently, development structures favour certain areas and this study determined the reasons, and how to improve the equitable distribution of development projects throughout the country.

Grant aided projects are normally accompanied by their own specifications and conditions for contract award. This study analysed the detrimental conditions and specifications, which accompany such grant aided projects. The construction of the Murmur Gaddafi memorial hospital, which is a joint venture between the Malawian and Libyan governments, was halted as the two governments failed to reach a compromise regarding the way forward in terms of price fluctuations and pegging the Malawian Kwacha to the US Dollar. Among other complications, some pundits state the fall out of the previous head of state from government dented the relationship between the two governments (Lunda, 2005: 2).

In terms of performance by civil engineering contractors, the objective was to find ways and means to improve general performance, and to highlight corruption and the effects thereof on the industry. The access and availability to loans and overdraft facilities from financial institutions to small scale contractors was analysed. Such a financial achievement will assist small scale contractors to develop into larger scale contractors. The practices of financial institutions relative to providing performance bonds to small scale contractors is highly questionable as it is a prerequisite for the contractors bank account to have an equivalent of the contract sum for the performance bond to be issued (Ballard, 2000: 737).

In general the aim of the study was to identify and analyse ways to improve the management of construction works thereby realising economically viable projects for all stakeholders as well as quality assured structures nationwide (Kerzner, 2003: 58).
1.9 THE AIMS AND OBJECTIVES OF THE STUDY

1.9.1 SPECIFIC OBJECTIVES

The aim of this study was to determine the extent to which politics influences the civil engineering sector of the Malawian construction industry.

The study provided solutions to biased distribution of development projects, in order to attain equity in distribution of projects nationally.

The study analysed the effects of corruption, how it creates a dominance of particular contractors over others and its related influence on the standard of construction works.

Furthermore, flaws in the formulation of construction development policies were investigated in this study and the recommendations on ways to abate these flaws were analysed.

Lastly, the study compared and related the poor state of the economy to the negative impact thereof on the built environment.

1.9.2 GENERAL GOALS

Lederman and Soares (2005: 14) agree that construction is the core to developing a nation. The built environment, as a product, authenticates a civilised way of carrying out activities. Thus, the ease of the construction process and the quality of the product will lead to an economically feasible and structurally developed nation.
The Malawian construction industry has evolved considerably over the past two decades. This evolution has taken place both in a positive and negative manner. Political influence and interference being the major contributing factor to the significant evolution of the industry; this study evaluated the impact of politics on the industry.

Firstly, it was imperative to conduct this research to expose and evaluate the political greed in the distribution of development projects. Devereux et al. (2006: 16) argue about the conditions set in determining the allocation of development projects, the community participation, and the politicians’ involvement. Results show that political greed influenced the distribution of the projects.

Secondly, as much as the vested interest of corrupt politicians is unlikely to be abated by any study, this study determined the effects of corrupt politicians and corruption on the construction industry. The intensity of corruption in Malawi led to the formulation of the Anti-Corruption Bureau (ACB) by an act of parliament in 1996.

Moreover, the study determined flaws in the formulation of policies regarding construction and the improvements thereof. As noted for the well being of the nation; policies passed by act of parliament have a leniency towards the benefit of the electorate and very little professionalism and etiquette to the discipline involved.

Lastly, the study examined ways in which the construction industry may improve the standard of the management of the construction process so as to improve the quality of the desired built environment.
CHAPTER 2

2.0 LITERATURE REVIEW

2.1 POLITICAL BACKGROUND

2.1.2 POLITICAL TRANSITION

In May 1994, Malawi held multi-party elections after 30 years of authoritarian one party rule. The decision of the ruling Malawi Congress Party (MCP) to hold elections arose after a sustained period of political mobilisation. The MCP lost power and a new government was elected. The new ruling party, the United Democratic Front (UDF) did not have the majority of seats in parliament, but had to establish itself as representing national commitments (Kaspin, 1995: 2).

As stated by Bloom (2004: 23), the government had to overcome several obstacles in meeting these national commitments. The UDF led government faced disastrous economic situations. The country had experienced two major droughts in the early 1990’s and the impact of these shocks was exacerbated by major reductions in donor support in response to governance problems.

2.1.3 GOVERNANCE ON EXPENDITURE AND FUNDING

The MCP led government had increased public expenditure during the run up to the 1994 elections and Malawi as a country experienced a ‘full-blown macroeconomic crisis’ in 1994 (World Bank, 2006: 27). District administrative systems were fragmented, with parallel structures accountable to the Presidents Office and to local councils. Elected councils had been dissolved and district
development committees (DDC), on which traditional leaders and Members of Parliament convened, were the *de facto* decision-making bodies.

In 1994, the government organised a stakeholders’ workshop to discuss the emerging ideas of a social fund and the findings suggested that communities trusted traditional authorities much more than government extension workers (Bloom, 2004: 12).

The Malawi Social Action fund (MASAF) was structured as a World Bank project and formulated in 1995 tasked to implement community development.

### 2.2 CORRUPTION

#### 2.2.1 BRIBERY AND CORRUPTION

The construction industry in Malawi is ranked as one of the most corrupt industries. Large payments are made to gain or alter contracts and circumvent regulations. Kenny (2007: 49) corroborates that the impact of corruption goes beyond bung payments, to poor quality of constructed infrastructure with low economic returns, alongside low funding for maintenance.

Corruption plays a major role in awarding of contracts in terms of bribery. Guash (2005: 47) concurs that for some contractors to be awarded contracts the norm of bribing does occur. These bungs may actually be a percentage of the total contract sum, which is on the higher side accordingly. Informally, the bung sum is known as and will be referred to as a bung.

The National Construction Industry Council (NCIC) has more than 5 000 registered contractors whom are capable of carrying out construction projects relative to their scales (Baneli, 2004: 34). Nevertheless, construction projects
tend to be awarded to the same group of contractors despite the poor performance.

### 2.2.2 CORRUPTION MEASURES

Transparency International, an organisation which measures the degree to which corruption is perceived to exist among public officials and politicians using the corruption perception index, rates Malawi at 2.29. Given that the scale reads from 10 as the least corrupt to 0 as the most corrupt, this is a very high rating.

This perceptive index as shown in figure 2 below shows Malawi’s level in relation to corruption indexes of the countries in the world (Anonymous, 2004).

![Diagrammatic representation of the corruption perception index worldwide.](image)

High numbers in green indicate relatively low corruption, whereas lower numbers in red indicate relatively high corruption.
Measuring corruption in the statistical sense is naturally not a straight-forward matter, since the participants are generally not forthcoming about it. Denker (2008: 39) concurs with Transparency International, a leading anti-corruption NGO, which provides three measures, updated annually:

- A Corruption Perception Index - based on experts’ opinions of how corrupt different countries are;
- A Global Corruption Barometer - based on a survey of general public attitudes toward and experience of corruption, and
- A Bribe Payers Survey, looking at the willingness of foreign firms to pay bungs. The World Bank collects a range of data on corruption, including a set of Governance Indicators.

Gulati and Rao (2006: 132) argue in the Transparency International report that all forms of government are susceptible to political corruption in the form of bribery, extortion, cronyism, nepotism, graft, and embezzlement. The end-point of political corruption is kleptocracy literally meaning ‘rule by thieves’ (Anonymous, 2004: 54).

However, Moon (2002: 29) agrees that corruption poses a serious development threat. In the political realm, it undermines democracy and good governance by flouting or even subverting formal processes. Corruption in elections and in legislative bodies reduces accountability and distorts representation in policymaking.

2.2.3 CORRUPTION IN THE CONSTRUCTION INDUSTRY

Looking at business perceptions, Transparency International’s 15-country poll ranked construction as the most corrupt industry (Figure 2.2). High numbers indicate relatively low corruption, whereas lower numbers indicate relatively high corruption.
Figure 2.2: Transparency International’s perception of corruption per industry.

Similarly, a Control Risks survey on international companies’ research on bid losses due to competitor bunging determined that public works and construction firms were victimised (Figure 2.3).
Bray, J (2005: 10)

**Figure 2.3: Control risks survey of international companies that lost business in 2005 due to competitor bunging.**

Soreide (2006: 168) in a control risk survey; requested respondents to suggest important underlying motivation for companies to partake in corruption. The question was based on Moody-Stuart’s (1997: 21) explanation of why companies pay bribes. The respondents were given three alternatives other than the obvious goal of getting a contract. On the basis of all responses, these alternatives were ranked as follows:

- The third alternative motivation behind bribery - persuading decision-makers to buy goods or services which they basically do not need, had a low rate of response (5%);

- The second alternative, goods that would not have been chosen given fair competition. The buyer demands compensation, a bribe, for choosing the specific product because better alternatives exist. This motivation is
probably quite common, but was suggested by only 21%. However, > 50% of the respondents indicated concerns regarding losing contracts due to competitor bribing decision-makers, and

- The most common perception about underlying motivations behind bribery is related to a lack of trust regarding competitors in the industry. This result reveals a considerable information problem, but also a challenge when it comes to the credibility of firms’ internal controls and the measures they take against corruption.

However, the control risk survey results revealed weak propensity by firms to react on the tender procedure in cases where they considered themselves victims of corruption. If competitors pay bribes, companies lose not only their fair chance of gaining the contract, but also the cost of taking part in the tender; often a significant amount of time and, for large firms, it can amount to several million dollars. In spite of these losses, they prefer not to complain or claim for compensation.

Consequently, the most plausible explanation is the lack of proof in these cases. It will often be impossible to verify that corruption has taken place, and there is, a general reluctance to accuse individuals of being ‘corrupt’ without clear evidence. However, firms that have participated in a tender where the outcome has most likely been affected by corruption will often have a justified suspicion. They may have been asked for bribes themselves, they pick up reliable rumours, or by other means they realise that the tender procedure is flawed.

Bray (2005: 12) refers to a 2004 initiative led by Transparency International, the World Economic Forum and nineteen engineering and construction firms created a set of business principles for countering bribery. This commits signatories to a `zero tolerance’ policy relative to bribery and a program implementing internal practices to counter corruption. This program would:
• Prohibit all forms of bribery, control and monitor facilitation and charitable payments along with gifts and hospitality to ensure that they are not used for bribery;
• Ensure those who refuse to pay bungs are protected from retaliation and set penalties for violating program rules;
• Provide training and confidential channels of communication, and
• Ensure for adequate internal auditing.

In an approach based on Transparency International business principles, it was agreed among piping companies in Colombia’s water sector to reduce bribery, which resulted in significantly lower bid award prices for projects, with equality among the participating companies (Lee and Larnemark, 2007: 49).

2.2.4 Establishment of an equal platform

Similarly, the International Federation of Consulting Engineers has developed a set of guidelines on implementing a business integrity management system in consultant engineering firms including formulation of:

• A code of conduct and business integrity policy;
• Business integrity procedures for the main steps of the consulting process, and
• Practices regarding documentation.

Unions and firms have also come together to sign agreements on compliance with labour standards including health and safety (BIMS, 2007: 7).

However, economists argue that one of the factors behind the differing economic development in Africa and Asia is that in the former, corruption has primarily taken the form of rent extraction with the resulting financial capital moved overseas rather than investing locally - hence the stereotypical, but sadly often accurate, image of African dictators having Swiss bank accounts. University of
Massachusetts researchers estimated that from 1970 to 1996, capital flight from 30 sub-Saharan countries totalled $187bn, exceeding those nations' external debts (Anonymous, 2005: 36).

2.2.5 Features on the extent of corruption

Kenny (2006) cited by Lee and Lanermark (2007: 45) states that there are three features on the extent of corruption in construction:

- First, there is significantly no correlation between cross-industry general estimates of corruption and estimates of corruption given by the subset of construction industries at the national level;

- Secondly, it appears that there is considerable variation within countries as to the comparative level of corruption in different parts of construction-related regulation, and

- The third feature of survey results worth noting is that there is a significant variation even within a sector in a given country in terms of the level of corruption occurring in a particular process.

Furthermore, corruption can have a particularly invasive effect if it skews incentives such that the impact of corrupt payments is felt far beyond the project itself. It appears that corruption is likely one factor behind the pressure to overspend on new construction rather than maintenance of existing infrastructure (Kenny, 2006: 16).

2.2.6 MULTIPLIER EFFECTS OF CORRUPTION ON DEVELOPMENT

Different forms of corruption carry significantly different `multiplier effects' in terms of their development impact. For instance, the impact of stealing one
A dollar’s worth of supplies from a road construction project is four times higher than the impact of a dollar increase in contract costs due to collusion (Kenny, 2006: 18).

In Indonesia, Olken (2004: 45) estimates that a marginal dollar of materials stolen from a road project reduces the discounted benefits from the project by $3.41 because of the shorter life span of the road when built with inadequate material.

If the impact of corruption is to skew expenditures towards low-return projects or to reduce expenditures on maintenance, the multiplier effect may be many times higher. Table 2.1 presents estimates of the size of corrupt payments in various steps of the project cycle as well as the likely `multiplier impact' of payments in terms of development outcomes.

**Table 2.1: Multiplier impacts of corrupt payments**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Nature of corruption</th>
<th>Size of payments</th>
<th>Multiplier impact</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Budget process</strong></td>
<td>Decisions on total budget, maintenance versus new construction – in return for direct payments or downstream payoff</td>
<td>Small - survey evidence of limited percentage of firm bribe budget to upstream, however reward may be downstream. For instance, received during construction procurement.</td>
<td>Very high - diversion of resources form maintenance to construction can reduce economic returns to the entire infrastructure stock</td>
</tr>
<tr>
<td><strong>Project selection / prioritisation</strong></td>
<td>Selection of projects that will favour particular contractors</td>
<td>Small - survey evidence of limited percentage of firm bribe budget to upstream, such</td>
<td>Very high - involves diversion from low to high return projects and from non-corrupt to corrupt contractors</td>
</tr>
<tr>
<td>Category</td>
<td>Description</td>
<td>Low risk - potential effects</td>
<td>Medium - likely effects</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Project design</td>
<td>Design of projects that will favour particular contractors</td>
<td>Medium - revenues for corrupt payments will come from downstream contract, may be part of firm bribe budget for contracts</td>
<td>Medium - involves indirect diversion from non-corrupt to corrupt contractors; may also involve lower quality design</td>
</tr>
<tr>
<td>Bid process design</td>
<td>Design of process that will favour particular contractors</td>
<td>Medium - revenues for corrupt payments will come from downstream contract, may be part of firm bribe budget for contracts</td>
<td>Medium - involves indirect diversion from non-corrupt to corrupt contractors</td>
</tr>
<tr>
<td>Firm selection</td>
<td>Bidder collusion on price with connivance of government officials</td>
<td>Very large - evidence of 10-30% mark-ups</td>
<td>Low - potential selection of wrong firm may lower quality of construction, raises price by size of mark-up</td>
</tr>
<tr>
<td></td>
<td>Officials alter procurement income</td>
<td>Large - survey evidence of 5-10% of contract value payments</td>
<td>Medium - likely selection of wrong firm may lower quality of construction, may also raise price</td>
</tr>
<tr>
<td>Contract negotiation</td>
<td>Contract design to lower quality; increase price or opportunities for materials theft</td>
<td>Medium - part of a firm bribes budgets for contracts</td>
<td>Medium - often involves reduced quality of construction</td>
</tr>
</tbody>
</table>
The table suggests that a focus on reducing the most damaging impacts of corruption will have to be broad:

- Looking at overall budgeting issues;

- Ensuring the resources dedicated to new construction are not diverted from required maintenance funding, and

- Ensuring that the outputs of construction projects are built to a high, safe, and drawn out standard.

### 2.2.7 ANTI-CORRUPTION MEASURES AND COSTS

Anti-corruption measures can carry higher costs relative to the economic benefit of the reduced corruption that they are associated with. Ben Olken’s examination of anti-corruption interventions in community-driven road projects in Indonesia
suggested that sending out invitations to village meetings to discuss projects might fall into that category (Olken, 2004: 22).

**2.2.8 GOVERNANCE OF MASAF AND STRUCTURE MAINTENANCE**

Bloom (2004: 28) reiterates the stance of Datta (2000: 35) that in the Malawian setting of District based community development, MASAF was designed to disburse USD 56 Million over a five-year period. Unfortunately due to the governments’ determination to accelerate implementation; the credit was fully committed to over a two year period. A second loan was launched in 1998, and a third in 2002. The capital disbursed in all loan phases had no allocation for maintenance.

Maintenance of the structures was entrusted to the communities; in my opinion communities have very little understanding regarding maintenance specifications and technical expertise of the structure. The capital for maintenance was not structured due to the belief that the built environment was to cater for the community and the community was to be responsible for the misuse, and therefore be liable for the maintenance as well.

A study conducted by Ng’ong’ola *et al.* (2001, and cited by Bloom 2004: 28) relative to the maintenance of classroom blocks, boreholes and bridges constructed under MASAF reported that most communities were aware that they were intended to maintain the assets. Some formed maintenance committees and maintenance funds and requested for training for their committees. However, they expected government to help with major repairs. There was uncertainty in the role of relevant Ministry departments financing and carrying out repairs. The general impression was that maintenance issues had not been resolved.

The tables below show the general perception of maintenance responsibility from households (Ng’ong’ola, 2001: 28).
Table 2.2: Institution identified as responsible for school block maintenance

<table>
<thead>
<tr>
<th>Institution</th>
<th>Response (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>School committee</td>
<td>77.3</td>
</tr>
<tr>
<td>Community</td>
<td>6.9</td>
</tr>
<tr>
<td>Project management committee</td>
<td>5.6</td>
</tr>
<tr>
<td>Pupils and teachers</td>
<td>2.5</td>
</tr>
<tr>
<td>MASAF</td>
<td>2.2</td>
</tr>
<tr>
<td>Other</td>
<td>5.6</td>
</tr>
</tbody>
</table>

A similar pattern was noted for boreholes.

2.3 POLICY FORMULATION

2.3.1 POLICY BACKGROUND

The Malawian construction industry policies were derived from the British Standards; there are some British Standards which are still considered in the design of structures such as frost resistance and snow parameters, despite the country being situated in a tropical climate.

Baneli (2004: 33) argues that in order to develop local contracting capacity, measures should be taken to ensure the widest participation of firms owned by indigenous Malawians through the granting of a 10% margin of preference when comparing tenders of indigenous firms with those of foreign owned firms.
2.3.2 E-PROCUREMENT AND ITS GOVERNANCE

Baneli (2004: 2) in the procurement statutes, Malawi CPAR, volume 2, debates the pros and cons of the E-procurement system in Malawi. This system was implemented before the issues presented in Table 2.3 were addressed. Consequently, this resulted in serious repercussions in the construction industry, which have been investigated in detail. Certain parastatal organisations such as the electricity provider Electricity Supply Commission of Malawi (ESCOM) have internal procurement rules of their own, which in essence have flaws in the procurement procedures.

Table 2.3: Malawi CPAR, volume 2, 2004 – Issues relating to E-procurement

<table>
<thead>
<tr>
<th>Issue areas</th>
<th>Basic requirements</th>
<th>Situation in Malawi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance</td>
<td>Adapted legal framework</td>
<td>Nil</td>
</tr>
<tr>
<td>Human resources</td>
<td>Capacity to utilise system, trained staff</td>
<td>Nil</td>
</tr>
<tr>
<td>Institutions</td>
<td>Work flows adapted to system</td>
<td>Nil</td>
</tr>
<tr>
<td></td>
<td>Functioning private market with access to E-procurement</td>
<td>Nil</td>
</tr>
</tbody>
</table>

(Baneli, 2004: 2)

The ILO (2005: 134) concurs that policy acts as a framework that supports, or inhibits balanced and effective governance and healthy growth and interaction of a society’s many facets. Its effectiveness rests in proper assessment, whole picture balance, appropriate regulations, adequate enforcement, and incentives for behavioural change (Anonymous, 2003: 78).
In public works procurement in particular, there appears to be no reason to avoid web-based publication of procurement documents, from initial design studies through bid documents to final contracts. Argentina publishes detailed information about contract awards and implementation, Turkey publishes winning bids for government contracts, the Philippines allows civil society representatives to observe the tendering process and Uganda publishes e-procurement audits and contract awards on the web (Kenny, 2007: 53).

Regarding contracts, e-procurement documents specify what is to be delivered when, how, by whom and at what unit price. As such, e-procurement documents contain a wealth of information about who will benefit from the contract, potential waste or padded prices, and what the project outputs should be. While routine publications of contracts are far from the norm.

Many countries provide access to e-procurement documents if a specific case is made under a Freedom of Information law, and the government of the Australian State of Victoria publishes all contracts, including contract revisions, for contracts in excess of USD$7.7m (Robertson, 2007: 59).

**2.3.3 ADMINISTRATION OF CONTRACTS**

Oversight of contract implementation requires clarity. It should be spelt out and publicised which government official is responsible for ensuring delivery of a quality outcome, and that officials should be empowered with the necessary technique; finance, and resource to monitor implementation. The officials should be able to act under the guidance of comprehensive and transparent rules governing both oversight and payment procedures, and face consequences for failure to act based upon this guidance.

In the case of construction, there is a strong justification for physical audits of project outcomes. Ben Olken used such an approach to measure the extent of
corruption in the Indonesia KDP project. Although it should be noted that there are other potential causes for `missing materials' than corruption per se, physical audits will provide significant circumstantial evidence of corruption as well as, perhaps more importantly, providing timely evidence of poor-quality construction that can be corrected at the cost of contractors (Olken, 2004: 26). Once initial physical audits are complete, asset registries allow governments to track how constructed assets are used and maintained.

2.3.4 TENDER RULES’ ABILITY TO PREVENT CORRUPTION

As determined by Soreide (2006: 168) cited by Guash (2007: 34) the results on pre-selection and pre-tender contact; cast doubt regarding the efficiency of tender rules in controlling corruption. The views of the respondents were primarily that procurement rules are important, though not an effective anti-corruption tool. Moreover, 55% of the respondents declared that tender rules could not prevent corruption. 15% indicated that tender rules function as an obstacle, while only 6% considered tender rules to be an obstacle to corruption.

However, there are substantial variations between firms regarding their views about procurement procedures. Compared to the total sample, large firms, firms with production plants located in several countries, and firms with many years of experience in international markets had significantly lower confidence in the ability of procurement procedures to prevent corruption (Bjorvatn, 2005: 910).

2.3.5 EXECUTION OF OUTPUT-BASED AND COMMUNITY DRIVEN PROJECTS

Levy (2007: 81) researched on the Paraguay Road Maintenance Project, launched with the support of the World Bank in 2006 suggests that it is possible to combine a number of governance and anti-corruption approaches in one intervention without overwhelming institutional capacity. The project combines a
sectored approach to governance and corruption issues with output-based and community-driven approaches in execution.

However, as the project was being designed, two workshops were held by the Ministry of Public Works to discuss sector governance weaknesses which provided input into sector reform proposals and project design. This centred on the pillars of monitored results, accountability, transparency and participation:

- Result elements included - a framework of monitor able output indicators to be tracked, but also baseline and follow-up surveys to provide evidence of socio-economic project impact;

- Accountability measures included - the development of a five year itemised sector budget, a road sector strategy and a road social contract in consultation with stakeholders that will guide expenditures and provide an agreed framework for measuring successful delivery. The project also utilised performance-based contracting based on objective output measures for maintenance components;

- Transparency measures included - an active program of dissemination prior to and during the project, as well as electronic publication of procurements, contract award and implementation progress, complaints procedures and other project and sector-related documents and policies, and

- Participatory processes were used - in the design of the local unpaved roads component of the project, which also involved local cost-sharing. Local universities were also involved in monitoring the physical quality of outputs.
2.3.6 FIDUCIARY ARRANGEMENTS AND MINIMUM ELIGIBILITY STATUS

Lambsdorff *et al.* (2005: 23) in a World Bank led fiduciary assessment, prompted the development of a number of mitigation measures regarding project fiduciary arrangements, such as: new financial management systems; improved audits, and an enhanced supervision process. The assessment involved the monitoring of `red flags' such as price variance in bids and procurement delays which were laid out in an annex to project documents (World Bank, 2006: 27).

This forum involving contract formulation and procurement process thereby accepts that policies may either inhibit or support the development of the industry. The minimum qualification requirement for an MP in the Malawian Parliament is O level or an English language proficiency test; these lowly qualified MPs in most cases are then supposed to pass policies by act of parliament on highly technical subject matters (Bloom, 2004: 25).

2.3.7 DERIVATION OF POLICY FORMULATION

Green (2004: 47) defines policy formulation as the development of effective and acceptable courses of action for addressing what has been placed on the policy agenda.

It should be noted that there are two parts to this definition of policy formulation:

- Effective formulation means that the policy proposed is regarded as a valid, efficient, and implementable solution to the issue at hand. If the policy is seen as ineffective or unworkable in practice, there is no legitimate reason to propose it. Policy analysts try to identify effective alternatives. This is the analytical phase of policy formulation, and
• Acceptable formulation means that the proposed course of action is likely to be authorised by the legitimate decision makers, usually through majority-building in a bargaining process. That is, the policy must be politically feasible. If the policy is likely to be rejected by the decision making body, it may be impractical to suggest it. This is the political phase of policy formulation.

There are, then, two aspects to policy formulation; the analytical and the political. First, effective policy alternatives, presumably based on sound analysis, must be conceived and clearly articulated. Second, a political choice among these alternatives must be made. The policy must be authorised through a political process, such as legislation or regulation (Green, 2004: 76). The description expressed above can be formulated into the formula:

analysis + authorisation = formulation

The analysis process usually involves the intellectuals and professionals with vast experience in the field, discussing and integrating plans, procedures and course of action to be implemented in the industry to provide for efficient and acceptable industrial rules.

The authorisation phase usually involves the majority rule bargaining process for a proposed analysed situation to be authorised and implemented; a process normally carried out in parliament, and when passed, is termed 'passed by an act of Parliament'.

The authorisation phase is the phase which has a major impact on the formulation process in that that is where political influence plays a role. Whatever policy is authorised requires more time before it has its anticipated and desired effect. The policy must go from the legislative process into the bureaucracy of government. The policy must be implemented. Irrationality and political compromise may be tolerable in the formulation stage, but will become evident
as words on paper are turned into agency operations and budgets are mounted and spent. The results of the authorised policy will be known much later, generally years later.

2.3.8 OBA DELIVERABLES

Output-Based Aid (OBA) is a strategy for using explicit performance-based subsidies to support the delivery of basic services. OBA involves delegating service delivery to a contractor, under contracts that tie disbursements to the services or outputs actually delivered.

OBA interventions ensure explicit recognition of why subsidies are being provided, who is receiving the subsidy and who is providing it, and what is being subsidised; both the activity and the financial sums involved (Kenny and Mumssen, 2007: 73). Two of these features are attractive from the point of view of reducing corruption:

- The outputs defined are `technology neutral' such as delivery of electricity services of a given quality to a given community, rather than technology specified. As such, the OBA process is less susceptible to corrupt agents designing project specifications in such a way as to favour a particular bidder. The process is also likely to limit cases where unnecessary or unsustainable projects are undertaken because they provide greater opportunities for corruption, and

- The outputs of OBA projects are easily monitored. Unlike the efficient operation of a power plant, for example, the presence or absence of a working electricity connection is directly experienced by householders and easily monitored by civil society, donors or other interested parties. As a result, even if corruption does occur in OBA projects, the risk that it significantly reduces the development impact of the financing is reduced.
In the case of a water project, for instance, the winning bidder, even if selected as part of a corrupt deal, nonetheless has to deliver quality infrastructure at a given cost that carries a considerable consumer surplus.

2.3.9 EQUAL PLATFORM FOR CONTRACT AWARD

It is important to formulate policies so that they do not put pressure on firms to contravene laws and regulations in order to increase the competitiveness of their bid. For example, bid documents and contracts can specify costs and obligations related to regulatory compliance in areas such as health and safety as well as building codes and standards. By inserting compliance obligations in bid documents and contracts, regulatory compliance moves from a burden on a competitive bid to a service to be paid for and monitored during implementation.

Campos (2006: 253) examines some of the limitations of infrastructure-related procurement procedures. The study’s limitations were as follows:

- The first part was a presentation of the results of a business-survey on corruption and procurement-related issues;

- The survey was conducted among Norwegian export firms in 2004. The survey shed light on the perspectives of firms, including the perspectives of firms that have lost contracts because of procurement related issues, and

- The survey found that large firms have more opportunities than small firms to influence the outcome of tender procedures and also to bypass parts of the tender procedures.
Related to this, the OED (2006: 38, citing the World Bank report, 2006: 67) confirms that the Asian Development Bank and the International Finance Corporation all incorporate core labour standards in the design and formulation of their investments. If a country's regulatory standards are considered inadequate for a particular construction project, specific standards can be elaborated for contracts.

However, ensuring a maximum of competition in bidding should reduce the scope for collusion and reduce prices. This involves not only ensuring competition within the process, but also rules banning direct negotiation with firms on the basis of unsolicited proposals and strict controls on renegotiation. Competitive bidding alone is clearly inadequate to ensure better outcomes (Knack and Azfar, 2003: 58). To support the bid design process, whatever the level of competition, there is a significant role for benchmarking prices to provide guidelines for output-based pricing and also to provide a 'red flag' for overbidding.

The OED (2006: 278) cited by Soreide (2006:167) confirm the following examples of scandals in infrastructure procurement, which include:

- The Lesotho Highlands Water Project, where the project’s Chief Executive was found guilty relative to receiving bribes from multi-nationals to secure contracts, and

- The telecom case in Haiti, where the President allegedly got kickbacks from US telecom companies to provide them with benefits in infrastructure contracts.

Illegal business practices are often difficult to prove though they become apparent in the form of inefficient results, not necessarily in the identification of offenders and court cases (Svensson, 2005: 21). However, Transparency
International (2005: 13) lists the following relevant examples, as difficult to prove cases:

- The Yacyretá project, one of the largest hydropower projects in Latin America, from which the power is now being subsidised by the government because of huge cost over-runs under the construction process, and

- The Bataan nuclear reactor in the Philippines, built at a cost of more than $2 billion, and which so far has failed to produce a single unit of electricity.

Large-scale corruption took place in several of the above mentioned projects although tender procedures had been introduced to ensure a fair assignment of the contracts. Misappropriation of public resources occurred in spite of an uttered political will to improve welfare for a local population.

The failures of reaching a welfare optimising outcome through infrastructure contracts are not solely a question of procurement procedures. The problem requires a broader approach, which also addresses the more sensitive issues of political corruption, involving: political pressure; predetermination of contracts; motivation behind re-negotiations; rent-seeking; *quid pro quos*, and signature bonuses (Standsbury, 2005: 96).

Procurement-related approaches might include contractual obligations and sanctions that prohibit and punish specific unethical practices and demand internal audits, matched by the right to carry out compliance audits and the creation of a project corruption ‘hotline’. In this regard, there may be a role for rules based on Transparency International's integrity pact model (Denker, 2008: 72).
2.3.10 MANIPULATION OF INFRASTRUCTURE TENDERS

Large firms in construction, telecommunication and power transmission are usually oligopolists. They are able to obtain profits; they know each other to an extent, and they are often in the same competition for contracts. In addition, the firms operate some form of public-private partnership, where concession terms on building and project operation are relevant to long term revenues and income. These features are vital to understand the motivation regarding corruption and manipulation of tenders relative to infrastructure industries (Soreide, 2007: 57).

However, opportunities to influence a tender through corruption can be grouped into the following two categories:

- Hidden violations of procurement rules – No flaws in the procurement regulations are evident, and

- Misuse of legitimate deviations from procurement procedures – rules of exception and exemption are exploited.

However, another two categories which are particularly relevant in tender manipulation of infrastructure projects as contended in the business survey (TI, 2002: 26) are:

- Diplomatic and political pressure, and

- Lack of whistle-blower reactions against corruption.

Theoretically, the opportunities presented by the aforementioned four categories are present in all industries. However, several surveys indicate that infrastructure projects are particularly prone to tender manipulation. Transparency Internationals’ Bribe Payers Index is the result of a survey conducted in 14
emerging market economies (TI, 2002: 79). During the survey, 835 business people were asked about the propensity of companies from 21 leading exporting countries to offer bribes. The sector most prone to corruption was ‘construction / public works’. Transparency International’s Corruption Barometer (TI, 2005: 81) and Price Waterhouse Coopers’ Global Economic Crime Survey (PWC, 2005: 212) support these results, and find corruption to be relatively more common in infrastructure industries.

There is also empirical evidence for a connection between perceived levels of corruption and the composition of public expenditure. Conversely, there appears to be relatively more expenditure on infrastructure in countries with higher perceived levels of corruption (Tanzi and Davoodi, 1997: 93).

2.3.11 EXPLOITATION OF LEGITIMATE EXEMPTIONS FROM ORDINARY TENDER PROCEDURES

Exploitation of various rules of exception and exemption in the tender procedures is a common form of tender manipulation. Most infrastructure projects tend to be unique in some way, and there is always a reason to deviate from common rules. If not technical, the justification can refer to the cost of delaying the project. There are several forms of such deviations, most importantly:

a) Discretionary power

The higher the degree of discretionary authority the more opportunities there are for corruption. Those with discretionary authority may recommend the qualities offered by a specific firm, the briber. A challenge for governments is to set the right balance; less discretion implies a need for more detailed regulation. A simplification of rules, however, implies more discretion (Thompson, 2000: 52).
b) Justifications for bilateral negotiations

Most tender procedures are open for bilateral negotiations under specific circumstances. These rules of exception can be misused to obtain preferential treatment and cover corruption. For instance, the SHC (2000: 177) supports the fact of prioritising project completion relative to time spent on tender procedures. Another argument could be that the satisfaction regarding a previous supplier is strong, and this firm is then single out for exclusive negotiations.

c) Unsolicited proposals

Many infrastructure projects in developing countries have been initiated as unsolicited proposals by firms to the government (Hodges, 2003: 47). The proposal may include many details of the project concept, such as construction plans, maintenance, and financing plans. The company submitting the proposal will often claim exclusive negotiations, so that the tender rules are set aside all together. This claim is perhaps based on the fact that the firm has developed the total idea, its need to protect intellectual property rights, or cost efficiency. The procurement laws of many countries authorise bilateral negotiations under such conditions.

2.3.12 DISPARITY BETWEEN DIPLOMATIC AND POLITICAL PRESSURE

The term ‘political pressure’ can be used in different meanings. However, when it comes to tender manipulation, it is paramount to separate between political and diplomatic pressure.

Diplomatic pressure on procurement refers to the influence from the government of a foreign tender participant, aimed to persuade the host government to award the contract to this firm even if the option is not the best price / quality combination. Diplomatic pressure can take many forms: such as being part of arms deals; voting in international organisations, or tied aid.
Political pressure, as a different form of influence, refers to domestic political processes, for instance in the form of alternative welfare considerations, employment issues, and district politics. These considerations are part of a democratic system, but are exploited to cover tender manipulation.

Diplomatic and political pressure deviate the ultimate goal of competitive bidding, which is a preferred solution in a given project. Logically, as the pressure would not have been required if the procedure in any case would lead to the outcome desired by the pressure group. Diplomatic and political pressure will be referred to as mis-procurement, since the results of this influenced procurement method are not as efficient (Soreide, 2005: 180).

2.3.13 POLITICAL INFLUENCE ON INFRASTRUCTURE TENDERS

Political pressure, as a form of mis-procurement, is particularly relevant in infrastructure contracting. The size of the projects and the practical value of completion, will often spur significant engagement. Political arguments related to infrastructure projects can gain substantial populace support, although the consequences are tender manipulation and mis-procurement. However, there are political considerations available to defend the choice of a specific tender, such as: the importance of international competition on prices; the importance of protecting local industry, and environmental considerations (HSC, 2000: 64).

Hence, independent of the motivation behind tender manipulation; the outcome may appear as part of a political and democratic game. This outcome could be secretly triggered by: local firms through bribery practices; politicians who seek re-election, or by foreign tenders and their governments, the outcome can easily be masked as a political decision. As long as the mis-procurement is presented in a disguise of a political argument; it will be accepted by supporters as well as opponents due to the belief that the outcome underwent a political and
democratic process. However, the mechanism is a serious threat to the function of procurement procedures in infrastructure tendering.

2.3.14 INDUSTRIAL ORGANISATION, MARKET POWER, AND FIRMS’ WILLINGNESS TO PAY

Another relevant mechanism regarding oligopolistic markets for large firms is the connection between firms’ willingness to pay and their possibilities to gain market power (Bjorvatn and Soreide, 2005: 176).

The revenues obtained by domestic firms through privatisation or concession, will strengthen the resulting market power of the selected firm. The firm’s willingness to pay ‘under the table’ will similarly increase with the possibilities to gain large profits. Corrupt politicians can extract bribes during the contracting procedure, and obtain benefits to keep the firm with its exclusive position (Shleifer and Vishny, 1998: 75).

2.3.15 NO WHISTLE-BLOWERS

The last category of factors that make tender manipulation in infrastructure particularly easy relates to the culture of secrecy in these industries. The high level of technology and complexity justifies concerns about commercial confidentiality in infrastructure industries. Stansbury (2005: 38) concludes, however, that there is ‘no culture of transparency’ in the construction industry. Inspection does not occur according to the regulations, and information that is supposed to be published is kept confidential.

Moreover, there is no culture of speaking out about questionable practices. In addition, a PWC report on the construction industry finds construction companies to ‘approach the problem of fraud in ways starkly different from companies in
other, more highly regulated sectors' (PWC, 2004:1). The report finds that there is a clear tendency to overlook the problem rather than implementing monitoring systems.

This speculation is supported theoretically by Lambert and Sonin (2003: 4) who describe the specific risk of collusion in procurement tenders. It is also supported empirically by a strong correlation between the function of antitrust institutions and reported problems related to corruption.

2.4 ECONOMICAL HARDSHIPS

2.4.1 ECONOMIC BACKGROUND

Malawi is listed as the eighth poorest country in the world with a Gross Domestic Product (GDP) increase of 5.6% in 2007 (Le Roux, 2006: 6). This statistic has an effect on the characteristics and constructability of infrastructure to be constructed and the priorities of the infrastructure in relation to alternative structures which may be deemed necessary to construct. De la Croix and Delavallade (2006: 29) note that countries with a high corruption rate invest more in physical assets to the cost of human capita.

Construction is a $1.7 trillion industry worldwide, amounting to between 5 and 7% of GDP in most countries. It accounts for a significant part of global gross capital formation, a little under one-third (Le roux, 2006: 3). The sector's role in economic development is undeniable; housing, roads, utility networks, schools and clinics are all built assets.

2.4.2 GOVERNMENT AND CONSTRUCTION

The Malawian construction sector is closely intertwined with government. A considerable portion of public investment goes to construction. The Malawi
Government remains the dominant provider of infrastructure services countrywide, accounting for 78% of investment 1984 - 2003 (Estache, 2006: 6). Government investment in road transport alone can account for between 2 to as high as 3.5% of GDP (Rioja, 2003: 34).

Due to construction's central role in development, corruption in the sector can be especially harmful. In particular, corruption that leads to poor quality construction or which supports an environment of poor project selection and insufficient maintenance can significantly reduce the economic return to investments, and carry high human costs in terms of injury and death.

2.4.3 POOR ECONOMY AND FUNDING

Based upon Murray (2000: 816), Malawi is described as one of the world’s least developed countries, in its landlocked status; 90% of the population still lives in the rural areas and the economy is dependent on agriculture. Malawi is heavily dependent on international aid, although persistent corruption allegations led to the International Monetary Fund (IMF) and other bilateral donors suspending their support.

Such dependency on grant and donor aid has a ripple effect in that the grant aided projects have pre-set conditions in the projects contract. Referring to the term ‘beggars cannot be choosers’ the recipient of the aid, in this case the Malawi government, does not have much of a say in the choice, specification, quality or product of the project. The government’s priority is mainly to develop the built environment, the community’s benefit on the project, and the ability to maintain the built environment.

For instance, community-based construction of schools in Malawi and Mauritania cut costs by one half to two thirds over national competitive bidding approaches
although some considerable part of this saving was due to lower architectural standards (Theunynck, 2006: 5).

2.2.4 JICA FUNDED PROJECTS

In a recent Japanese International Cooperation’s agency (JICA) funded programme, which is still in its implementation stage, involving the construction of the Chipembere Highway into a dual carriageway, is on record that the procurement of raw materials, the design management consultancy and the contractors will all be from Japan.

The monitoring of the finances and feasibility of the project is also supposed to be carried out by the Japanese with the Malawian national’s only providing reference to local construction conditions and procedures. As stated in the JICA project management plan (Anonymous, 2003: 67), grant aid is realised after JICA performs basic design surveys to calculate the approximate costs involved.

In order to make effective use of funds, stringent investigation of the most appropriate design standards and calculation details in line with requests from recipient nations is undertaken. JICA has always tried to ensure that such investigations are as rigorous as possible. An examination office to raise the levels of basic design work in cooperation with outside experts have been set up, and grant aid researchers have been sent to facilitate the exchange of opinions with everyone involved at the implementation stage (Anonymous, 2003: 23).

The flaw in the process of formulating a JICA project is that the recipient country becomes helpless as soon as the project proposal has been submitted for funding; usually the proposal’s budget is kept to a minimum so that it may be favourably considered.
2.3.5 ECONOMICALLY VIABLE CONSTRUCTION PROJECTS

Construction involves large, complex, non-standard activities in which quality can be very hard to assess. Projects can involve a multitude of players, for instance; the client, consultant engineers and architects, financiers, insurers, a main contractor and scores of subcontractors (Figure 2.4). Large construction projects frequently attract international contractors, although much of the work is subcontracted to local firms.

Moreover, the contracts are complex with not only numerous details and clauses regarding specifications, but also identification and allocation of risks. The firms can hardly suggest prices without placing consideration on the relative multitude of players (Figure 2.4). One way of hiding corruption is to announce the tender very late, while only the briber is informed in time to work out the documents. Another way of hiding corruption is to specify the criteria for pre-qualification so that the strongest competitors are prevented from participation in the tender. Similarly, the criteria for awarding the contract can easily be adjusted to fit with the qualifications of one specific firm.
However, the size and complexity of infrastructure projects, such as airports, power stations or highways, make it difficult to control the costs and to define costs overruns. Prices can be inflated with the size of bribes, and the expenses of bribery are not necessarily covered by the firms involved. The direct costs of corruption can easily be passed on to taxpayers, who also are victims of the indirect costs of corruption (Rwelamila, 1994: 27).
The business survey (2002), cited in Transparency International report (2005: 14) revealed a low respect for communication rules, and also that confidential information is considered a value worth bribing for. The complexity of infrastructure contracts and confidential information is viewed to justify negotiations at all stages of the tender procedure, and the opportunities to influence the procedures are obvious.

Confidential information includes tender criteria and competitors’ prices. However, such information about control mechanisms can be misused to cover corruption. Infrastructure work is often concealed during the construction process, for instance, it is difficult to control the true standard of the material or technical solutions (Olken, 2004: 51). A firm that knows the control mechanisms can misuse the situation, and choose low-cost solutions.

2.3.6 DIPLOMATIC PRESSURE

The outcome of tenders on big contracts is sometimes affected by diplomatic pressure to the benefit of one specific firm; specifically when the client is a foreign government. The pressure may take the form of a subsidy, such as: an export credit deal; aid to the buyer linked formally or informally to the purchase; commercial pricing issues; impediments to trade, or tied defence / arms deals (CIOB, 2003: 264).

Soreide (2006: 164) contends that this kind of pressure may reduce the prospect of ending up with the most beneficial outcome to the host country’s’ citizens. The link to corruption becomes clear when the selected firm has paid its own government to put pressure on the client. However, the local welfare implications of such political influence are independent of the type of ties between the bidding foreign firm and its own government, and even without such a payment, it resembles corruption. The buyer is, in effect, bribed by the contractors’
government, while the responsible minister can refer to jobs and exports without revealing the fact that such jobs are subsidised.

However, the Bribe Payers Survey conducted by TI (2002: 31) found significant differences in the propensity of governments to influence international business ventures of domestic firms in the USA, France, and the UK are particularly active. One third of the firms covered by this survey believed competitors had obtained contracts through diplomatic pressure. Several participants in the business survey presented here considered political pressure to the benefit of international competitors a significant disadvantage and called for more political assistance from Norwegian authorities (TI, 2002: 32).

*Quid pro quo* is a different form of political pressure; connected to big contracts, but instigated by the client, in this case the government. It refers to a reciprocal exchange in which the chosen firm provides benefits for local governments and their constituents. For example, a multi-national firm may promise to build a school or infrastructure, or to use local human resources during their operations in the given country.

A business survey conducted by Bjorvatn (2005: 912) confirms that 20% of the firms covered reported that they frequently experienced a request for a quid pro quo, 33% reported seldom, and 35% said that they never experienced such a request. Local content demands are relatively common in tenders by the large firms as compared to small and medium-sized firms. The study also contended that quid pro quo is relatively common in construction, oil and power transmission, than in other sectors.

In summation, the procurement-related characteristics reported in this business survey appear as follows:
Large firms:

- Are able to influence tender specifications;
- Are more likely to suspect tender results to be pre-determined;
- Have a lower trust in procurement procedures' ability to prevent corruption;
- Believe that diplomatic pressure has an influence on the competition, and
- Are more often asked for _quid pro quos._

Firms with long experience from international markets:

- Are more likely to think that they have lost contracts because of corruption;
- Frequently negotiate the contract through the tender procedure;
- Obtained contracts in ways that needs to be kept confidential, and
- Are more likely to consider the business practices of their competitors ‘unethical.’

These results emphasise the challenge of designing procurement procedures for large international tenders, such as infrastructure contracts. The responses also suggest that common procurement procedures make a significantly better protection against corruption when the participating firms are small and medium sized (Soreide, 2006: 149).

Survey evidence suggests the diversity in the type of policies present in the sector: from laws designed to manipulate budgeting decisions; project selection; tender specifications; procurement outcomes or contract negotiations and renegotiations, through bungs designed to cover poor quality construction practices and outcomes due to the theft of materials. The evidence, further suggests that policy formulation may be a significant part of a system of decision-making that leads to poor construction, limited occupational safety and low returns to government infrastructure investment (Olken, 2004: 18).
2.3.7 CONSTRUCTION GOVERNANCE IN 3RD WORLD COUNTRIES

An overall effort to improve governance is an important tool in reducing the impact of corruption. As with other sectors, it is important to separate the ownership and regulatory functions of government, and to ensure that the government as a client bids out work on a level playing field.

Given the competitive nature of the sector, there is little justification for state ownership of construction firms, and removing the government as an owner will also help to simplify the political economy of contract award and, in particular, monitoring for quality. What is known about corruption in the construction sector in Eastern Europe and Central Asia suggests that a private-sector dominated industry may be less prone to corruption. Evidence from BEEPS (2005: 7) surveys suggests that state-owned firms are more likely to bung for government contracts and licenses.

Regarding regulation, a study of labour practices on eleven large construction sites in Tanzania found that one of the most egregious violators of labour standards was the National Housing Corporation (National Construction Council, 2005: 47). Furthermore, the example of Indonesia’s Kacematan road projects suggests that corruption in construction by local government employees may frequently take the additional form of materials theft. This materials theft can be some of the most economically damaging form of corruption in construction.

The privatisation process itself can be prone to considerable corruption. In a number of countries, privatisation of construction firms has often been to the benefit of the stakeholders (Copplestone, 2006: 75).
2.3.8 LAWS AND REGULATIONS IN DEVELOPING COUNTRIES

Regulation will remain a vital role for government in the construction sector, because monitoring technical standards in construction is both complex and central to ensuring quality. Attempts to deal with the information asymmetries inherent in construction have a long history. The Code of Hammurabi in 1800BC imposed the death penalty on builders whose houses collapsed and killed the owner (World Bank, 2006: 27). Four thousand years later, there remains a need for greater regulatory oversight of construction in many parts of the Middle East. Earthquake-prone Iran, for example, still lacks any building code for masonry structures.

Concurrently, it is important that regulation is limited to cases where it is necessary, and that it is fairly but rigorously enforced. The record of developing countries in this regard is decidedly mixed.

Kosmont (2004: 23) in Doing Business surveys states that the number of procedures required in order to get permission to build a warehouse varies considerably between countries. The average number of procedures was 16 in rich countries, and 20 in low income countries, with the time taken to comply 157 days in rich countries and 229 in poor countries. There is no clarity on whether this extra regulatory burden is improving outcomes, for instance, there is no correlation between the number of procedures and the number of worker accidents across countries.

Alongside reducing the number of regulators, easing the process of regulatory compliance may have a role in reducing corruption, through approaches such as consolidated clearances, time limits to license issuance and risk-based inspections that occur at the completion of work but prior to the next stage, as opposed to time-based inspections (Datamonitor, 2006: 39).
Non-enforcement of laws and policies is detrimental to development. Tanzania has strong laws regarding labour practices, yet the survey of large construction sites cited earlier suggested that despite the fact all but three of the projects were publicly-funded and all had been visited by regulatory officials, only three of the eleven sites had adequate labour standards (National Construction Council, 2005: 41). Working with industry, consumer, labour groups, craft codes and health and safety regulations that are comparatively easily and objectively verifiable, simple and enforceable will improve the likelihood of compliance.

In this regard, the Code of Hammurabi points to an important principle in the fight against corruption. It is easier to monitor and deter the outcomes of corruption, for instance a collapsed building, than the act of corruption itself. This suggests the importance of mechanisms which hold firms and senior management accountable for poor construction and its results.

For instance, the UK already allows for conviction of senior company officials in cases where gross negligence leads to death. Based upon the Crown Prosecution Services (CPS), cases include work-related fatal accidents arising out of unsafe systems of work, and fatal accidents resulting from the provision of unsafe goods or services events that are common in the construction industry (Anonymous, 2008: 34).

A law to extend the culpability of senior company officers in cases where the way a company’s "activities are managed or organised" is causally related to death and "amounts to a gross breach of duty of care" is working its way through the UK Parliament (HL Bill 40, 2007: 1)

Looking at the government as a consumer of construction services, any approach to counter the negative effects of corruption again needs to look at outcomes rather than narrowly at procurement processes. A recent survey of Norwegian firms involved in overseas contracting found that only six percent felt
policy formulation rules were an efficient obstacle to corruption (Soreide, 2006: 33).

2.3.9 RENegotiation of infrastructuRe Concessions

The role as builder and often operator of public services provides the firms with exclusive ties to the client, in this case, government. The contracts may have been awarded through competitive bidding procedures. A common characteristic of these contracts, however, is an opportunity to renegotiate the terms after contract award and project commencement (de Valence, 2003: 558).

In a survey of Latin American concessions, Guash (2005: 164) finds that 46% of contracts awarded through competitive bidding have been renegotiated, compared to only 8% of contracts awarded through bilateral negotiations. Guash explains this striking difference by referring to reasons why bilateral negotiations allow the operator to extract more favourable concession terms.

However, the opportunity to alter the contract post tender obviously reduces the benefits of competitive bidding. It reduces thus the value of welfare considerations behind the contract, while increasing the opportunities for firms to increase profits. If bidders believe, or perhaps know, that re-negotiation will be feasible, they will adjust their proposal accordingly. The formalities in the tender procedure will then appear satisfactory.

This suggests a focus that extends both upstream towards budgeting and project selection as well as downstream towards the final quality of deliverables (Duncan, 2000: 47).
2.3.10 BUDGET AND PROJECT PRIORITISING

If corruption is one factor that skews expenditure away from maintenance of existing infrastructure stocks and new construction with high economic returns, a key element of the anti-corruption agenda is to strengthen governance mechanisms linked with budgeting and project prioritisation.

The IMF's Code of Good Practices regarding fiscal transparency, which promotes practices related to clarity of responsibilities, publication of information, open budget preparation and execution, and assurances of integrity; provides guidance to fiscal transparency. The result of an IMF Report on observance of standards and codes presents an assessment of how well these good practices are implemented in a country (Pearce, 2004: 47)

Levy (2007: 36) calculated that the quality of budget management in 25 heavily indebted poor countries (HIPC) suggests that there is considerable need for progress, with the average country meeting just over five out of thirteen performance benchmarks in the areas of comprehensiveness, credibility, execution and external scrutiny.

2.5 POLITICAL GREED

2.5.1 PRESIDENTIAL GREED

Osisa (2007: 12) debates the prospect of survival of the incumbent President in the forthcoming general elections due to the fall out of favour between the former President and the leader of the opposition, which results from political greed.

The existence of political greed in sub-Saharan Africa has prevailed since the rise of democracy and multiparty politics for the past two decades; Presidents have been unwilling to retire. This political greed has created turmoil to the extent
of having the constitution changed to allow for extra years to be added to the Presidential term of office from two to three consecutive five year terms in Namibia. In Malawi, Tanzania and Zambia, to list a few countries, parliament has debated the possibility of a Presidential third term of office.

As evidenced by Presidential greed, political greed by public officers is also prevalent. In order for an MP to be elected into power there is a need to convince the electorate that a developed built environment will be attainable in his tenure of office (Ng’ong’ola et al., 2001: 29).

2.5.2 PROJECT SELECTION

Concentration on quality project selection suggests that priority for transparent and participatory selection of projects is backed. Consideration of larger proposals to experience competent: economic, technical, environmental, and social analysis. This analysis will rely on cost and demand forecasts which can be manipulated; usually to increase predicted returns.

As a result, predicted returns should be compared with predicted and actual outcomes of a relevant reference and class of past projects to determine their likely accuracy, and forecasts should be published, publicly debated, and subject to independent review (Flyvbjerg et al., 2005: 125).

An additional tool to reduce the potential for selection of infrastructure projects with low returns is private sector risk-sharing in terms of outcomes. Private sector participation absent a sovereign guarantee will involve lenders and shareholders being satisfied of the financial viability of a project. It is also worth noting that private participation diversifies the risk of poor project choice, reducing the impact on returns to public investment.
2.5.3 COMMUNITY DRIVEN DELIVERABLES

Kenny (2006: 39) determined that community-driven approaches can also provide incentives that should act to reduce the development impact of project allocation. CDD involves giving communities or locally elected bodies control over the decision making, management and use of development funds. As such, CDD approaches have a number of attractive features:

- Projects selected will tend to reflect local priorities rather than those with the maximum potential for generating rents. In Indonesia, for example, a 1997 survey of 48 villages found that less than 3% of village development requests proposed through the government's development planning system received funding. The Kecamatan Development Program (KDP), begun in 1998, encompassed about 40% of the country's villages and emphasized participatory appraisals for project selection with funding provided by a combination of village and local funding and direct central government support. These features help to ensure that local priorities were the key to setting project prioritisation, and

- Project implementation and oversight involves a strong role for beneficiary communities. In the KDP, project budgets, financing and procurement decisions are discussed publicly and displayed on village information boards, each village has an independent committee to oversee contracts and implementation, and journalists and NGOs are invited to act as observers. In addition, there is an anonymous complaints mechanism which channels concerns to project authorities.

KDP projects that met high local demand with close local oversight and involvement produced savings of between 25 to 56% over conventional infrastructure projects and carried economic rates of return ranging from 33 to 83 % (Wong and Guggenheim, 2005: 45).
2.5.4 BEEPS SURVEY ON BRIBERY FOR MARKET DOMINANCE

Survey evidence of local and international firms at the country level suggests once more that construction is an industry particularly prone to corruption related to government contracting and to circumvent regulation. The Business Environment and Enterprise Performance Survey (BEEPS) covers over 4000 firms in 16 transition countries and was conducted for the first time in 1999. In 1999, the median firm in BIMS (2007: 23) reported spending 2% of its revenues on unofficial payments to public officials. At the aggregate level, across the region, the average firm suggested that it spent 28% of this sum to deal with licenses, health and fire inspections and 16% on securing government contracts. Figures were broadly similar for construction, but there were a number of notable differences as shown in Figure 2.5.

(BIMS, 2007: 24)

![Figure 2.5: Construction firms' bribe budgets relative to all firms.](image)

Construction firms represented in BEEPS have significantly larger `bung budgets' than the average firm, and they bung more often to gain dominance over others.
Of the total bung budget a larger percentage goes to gain government contracts. An average of 23% for construction compared to 15% for all firms in the sample (BEEPS, 2004: 27).

This reflects that construction firms rely on governments for a considerable part of their business; but also that they tend to make larger payments, as a percentage of contract values, when they bung. Construction firms in Eastern Europe believe that a typical payoff made for securing a government contract in their industry is around 7% of the contract value (Olken, 2004: 56).

Construction firms in BEEPS also report themselves more likely to make payments for licenses and permits, although this does not take up an abnormally large share of their bung budgets. Similarly, Figure 2.6, based on data from global enterprise surveys, suggests that across a range of countries, construction permitting appears to be a regulatory area particularly prone to corruption. In most countries the process is notably more corrupt than the process to obtain an operating license or the process of labour inspections, for example. (BEEPS, 2004: 6)

![Figure 2.6: Construction-related corruption across countries.](image)
Construction firms bung in order to obtain contracts, to increase profit margins on those contracts and to reduce the cost of construction. Given that, corruption is likely to be reduced if there are:

- Fewer opportunities - less discretion for government officials to decide contract winners and contract terms, or interpret regulatory compliance, and
- Less need - fewer contracts, fewer competitors, less fear of competitor bribery, less regulation.

In addition, net benefits of corruption will change if costs are higher, bungs are larger or have to be paid to more people or the risk of being caught increases due to audits or punishment regimes.

Furthermore, given the impact of weak governance on sector performance begins at the level of budgeting and planning, and involves activities regulated and standardised at the central level, the macro-level, cross-sectored environment will have a significant role in determining the level of corruption in construction.

Responses such as fiscal reform for transparency and development focus in budgets, civil service reforms including competitive selection and merit-based pay, reform of general procurement rules and auditing standards, legal reform and increased freedom of information should all have an impact on corruption in the construction sector.

Indeed, much of the sectored agenda for improved governance builds upon the same principles and approaches as these macro interventions, but tailored to the particular features of construction.
2.6 SUMMARY

In summary, this Chapter provides the political background of Malawi; the political transition, and governance regarding funds and expenditure. Furthermore, regarding the findings relative to corruption, the literature review indicates that:

- Bribery and corruption practised by political stakeholders play a major role in influencing contract award;
- The perceptive index of corrupt politicians in Malawi is relative high with relation to indexes of other countries around the world;
- Different forms of corruption carry significantly different ‘multiplier effects’ in terms of their development impacts;
- Anti-corruption measures can carry higher costs than the economic benefit of the resulting reduced corruption, and
- Governance of MASAF and structure maintenance is entrusted to the community, whose understanding regarding maintenance specifications and technical expertise is relatively low.

Furthermore, the literature review evaluates policy formulation; a brief background of policy formulation was discussed. Literature review findings noted that:

- E-procurement and its governance was implemented prior to adapting a legal framework, building resource capacity to utilise the system, and establishment of the consumer market;
- Administration of contracts indicated a lack of clarity in contract implementation and a lack of physical audits;
- Execution of output based and community driven projects are considerably influenced by politicians relative to other projects;
- Disparity between diplomatic and political pressure yields different effects in donour funded infrastructure projects, and
- There is immense political influence on infrastructure projects.
Regarding economical hardships, literature review findings indicate that:

- Government and construction are closely intertwined, due to the fact that government is the dominant provider of infrastructure projects, accounting for 78% of investment between 1984 – 2003 (Estache, 2006: 6);
- The poor economy and funding of projects provides politicians with a medium to substantiate low cost and relatively low standard building methodologies, and
- Budgets are relatively flexible, thereby creating opportunities for corrupt politicians to make dubious decisions, and project prioritising is biased to the degree of influence of the respective politician.

Finally, the findings regarding political greed indicate that:

- Presidential greed is eminent in Africa since the rise of democracy and multiparty politics;
- Project selection is influenced by political stakeholders, and
- Community driven deliverables blind the community with a sense of belonging and ownership, which is a mare ploy to disguise political stakeholders’ greed.
CHAPTER 3

3.0 THE RESEARCH DESIGN AND METHODOLOGY

3.1 INTRODUCTION

An evaluation of the impact of political influence on the construction industry with respect to the Malawi setting required an exploratory design sequence. To achieve this sequence both quantitative and qualitative approaches were used in the formulation of the research design.

This chapter examines: the procedures and instrumentation, and data analysis methods used in the survey. The chapter also provides the reader with detailed explanations on methods and procedures to either replicate or further the study.

3.2 THE RESEARCH DESIGN

Yin (2003: 23), defines research design as a logical sequence that links empirical data collection to initial research questions and the eventual conclusion. Yin (2003: 25) states that a research design should deal with at least four problems: what questions to study; what data are relevant; what data to collect, and how to analyse the results.

3.2.1 THE QUALITATIVE RESEARCH

The qualitative research approach was designed to investigate and describe perceptions, beliefs, norms and phenomenon which lead to political influences on the industry.

The qualitative information was obtained using the following methods:
A) Interviews

Information and data was gathered by:
- A standardised scheduled interview, which was uniform and repetitive thereby asking the same questions to all;
- A standardised interview without a schedule, which involved asking different questions to different people, and
- An unstructured interview, which had no set order of wording thereby enquiring different views of different people i.e. in government, private sector, or community based.

B) Participant observation

This information was obtained by the researcher’s judgment on observations and happenings in consideration of the course of action of events.

3.2.2 THE QUANTITATIVE RESEARCH

This approach was designed to obtain numerical data which could be figuratively expressed. The main tool designed to resource such data was the questionnaire. The development of the questionnaire comprised of the initial design set up, the pre-testing and finally the administering of the structured questionnaire.

The set up of the questionnaire was designed to provide data on:
- Section A: Corruption
- Section B: Policy formulation
- Section C: Economic hardships
- Section D: Political greed

Yin (2003: 25) states that there are six sources of evidence for data collection in the case study protocol:
• Archival records;
• Documentation;
• Interviews;
• Direct observation;
• Participant observation, and
• Physical artefacts.

The researcher for this study used the first four of the above sources as the other three sources were not relevant to the study. The primary data was collected over a limited time period between September 2009 and October 2009.

3.2.3 THE POST SURVEY RESEARCH

The post survey qualitative research deepened the understanding of themes generated during the initial qualitative information. This survey also enhanced and clarified information pertaining to the problem and its setting, the related sub-problems, and the summary of the research.

3.2.4 THE CRITERIA GOVERNING THE ADMISSIBILITY OF THE DATA

A) The Qualifications

The qualifications of the respondent were substantial to the type of information to be dissipated. Therefore respondents were technically able to provide admissible data to profession related questions.

B) The Credibility of the Authors

In the case of journals, articles, reports, the internet and related sources of literature, the information gathered was governed by the credibility of the author
or the underwritten board. Unauthenticated Boards or authors were not entertained in this study.

C) Confidentiality

The data was treated with confidentiality and anonymity was assured. This scenario of confidentiality and anonymity was expressed to the respondents beforehand to facilitate their confidence and acceptability.

D) The function

The final criterion to be considered in the admissibility of the data was the function of the respondent in the organisation, which reciprocated the type of information obtained and the quality of the data made available.

3.3 THE RESEARCH METHODOLOGY

In this study qualitative and quantitative data was obtained and evaluated. Leedy and Ormrod (2001: 49) entail three phases of data collection:

- Qualitative phase;
- Quantitative phase, and
- Post survey qualitative phase.

These phases lead to an exploratory design sequence which explored the political factors influencing the construction industry in Malawi. Researchers conduct exploratory research for three interrelated purposes: diagnosing a situation; screening alternatives, and to discover new ideas (Zikmund, 1997: 26).

The qualitative study aimed at investigating and describing perceptions, beliefs and norms leading to the political interference on construction projects in Malawi.
The post survey qualitative phase aimed at deepening the understanding of the themes generated during the first qualitative phase. It also deepened the understanding of the qualitative findings.

The main survey took place in Lilongwe District, which habitats the Lilongwe CBD which is the Capital city of Malawi; due to the fact that this is where the principal respondents are located namely the NCIC and the Ministry of Public Works. The data collection period took 8 weeks.

3.3.1 STUDY SCOPE

The Construction projects in Malawi are classified into three main categories namely:

- Private sector;
- Public sector, and
- Grant aided projects.

Devereux et al. (2004: 55) in the Institute of Development studies (IDS) Research Report 56 acknowledge the three main categories and adds a fourth in parastatal projects (Figure 3.1).
Private sector projects are those which are sponsored or funded entirely by individuals or private corporate bodies (Devereux et al., 2004: 4). The capital for funding such projects may be financed from lending institutions, corporate savings or profits attained.
3.3.1.2 PUBLIC SECTOR PROJECTS

Public sector projects are those which are entirely sponsored from government coffers including municipal and local government projects (Devereaux et al., 2004: 6). The capital may be from levies such as fuel levy or carbon tax levy which is allocated to the National Roads Authority (NRA) or it may be from grants, donations or donor funding as outsourced by local city assemblies.

3.3.1.3 GRANT AIDED PROJECTS

Grant aided projects are projects which are funded by financial aid organisations such as grants from the European Union, German kfw, Dutch DANIDA, The World Bank etc. The grant aided projects are mainly community based development projects.

3.3.1.4 PARASTATAL PROJECTS

These are projects which constitute both public and private funds and are run by the board of the parastatal organisation. The board members for these parastatals are appointed yearly by the President of the country and approved by parliament.

The scope of this study only dealt with:

- Public sector projects;
- Grant aided Projects, and
- Parastatal projects.

The reason being, as analysed by Baneli (2004: 39) in the procurement statutes, Malawi CPAR volume 2; states that public, private and parastatal projects constitute 70% of the construction projects in Malawi.
The three sectors investigated were the most affected by political influence as they all had government stakeholders as principal decision makers.

### 3.3.2 CASE STUDIES

The research was based on case studies of construction projects under the three sectors discussed below.

#### 3.3.2.1 PUBLIC SECTOR PROJECTS

The two main fields in public sector projects are:

- Roads and highways, and
- Community based development projects.

The case study for roads and highways was the National Road Authority (NRA). The projects studied and investigated under the NRA were the:

- Malabada road project, and
- Nansadi Bridge.

The case study for community based development was the Malawi Social Action Fund (MASAF). The projects investigated under the MASAF were:

- Chirimba Health centre, and
- Mbwanda maize mill.

#### 3.3.2.2 THE GRANT AIDED PROJECTS

Two major funding organisations studied in this research were the European Union (EU) and the Japanese International Cooperation Agency (JICA). The case studied under the European Union was the construction of the Golomoti-Monkeybay Road-M1, and for the JICA project was the Kamuzu Highway.
3.3.2.3 PARASTATAL PROJECTS

These projects entail public private partnerships and the case study survey was the Malawi College of Medicine recreational complex.

3.4 SAMPLING

The focus of the study was on in-depth information, analysis of projects impacted most by political interference and the most economical in administering the research. The sampling technique used to adequately furnish such information was the non-probability sampling approach.

Based upon Yin (2003: 102), as agreed in Nyagwachi (2007: 89), non probability sampling provides required in-depth information without making inferences and generalisations. In this research projects were selected, because of the magnitude, influence, availability of information on e-files and other characteristics considered necessary for this study.

On each project there was a target population which was interviewed. Gay and Airasian (2003: 47), cited in Leedy and Amrod (2001: 56), state the following guidelines in the identification of a sufficient sample size:

- For a small populace < 100 people, no need for sampling;
- If the populace is around 500, 50% of the population should be sampled;
- If the populace is around 1 500, 20% of the population should be sampled, and
- Beyond a certain point (approximately 5 000 and more), a sample size of 400 people is adequate.

The populaces selected in partaking in a research of this nature were acceptable, based upon Gay and Airasian (2003: 76). Simple random sampling and selected
sampling was used in the qualitative phase of the survey. The other sampling techniques used in the study included:

- Cluster sampling;
- Office listing, and
- Simple random sampling of eligible participants.

3.5 PILOT SURVEY

The pilot survey was carried out between the months of September 2009 and October 2009. This survey was conducted on a reduced scope to spearhead and examine the main study.

This prototype study was conducted in Malawi, which is located in the SADC region of Africa and is surrounded by Mozambique, Zambia towards the Northwest and Tanzania towards the North. Blantyre City, located in the southern region of Malawi was the town in which this pilot survey was conducted.
Figure 3.2: Neighbouring Countries and the regions dividing Malawi.
3.5.1 PUBLIC SECTOR PROJECTS

The Mbwanda maize mill project was selected as a prototype case study for a public sector project. The main reason for choosing this project was convenience as this project lies in the outskirts of Blantyre CBD and was therefore easier to access and conduct research.

3.5.2 Grant aided Projects

The Kamuzu Highway was the project activity chosen for the pilot survey as it joins Blantyre CBD and Limbe CBD. This road is 10.8 km long and dual carriageway as shown in figure 3.3 below.

Figure 3.3: The dual carriageway of the Kamuzu Highway.
The scope of this project is to construct a dual carriageway in all portions where there is single carriage lane. This road was still under construction as the study took place.

3.5.3 FINDINGS

The outcomes of the pilot survey were threefold:

- The responsiveness to the interviews:

  The methods of data collection in the pilot survey were the oral interview and the questionnaire. The response was overwhelming as participants were motivated by the fact that the study is a positive step towards addressing eminent problems faced in these projects. The interest shown by the participants and the interviewees and the quality of the data collected was up to standard as set by the researcher.

  The demerits were that 30% of participants in the oral interviews became emotional in the response thereby creating opinionated data.

- The admissibility of the data collected:

  The personnel / interviewees with the relevant education and experience as set by the researcher were available. Archived data and records were available upon request. Confidentiality was paramount and ethical considerations were practiced when conducting the data collection.

- The analysis of the data and its interpretations:

  The data collected was in twofold:
a) Qualitative Data
The qualitative data was obtained from participant observations, structured interviews, and documented literature.

This data contained information on political greed, flaws in policy making and the lack or availability of resources during the project. The qualitative data was partly opinionated and idealistic; this information was grouped and sorted using Primavera 6 data management software package.

The results were interpreted in comparison to the sub-problems investigated and its severity was interpreted into graphs, pie charts and histograms to show the interrelationships, the cause and effect, and the impact the political factors studied have in general on the projects.

b) Quantitative Data

This data was obtained mainly from the questionnaire response and archived records. The data was computed into an excel spreadsheet, an analysis was undertaken for each project in relation to evaluating the distribution of projects in the constituencies, corruption and its statistical impact, and the rationale amount of politicians in the building committee undertaking the project.

The data was then tabulated and relationship graphs were simulated to clarify and emphasise the impact of the sub-problems investigated.

3.5.4 RECOMMENDATIONS

From the pilot survey, it was noticed that there is significant political interference. The four sub-problems raised in this study were further substantiated by the findings in this pilot survey.
There are major flaws in the policy formulations which need to be investigated. Corruption is rampant, therefore its cause and effect needs to be studied. The lack of resources and its relationship to the poor economy was substantially stipulated during the pilot survey. Information on political greed has been documented and its impact has to be evaluated.

The recommendation is that this research is viable and that the sub-problems can be evaluated and the findings interpreted accordingly.

SUMMARY

This chapter discussed the research design; the primary data and secondary data, the approach taken to achieve the required information. The criterion governing the admissibility of the data was evaluated. The study scope, case studies and the pilot survey were discussed and recommendations were given.
CHAPTER 4

4.0 RESULTS AND FINDINGS

4.1 RESPONSE RATE

140 Questionnaires were circulated to civil professional individuals at the NCIC, NRA, MASAF, City councils and to political stakeholders, public works officers and district development committee members. Each questionnaire was circulated with a request for their participation in the survey.

Table 4.1 below indicates that 140 questionnaires were circulated and that 92 were completed and returned. The survey had a response rate of 65.7%, which is above average, and acceptable for a study, based upon Walonick (2004: 109).

Table 4.1: Response rate

<table>
<thead>
<tr>
<th>No. of questionnaires circulated</th>
<th>No. of questionnaires completed</th>
<th>Response percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>140</td>
<td>92</td>
<td>65.7</td>
</tr>
</tbody>
</table>

4.1.1 RESPONSE AND NON-RESPONSE BIAS

A demographic study relative to respondents investigated by Walonick (2004: 113) reports that demographic characteristics of non-respondents and respondents such as: age; education, and employment status are similar. Most researchers view non-response bias as a continuum, raging from fast responders to slow responders; with non-responders defining the end of the continuum.
The demographic study also determined that late responders answer differently to early responders: the differences were due to the levels of interest in the subject matter. Questions in the latter half of the questionnaire were more likely to be omitted and contained fewer extreme responses.

4.1.2 INCENTIVES AND CUT OFF DATES

A variety of non-monetary incentives were provided to motivate quick and accurate responses, these incentives included gift tokens such as: mini coffee packs; key rings; ball-point pens, and hair pins. Most of the questionnaires were hand-delivered and only those individuals in remote areas were mailed; inclusive with a self addressed stamped reply envelop.

One notable constraint on cut off dates was the impact of dissuading procrastinators from completing the questionnaire after the deadline date. The advantage was that it provided a planning tool in setting a continuum between the mailing times and the response returns. The cut off date did not impact the response rates.

4.1.3 SPONSORSHIP

The University sponsorship assisted in the protocol of compiling, circulating and administering the questionnaire. The financing also assisted with respect to the incentives to facilitate the response rate, time and accuracy.
4.2 RESULTS OF THE SURVEY

4.2.1 BIOGRAPHICAL DATA

Table 4.2: Sample stratum

<table>
<thead>
<tr>
<th>Category</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
</tr>
<tr>
<td>City council officers</td>
<td>16</td>
</tr>
<tr>
<td>DDC members</td>
<td>14</td>
</tr>
<tr>
<td>MASAF officers</td>
<td>23</td>
</tr>
<tr>
<td>NCIC officers</td>
<td>16</td>
</tr>
<tr>
<td>NRA officers</td>
<td>18</td>
</tr>
<tr>
<td>Politicians</td>
<td>17</td>
</tr>
<tr>
<td>Public works officers</td>
<td>15</td>
</tr>
<tr>
<td>Traditional leaders</td>
<td>21</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>140</td>
</tr>
</tbody>
</table>

A number of questions in the questionnaire entailed responses to a five-point Likert scale. The differences between the lower and upper ends of the five point continuum thereon are as indicated below:
1 – Very rarely;
2 – Rarely;
3 – Neutral;
4 – Often, and
5 – Very often.

However, the extent of ranges was determined by dividing the number of continuums, which is 4.00, by the 5 relative points. Therefore the ranges between the relative points equates to 0.80.
The mean score (MS) was calculated for all data and the value was compared to suit the relative range it fell under. The ranges relative to the MS are defined as follows:

- $> 4.20 \leq 5.00$ (often to very often / very often);
- $> 3.40 \leq 4.20$ (neutral to often / often);
- $> 2.60 \leq 3.40$ (rarely to neutral / neutral);
- $> 1.80 \leq 2.60$ (very rarely to rarely / rarely), and
- $> 1.00 \leq 1.80$ (very rarely to rarely).

### 4.2.2 RESULTS OF CORRUPTION AND ITS EFFECTS

#### 4.2.2.1 Likelihood of corrupt activities relative to contractor registration

The responses to Question 1, which investigates the likelihood of corrupt activities relative to the registration of contractors, are summarised in Table 4.3

**Table 4.3: Likelihood of bribery on individuals**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure</td>
<td>Very rarely</td>
<td>Very often</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Bribing the NCIC officers</td>
<td>4.3</td>
<td>12.0</td>
<td>16.3</td>
</tr>
<tr>
<td>Bribing the inspectors</td>
<td>12.0</td>
<td>10.9</td>
<td>20.6</td>
</tr>
<tr>
<td>Bribing the NCIC management</td>
<td>7.6</td>
<td>27.2</td>
<td>37.0</td>
</tr>
<tr>
<td>Bribing the referees</td>
<td>2.2</td>
<td>45.6</td>
<td>22.8</td>
</tr>
<tr>
<td>Bribing the NCIC Board</td>
<td>10.9</td>
<td>51.1</td>
<td>28.2</td>
</tr>
</tbody>
</table>

The responses indicate that there is a likelihood of bribery and its associated impacts on all the individuals. However, given that the related MSs are $> 3.00$,
the midpoint of the range, more so relative to NCIC officers and inspectors than the other individuals, namely referees, NCIC management, and the NCIC board.

However, a MS of 1.82, which is $> 1.80 \leq 2.60$ (very rarely to rarely / rarely), indicates that NCIC board members are the least likely individuals to be bunged, followed by referees (2.25) who arbitrate the registration of companies.

Moreover, a MS of 3.59, which is $> 3.40 \leq 4.20$ (neutral to often / often) indicates that the most likely individuals to be enticed into bribery are the NCIC officers followed by the inspectors involved in the registration of contractors. 64.2% ($27.2\% + 37.0\%$) of the 92 respondents indicated that NCIC managers are rarely enticed into bribery.

Therefore, it can be deduced relative to bung related findings that NCIC officers and the inspectors are the two most likely groups of individuals to be bunged. NCIC officers and inspectors have a similar entrance qualification grade, which is at technician band level. The salary range of this band is not as competitive; thus the likelihood of bung victimisation.

The board members and NCIC managers have the same minimum grade of qualification and professional registration status. This criterion enhances the construction etiquette and work ethics amongst this band of employees; thus rendering them as a lower potential target for bribery.

4.2.2.2 Likelihood of individuals being reprimanded

The responses to Question 2, which probed the frequency of individuals being reprimanded or disciplined on grounds of corruption, were recorded and summarised in Table 4.4.
Table 4.4: Frequency of individuals being reprimanded

<table>
<thead>
<tr>
<th>Individuals</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure</td>
<td>Very rarely</td>
<td>Very often</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Inspectors</td>
<td>3.2</td>
<td>8.7</td>
<td>18.5</td>
</tr>
<tr>
<td>Registration officers</td>
<td>1.1</td>
<td>9.8</td>
<td>21.7</td>
</tr>
<tr>
<td>Managers</td>
<td>1.1</td>
<td>40.2</td>
<td>30.4</td>
</tr>
<tr>
<td>Board members</td>
<td>0.0</td>
<td>53.3</td>
<td>33.7</td>
</tr>
</tbody>
</table>

A MS of 3.78, which is $> 3.40 \leq 4.20$ (neutral to often / often) confirms that inspectors are the most reprimanded culprits on corruption grounds followed by the NCIC registration officers, with a MS within range $> 3.40 \leq 4.20$: between neutral to often / often. 69.6% of the 92 respondents indicated that the most reprimanded individuals were inspectors, while 67.4% point toward NCIC officers as the more often reprimanded.

Conversely, the study deduced that the least reprimanded are the board members, with an MS of 1.77, which is $> 1.00 \leq 1.80$ (very rarely to rarely); superseded by managers (2.27). 86.9% of the respondents indicated that board members are the least reprimanded were as 70.6% indicated that managers are the least reprimanded.

However, the responses indicate that there is more emphasis on the pointer to the least reprimanded than there is for the most reprimanded.

The statistics relative to board members and managers are influenced by the power and authority vested in them over the fear by subordinates of victimisation thereof. Senior employees are disciplined and reprimanded in confidence while middle management and technicians are reprimanded more openly; therefore
there is more publicity regarding a junior being reprimanded to a senior reprimand.

Furthermore, the results of Question 2 confirm the outcome of Question 1, that the most likely bribery source is the most reprimanded, and conversely, the most unlikely bribery source is least reprimanded. The results confirm that the arm of the law does extend to senior employees who possess power and influence; thereby acknowledging that governance on corruption mitigation is applied to all.

However, 3.2% of the respondents were unsure of the responses; the question was regarding the frequency of inspectors reprimanded on the grounds of corruption. A similar version of the question was presented in Table 4.4, which accumulated 12.0% of the sample, which either did not understand the question, or the function of the individual. In conclusion, the question was clear, but the understanding of the inspectors’ roles and responsibilities was not clear.

4.2.2.3 Likelihood of contract award to non-performing contractors

The responses to Question 3, which examined the likelihood of project award to underperforming contractors, were tabulated. In summary the responses to Question 3 are presented in Table 4.5.

Table 4.5: Likelihood of contract award to non-performing contractors

<table>
<thead>
<tr>
<th>Project</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure</td>
<td>Very rarely</td>
<td>Very often</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Public</td>
<td>1.1</td>
<td>13.0</td>
<td>12.0</td>
</tr>
<tr>
<td>Parastatal</td>
<td>2.1</td>
<td>16.3</td>
<td>25.0</td>
</tr>
<tr>
<td>Private</td>
<td>16.3</td>
<td>26.1</td>
<td>14.1</td>
</tr>
<tr>
<td>Grant aided</td>
<td>0.0</td>
<td>38.1</td>
<td>37.7</td>
</tr>
</tbody>
</table>
The responses relative to Question 3 lead to the deduction that public projects are most likely to be awarded to an underperforming contractor, with a MS of 3.70, which is $> 3.40 \leq 4.20$ (neutral to often / often). 73.9% ($40.2% + 33.7\%$) of the sample responded and declared that public projects very often feature non-performing contractors.

However, 75.8% ($38.1\% + 37.7\%$) of the sample deduced that the project, which rarely feature a non-performing contractor are grant aided project, with MS’s of 2.30, which is $> 1.80 \leq 2.60$ (rarely to neutral / rarely). The parastatal projects and the private projects were not distinct in the statistics (3.21 and 3.02) respectively.

Conversely, 16.3% of the sample was unsure of the answer or question, which investigated the likelihood of a private project award to an underperforming contractor.

Oral interviews deduced that 4 out of 5 grant aided and parastatal projects are awarded to international companies; 9 out of 10 public projects are undertaken by local contractors.

**4.2.2.4 Likelihood of contract award to politician owned contractors**

Responses to Question 4 explored the likelihood of project award to politician owned contractors. The results are summarised in Table 4.6.
Table 4.6: Likelihood of contract award to politician owned contractor

<table>
<thead>
<tr>
<th>Project type</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure</td>
<td>Very rarely</td>
<td>Very often</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Public</td>
<td>13.0</td>
<td>0.00</td>
<td>2.2</td>
</tr>
<tr>
<td>Grant aided</td>
<td>15.2</td>
<td>9.9</td>
<td>20.6</td>
</tr>
<tr>
<td>Parastatal</td>
<td>2.2</td>
<td>14.1</td>
<td>26.1</td>
</tr>
<tr>
<td>Private</td>
<td>1.1</td>
<td>53.3</td>
<td>38.0</td>
</tr>
</tbody>
</table>

The responses relative to Question 4 indicate that most public projects are awarded to politician owned contractors. 91.3% (53.3% + 38.0%) of the same sample declared that private projects, with a MS within range $> 1.00 \leq 1.80$: between very rarely / rarely seldom award contracts to politician owned contractors.

Moreover, the MS relative to parastatal contracts points towards the likelihood of a politician owned contractor award as the MS is $> 2.60 \leq 3.40$ (rarely to neutral / neutral); while 40.2% (26.1% + 14.1%) of the responders indicated that it is rare to have a parastatal project award to a politician owned firm. The result indicates that politician owned firms dominate on the public projects and have an advantage on the parastatal projects, which are basically the two most popular and highly budgeted for projects in the country.

In summary, this finding confirms that politicians have an influential role in the project construction phase. The dominance of politician owned contractors brings about a conflict of interest in the award of public and parastatal contracts. Politicians as stakeholders of governance issues dictate policy formulation; thus, are able to tailor construction and contract award policies to suit their firms.
4.2.2.5 Likelihood of contract award due to corrupt endeavours

The responses to Question 5, which addressed the likelihood of project contracts award due to corrupt endeavours, are presented in Table 4.7.

Table 4.7: Likelihood of contract award due to corrupt endeavours

<table>
<thead>
<tr>
<th>Project type</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Very rarely</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>0.0</td>
<td>9.8</td>
<td>12.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.0</td>
<td>38.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40.2</td>
<td>3.87</td>
</tr>
<tr>
<td>Parastatal</td>
<td>3.3</td>
<td>16.3</td>
<td>22.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>31.5</td>
<td>26.1</td>
</tr>
<tr>
<td>Private</td>
<td>16.3</td>
<td>22.9</td>
<td>31.5</td>
</tr>
<tr>
<td>Grant aided</td>
<td>2.2</td>
<td>33.6</td>
<td>45.6</td>
</tr>
</tbody>
</table>

The responses to Question 5 construe 78.2% (38.0% + 40.2%) of the 92 interviewees indicate that public contract awards are influenced by corrupt endeavours, while 79.2% (33.6% + 45.6%) of the sample state that grant aided project awards, with a MS of 2.13, which is $> 1.80 \leq 2.60$ (rarely to neutral / rarely) are rarely affected by corrupt endeavours.

Relative to parastatal project awards, 57.6% of the sample contends that corrupt activities often influence contract awards, while 39.1% of the sample declared that parastatal projects are rarely influenced by corrupt activities. 3.3% of respondents were not sure what the question entailed or lacked knowledge relative to parastatal projects. The statistics relative to parastatal projects tilts the balance to an 18.5% favour of corrupt activities influencing contract awards in parastatal projects. Otherwise, an analysis of the statistics indicates that the results are neutral with a MS of 3.28, which is $> 2.60 \leq 3.40$ (rarely to neutral / neutral).
However, 54.4% of the sample stated that private contract awards are rarely influenced by corrupt activities, while 29.3% assumed that private contract awards are often influenced by corrupt activities. The data suggests 25.0% favour of corrupt activities rarely influencing contract awards in private projects, MS of 2.67, which is $> 2.60 \leq 3.40$: between rarely to neutral / neutral.

Phenomenally, corrupt activities do exist in the award of contracts relative to the four project types. The difference is in the perception of the intensity of the likelihood of it happening.

4.2.2.6 Efficiency of common corruption mitigation measures

Question 6 clarified the efficiency of corruption mitigation measures on a five point likert scale, the continuum spanning from:

1 - Completely inefficient;
2 - Somehow inefficient;
3 - Unsure;
4 - Efficient, and
5 - Very efficient.

The responses to Question 6, examining the efficiency of common corruption mitigation measures, are tabulated in Table 4.8.

Table 4.8 indicates that 86.9% (52.2% + 38.8%) of the 92 respondents identified dismissals as the most efficient measure of mitigating corruption, with a MS $> 3.40 \leq 4.20$ (neutral to efficient / efficient); while the least effective method of mitigating corruption was publishing of names (2.00).

The second ranked most efficient corruption mitigating measure with a MS of 3.89, which is $> 3.40 \leq 4.20$ (neutral to efficient / efficient) as denoted from this
survey question was civil action, with 76.1% (42.4% + 33.7%) of the sample noting that civil action is efficient in mitigating corruption.

Thirdly, the MS of suspensions falls within the range $> 3.40 \leq 4.20$: between neutral to efficient / efficient.

Furthermore, Table 4.8 presents relative differences in rating mitigation measures.

**Table 4.8: Efficiency of mitigation measures**

<table>
<thead>
<tr>
<th>Mitigation Measure</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure</td>
<td>Not efficient</td>
<td>Very efficient</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Dismissals</td>
<td>2.1</td>
<td>2.2</td>
<td>8.7</td>
</tr>
<tr>
<td>Civil action</td>
<td>3.3</td>
<td>0</td>
<td>20.6</td>
</tr>
<tr>
<td>Suspensions</td>
<td>2.2</td>
<td>7.6</td>
<td>17.4</td>
</tr>
<tr>
<td>Training</td>
<td>8.7</td>
<td>6.5</td>
<td>18.5</td>
</tr>
<tr>
<td>Poster awareness</td>
<td>6.5</td>
<td>0.0</td>
<td>37.0</td>
</tr>
<tr>
<td>Increase in salaries</td>
<td>1.1</td>
<td>22.8</td>
<td>28.3</td>
</tr>
<tr>
<td>Publishing of names</td>
<td>0.0</td>
<td>42.4</td>
<td>30.4</td>
</tr>
</tbody>
</table>

Finally, the findings of these results suggest that there is a degree of confidence with regard to measures used to mitigating corruption.

**4.2.3 FLAWS IN POLICY FORMULATION**

**4.2.3.1 Governance flaws ratings on selected project types**

The responses to Question 7, which addressed governance flaws relative to selected project types, are presented in Table 4.9.
Table 4.9: Project rating in governance flaws

<table>
<thead>
<tr>
<th>Project</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure</td>
<td>Low</td>
<td>3</td>
</tr>
<tr>
<td>Public</td>
<td>2.2</td>
<td>0</td>
<td>13.1</td>
</tr>
<tr>
<td>Parastatal</td>
<td>3.3</td>
<td>13.0</td>
<td>16.3</td>
</tr>
<tr>
<td>Private</td>
<td>18.5</td>
<td>22.8</td>
<td>26.1</td>
</tr>
<tr>
<td>Grant aided</td>
<td>13.0</td>
<td>30.5</td>
<td>39.1</td>
</tr>
</tbody>
</table>

The responses to Question 7 indicate that with regard to parastatal projects governance flaws are high with a MS of 3.55, which is $>3.40 \leq 4.20$ (neutral to high / high). 67.4% (37.0% + 30.4%) of the 92 interviewees reckon governance flaws are in the high continuum. Only 3.3% of the sample was unsure of either the question or the answer.

However, governance flaws with regard to public projects are relatively higher than those of parastatals; with a MS of 4.01, which is $>3.40 \leq 4.20$ (neutral to high / high). 84.7% (46.7% + 38.0%) of the sample challenged that public projects have the worst governance flaws amongst the four types of projects studied. Only 2.2% of the 92 interviewees were not sure of either the question or the answer. The majority of public projects are financed and solicited locally.

Furthermore, it is notable that grant aided project governance has the least governance flaws of all the project types in this study a MS of 2.23, which is $>1.80 \leq 2.60$ (low to neutral / low). 69.6% (30.5% + 39.1%) of the total sample indicated that there is low to very low rate of governance flaws. The majority of grant aided projects are financed and solicited internationally. 13.0% of the 92 interviewees were not sure of either the answer or the question.
Moreover, results relative to private projects governance flaws were inconclusive, with a MS of 2.78, which is $> 2.60 \leq 3.40$ (low to neutral / neutral). Different clients have different policies with regard to procurement, constructability and project mandate. The approach a client prefers to administer a project is solely under his discretion, as long as it does not flout the rules and regulations of the NCIC.

Finally, relative to indication of results for private projects - 18.5% were unsure of the question. 48.9% ($22.8% + 36.1$) reckoned that governance flaws were low, while 32.6% ($15.2% + 17.4$) indicated that governance flaws were in the continuum of high to very high. This result tips the balance towards low governance flaws relative to private projects.

### 4.2.3.2 Bureaucratic procedures for securing funding from selected sourcing

The responses to Question 8, which investigated the bureaucratic procedures for securing funding from selected sources, are presented in Table 4.10.

**Table 4.10: Bureaucratic procedures for securing funding**

<table>
<thead>
<tr>
<th>Source</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Banks</td>
<td>0.0</td>
<td>5.4</td>
<td>12.0</td>
</tr>
<tr>
<td>Corporate funding</td>
<td>4.3</td>
<td>7.6</td>
<td>12.0</td>
</tr>
<tr>
<td>Donour aid</td>
<td>6.5</td>
<td>9.8</td>
<td>15.2</td>
</tr>
<tr>
<td>Public Private Partnership</td>
<td>8.7</td>
<td>16.3</td>
<td>17.4</td>
</tr>
<tr>
<td>Government treasury</td>
<td>2.2</td>
<td>19.5</td>
<td>30.4</td>
</tr>
</tbody>
</table>
The responses to Question 8 indicate that bureaucratic procedure for securing bank funding is the most complex means of raising project capital relative to the five sources studied. 82.6% (45.6% + 37.0%) of the sample declared that it is complex to obtain bank funding, with a MS of 3.96, which is $> 3.40 \leq 4.20$ (neutral to complex/ complex). None of the respondents was unsure of neither the question nor the answer of this particular enquiry.

In addition, 76.1% (42.4% + 33.7%) of the 92 interviewees generally recorded complexity with regard to bureaucratic procedures relative to securing corporate funds with a MS of 3.83, which is $> 3.40 \leq 4.20$ (neutral to complex / complex). The findings also recorded that 19.6% (12.0% + 7.6%) of the respondents indicated simplicity with regard to bureaucratic procedures relative to securing corporate funds.

Moreover, the survey recorded that procedures involved with regard to securing donor aid funding are complex, with a MS of 3.70, which is $> 3.40 \leq 4.20$ (neutral to complex / complex). 38.0% of the respondents indicated that the procedures are very complex, while 30.5% indicated the procedures to be rather complex.

Furthermore, the results relative to public private partnerships indicated that 33.7% (16.3% + 17.4%) of the respondents reckon that the procedures to secure funding are simple, while 57.6% (33.7% + 23.9%) declared the complexity of securing the funding.

Lastly, securing government treasury funding was the simplest of all the methods of securing funds, with a MS of 3.00, which is $> 2.60 \leq 3.40$ (low to neutral / neutral). 50.0% of the respondents declared the bureaucratic procedures to be simple, while 47.9% (26.1% + 21.8%) declared that the procedures are complex. 2.2% of the respondents were indecisive.
In general, the findings indicate that there are relatively complex bureaucratic procedures with regard to securing funding. The major source of project funding in the industry is government treasury, which is mainly decided in Parliament; a phenomenon, which empowers politicians in the construction industry.

4.2.3.3 Frequency of use of selected methods of contract award

The responses to Question 9, which explored the frequency of selected methods of awarding contracts, are presented in Table 4.11.

Table 4.11: Frequency and ranking of the studied forms of contract award

<table>
<thead>
<tr>
<th>Project</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure 1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Nominated by the client</td>
<td>4.3</td>
<td>15.2</td>
<td>20.7</td>
</tr>
<tr>
<td>Appointed by the committee</td>
<td>6.5</td>
<td>19.6</td>
<td>25.0</td>
</tr>
<tr>
<td>Tender award</td>
<td>5.4</td>
<td>34.8</td>
<td>26.1</td>
</tr>
</tbody>
</table>

The responses to Question 9 indicate that the most popular method of awarding contracts is by client nomination, with a MS of 3.35, which is > 2.60 ≤ 3.40 (rarely to neutral / neutral). 59.8% (33.7% + 26.1%) of the respondents acknowledged that contract award by client nomination were the most frequently used, while 35.9% (15.2% + 20.7%) declared that this form of contract award is rarely used. 5.4% of the respondents were undecided.

Conversely, relative to contract award by committee appointment, 48.9% (27.2% + 29.7%) of the respondents indicated that the method was frequently used, with a MS of 3.07, which is > 2.60 ≤ 3.40 (rarely to neutral / neutral); while 44.6%
(19.6% + 25.0%) of the sample declared that this method was rarely used. 6.5% of the sample was undecided.

Furthermore, the most rarely used method of contract awards was through the tender board, with a MS of 2.59, which is $> 1.80 \leq 2.60$ (rarely to neutral / rarely). 60.9% (34.8% + 26.1%) of the respondents indicated that this form of contract award was rarely used, while 33.7% (13.0% + 20.7%) of the respondents reckoned that this form of tender award is often used.

Generally, the findings indicate that contract awards by tender committee are rarely used, followed by contract award by committee appointment, and lastly the most frequently used form of contract award by client nomination.

The general phenomenon is that the majority of projects are public projects, which leads to the deduction that the major client is the Government. This empowers government officials, or in this case, politicians to become major stakeholders in the award of contracts.

4.2.3.4 Importance of selected parameters when awarding contracts

The responses to Question 10, which expanded the importance of selected parameters when awarding contracts, are tabulated in Table 4.12.

The MS of 3.35, which is $> 2.60 \leq 3.40$ (not important to neutral / neutral), indicates that 65.2% (30.4% + 34.8%) of respondents perceived resource allocation as a very important parameter when considering awarding a contract to a contractor, while only 33.7% (20.7% + 13.0%) reckoned resource allocation as not important for the cause.

Ranked second in terms of importance, with a MS of 3.24, which is $> 2.60 \leq 3.40$ (not important to neutral / neutral) was the contractor’s previous performance.
54.3% (22.8% + 31.5%) of the interviewees indicated that the contractor’s previous performance is an important parameter for contract award, while 45.7% (16.3% + 29.4%) declared that the parameter was not important.

Thirdly, the accuracy of the contractor’s bid amount relative to the tendered amount plays an important role in awarding contracts, with a MS of 3.03, which is $> 2.60 \leq 3.40$ (not important to neutral / neutral). 52.2% (34.8% + 17.4%) of the respondents indicated that the accuracy of the tender amount was of importance, while 47.8% (18.5% + 29.3%) of the respondents declared that the parameter is not important to the award of contracts to contractors.

Lastly, the least important parameter was the NCIC contractor grading, with a MS of 2.83, which is $> 2.60 \leq 3.40$ (not important to neutral / neutral). 42.4% (20.7% + 21.7%) of the interviewees’ perceived NCIC contractor grading as an important parameter in contract award, while 56.5% (31.5% + 25.0%) of the sample declared that this parameter was not important for this cause.

In general, the ranking from most important to least important is summarised in Table 4.12.

**Table 4.12: Importance of parameters in contract award**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Resource allocation</td>
<td>1.1</td>
<td>13.0</td>
<td>20.7</td>
</tr>
<tr>
<td>Previous performance</td>
<td>0.0</td>
<td>16.3</td>
<td>29.4</td>
</tr>
<tr>
<td>Tender amount</td>
<td>0.0</td>
<td>18.5</td>
<td>29.3</td>
</tr>
<tr>
<td>Contractor grading</td>
<td>1.1</td>
<td>25.0</td>
<td>31.5</td>
</tr>
</tbody>
</table>
4.2.4 Summary of contractor performance

4.2.4.1 Performance of contractors selected by the tender board in selected projects

The responses to Question 11, which depict the performance of contractors selected by tender board in selected projects, are tabulated in Table 4.13.

The response to Question 11 indicates that the best contractor performance selected by the tender board was relative to grant aided projects, with a MS of 3.55, which is $> 3.40 \leq 4.20$ (neutral to good / good). 68.5% (41.3% + 27.2%) of the respondents indicated that the best performing contractors were those selected by the tender boards regarding grant aided projects, while 28.3% (12.0% + 16.3%) indicated that the performances were below par.

The second ranked tender awarded projects to have very good performance were private projects, with a MS $> 2.60 \leq 3.40$: between below par to neutral / neutral. 62.0% (37.0% + 25.0%) of the respondents acknowledged that tender board awarded projects had an excellent contractor performance, while 35.9% (15.2% + 20.6%) declared that the performance under this category was below par. 2.2% of the populace were undecided.

Relative to parastatal projects, with a MS of 3.34, which is $> 2.60 \leq 3.40$ (neutral / neutral); 59.8% (34.8% + 25.0%) of the respondents indicated that contractor performance relative to parastatal projects was good, while 34.8% (16.3% + 18.5%) of the respondents believed that the contractor performance was below par in tender awarded parastatal contracts. 5.4% of the respondents were undecided.

The least satisfactory performance arose from contractors relative to public projects, with a MS of 3.05, which is $> 2.60 \leq 3.40$ (below par to neutral / neutral).
52.2% (30.4% + 21.8%) of the interviewees decided that contractor performance was good relative to public projects. The remaining 47.8% (20.6% + 27.2%) indicated that the performance of the contractors relative to public projects was below par.

In general the performance of contractors relative to tender awarded projects was all above par / good.

Table 4.13: Contractor performance on tender awarded contracts

<table>
<thead>
<tr>
<th>Project Type</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure</td>
<td>Below par</td>
<td>………….Excellent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Grant Aided</td>
<td>3.2</td>
<td>12.0</td>
<td>16.3</td>
</tr>
<tr>
<td>Private</td>
<td>2.2</td>
<td>15.2</td>
<td>20.6</td>
</tr>
<tr>
<td>Parastatal</td>
<td>5.4</td>
<td>16.3</td>
<td>18.5</td>
</tr>
<tr>
<td>Other</td>
<td>7.6</td>
<td>18.5</td>
<td>23.9</td>
</tr>
<tr>
<td>Public</td>
<td>0.0</td>
<td>20.6</td>
<td>27.2</td>
</tr>
</tbody>
</table>

4.2.4.2 Contractor performance on client nominated contracts

The responses to Question 12, which depict the performance of contractors nominated by the client relative to selected projects, are tabulated in Table 4.14.

The responses indicate that in general, contractors underperform relative to client nominated contracts. Regarding public projects, 56.5% (27.2% + 29.3%) of the respondents indicated that contractor performances were below par. The remaining 43.5% (26.1% + 27.4%) indicated that the contractor performance was good. The MS of 2.77 represents general underperformance as it is > 2.60 ≤ 3.40 (below par to neutral / neutral) relative to public projects.
Relative to private projects, 50.0% (18.5% + 21.5%) of the respondents associated the below par contractor performance to the client nominated contract awards, while 46.7% (30.4% + 16.3%) of the respondents suggested that the contractor performance was good. 3.3% of the respondents were undecided. Representing a general underperformance, with a MS of 2.95 this is $> 2.60 \leq 3.40$ (below par to neutral / neutral) regarding private projects.

The third ranked project for client nominated contracts was parastatal projects. 45.7% (18.5% + 27.2%) responded that parastatal projects underperformed, while 46.7% (16.3% + 30.4%) of the respondents indicated that there was good contractor performance. 8.7% were undecided. This result indicates that parastatal performances are in-deferential when it comes to client nominated contracts; representing a general neutral performance, with a MS of 3.03, which is $> 2.60 \leq 3.40$ (below par to neutral / neutral) on parastatal projects.

Moreover, 50.0% (28.3% + 21.7%) responded in favour of good contractor performances regarding grant aided projects as compared to the 43.5% (22.8% + 20.7%) of the respondents' opinion that contractors' performance on grant aided projects was below par. 6.5% of the respondents were not clear of either the question or the answer. The MS of 3.05, which is $> 2.60 \leq 3.40$ (below par to neutral / neutral) represents general underperformance relative to grant aided projects.

In general the performances of contractors relative to client awarded projects were all below par.
Table 4.14: Below par contractor performance on client awarded contracts

<table>
<thead>
<tr>
<th>Project Type</th>
<th>Unsure</th>
<th>Below par</th>
<th>Excellent</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>27.2</td>
<td>14.1</td>
<td>13.1</td>
<td>27.2</td>
<td>23.9</td>
</tr>
<tr>
<td>Grant Aided</td>
<td>6.5</td>
<td>22.8</td>
<td>20.7</td>
<td>6.5</td>
<td>28.3</td>
</tr>
<tr>
<td>Parastatal</td>
<td>8.7</td>
<td>18.5</td>
<td>27.2</td>
<td>8.7</td>
<td>23.9</td>
</tr>
<tr>
<td>Private</td>
<td>3.3</td>
<td>18.5</td>
<td>31.5</td>
<td>3.3</td>
<td>30.4</td>
</tr>
<tr>
<td>Public</td>
<td>0.0</td>
<td>27.2</td>
<td>29.3</td>
<td>0</td>
<td>26.1</td>
</tr>
</tbody>
</table>

The responses to Question 13, which investigated the performance of contractors appointed by the committee relative to selected projects, are tabulated in Table 4.15.

However, the responses to Question 13 indicate that good contractor performance was generally recorded. An exception is public projects, as 61.9% (30.4% + 31.5%) of the respondents indicated that there is below par performance from contractors appointed by the committee, while 37.0% (23.9% + 13.1%) of the respondents declared that the performance in this category was good. A MS of 2.58, which is \( 1.80 \leq 2.60 \) (below par to neutral / neutral) indicates a general below par performance relative to public projects.

Indifferent contractor performances were generally recorded in the results, with a MS of 3.00, which is \( 2.60 \leq 3.40 \) (neutral / neutral) relative to parastatal projects; 47.8% (22.8% + 25.0%) of the 92 interviewees confirmed that below par contractor performances were evident, while 48.9% (27.2% + 21.7%) of the respondents declared that the performances were good. 3.3% of the respondents were undecided. This result tips the balance in favour of good contractor performance relative to parastatal projects appointed by the committee.
Furthermore, improved contractor performances were recorded relative to grant aided projects, with a MS of 3.22, which is $> 2.60 \leq 3.40$ (below par to neutral / neutral). 54.4% (26.1% + 28.3%) of respondents indicated that the contractor performances relative to committee appointed grant aided projects were excellent, while 41.3% (17.4% + 23.9%) of the respondents affirmed that the performances were below par.

Relative to private projects, 55.4% (22.8% + 32.6%) of the respondents confirmed that good results were attained in contractor performances, while 33.7% (13.1% + 20.6%) of the interviewees declared that below par performances were achieved. 10.9% of the respondents were undecided. The MS of 3.40, which is $> 3.40 \leq 4.20$ (neutral to good / good) indicates general good performance relative to parastatal projects.

Table 4.15 below provides an overview of contractor performance on committee awarded contracts.

**Table 4.15: Contractor performance on committee awarded contracts**

<table>
<thead>
<tr>
<th>Project Type</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure</td>
<td>Below par</td>
<td>Excellent</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Private</td>
<td>U</td>
<td>13.1</td>
<td>20.6</td>
</tr>
<tr>
<td>Grant Aided</td>
<td>U</td>
<td>17.4</td>
<td>23.9</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>12.0</td>
<td>17.4</td>
</tr>
<tr>
<td>Parastatal</td>
<td>U</td>
<td>22.8</td>
<td>25.0</td>
</tr>
<tr>
<td>Public</td>
<td>U</td>
<td>30.4</td>
<td>31.5</td>
</tr>
</tbody>
</table>
4.2.5 ECONOMIC HARDSHIPS

4.2.5.1 Likelihood of change of specification due to unavailability of resources

The responses to Question 14, which enquired regarding whether or not projects change specifications due to unavailability of resources, are presented in Table 4.16

Table 4.16: Current project has changed specification due to unavailability of resources

<table>
<thead>
<tr>
<th>Answer</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>56</td>
<td>60.9</td>
</tr>
<tr>
<td>No</td>
<td>30</td>
<td>32.6</td>
</tr>
<tr>
<td>Unsure</td>
<td>6</td>
<td>6.5</td>
</tr>
<tr>
<td>Total</td>
<td>92</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The responses to Question 14 indicate that the current projects have changed specification due to the unavailability of specified materials and standard requirements.

60.9% of the respondents declared that current projects under their jurisdiction had undergone changes due to unavailable resources as requested in the standards.

Some of the scarce resources that do not confirm to standards are:

- Specifications of G5 Gravel material;
- Prescribed scaffolds and purpose made formwork;
- Relaxing of the minimum skills levels, and
- Filtered aggregate grading.
These results were obtained from oral interviews.

In summary, 32.6% of the respondents were working on projects which had not been affected by specification changes. This statistic incorporated projects, which had either a thorough feasibility study, or internationally sourced resources.

4.2.5.2 Weighting of resources in planning budget allocation

The responses to Question 15, which investigated how different resources are weighted relative to planning budget allocation for tender purposes in developmental projects relative to its availability, are tabulated in Table 4.17

However, the findings indicate that budget allocation for tender purposes in planning for development projects take labour weighting into paramount consideration, with a MS of 3.84, which is > 3.40 ≤ 4.20 (neutral to high / high).

Furthermore, 72.8% (41.3% + 31.5%) of the respondents indicated that labour resources are significantly essential in development projects. Community development projects are aligned in the following labour motivational categories:

- Food for work;
- Labour intensive road rehabilitation;
- Student driven classroom development, and
- Village based bridge development.

Moreover, in development projects, material weighting is low, with a MS > 1.80 ≤ 2.60: between low to neutral / low. The availability of materials and the proximity of the nearest source of the material are considered. The cost of the project may increase due to the availability of the materials and the access there of onto site. 51.1% indicated that materials should not be the driving factor relative to budget
allocation regarding projects, while 47.8% reckon availability of materials should drive the budget allocation for tender purposes.

However, 63.1% (29.4% + 33.7%) indicated that supervision is not a driver relative to budget allocation, due to its availability, while 34.7% (20.6% + 14.1%) of the respondents stated that availability of supervision is a driving factor of budget allocation for tender purposes. In general the response was neutral, with a MS > 2.60 ≤ 3.40: between low to neutral / neutral.

Conversely, plant weighting relative to development projects is very low. 51.1% (20.7% + 30.4%) of the respondents stipulated that plant availability is not a prerequisite in budget allocation for tender purposes. 47.8% (22.8% + 25.0%) supported the cause that plant and its availability substantially drive projects’ budget allocation. The MS of 3.01, which is > 2.60 ≤ 3.40 (low to neutral / neutral), indicates that in general the response was neutral.

In summary, the resources in Table 4.17 below are ranked from the most prominent relative to budget allocation for tender purposes to the least significant.

### Table 4.17: Budget allocations for tender purposes

<table>
<thead>
<tr>
<th>Resource Availability</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labour</td>
<td>U</td>
<td>3.84</td>
<td>1</td>
</tr>
<tr>
<td>Supervision</td>
<td>U</td>
<td>3.11</td>
<td>2</td>
</tr>
<tr>
<td>Plant</td>
<td>U</td>
<td>3.01</td>
<td>3</td>
</tr>
<tr>
<td>Materials</td>
<td>U</td>
<td>2.42</td>
<td>4</td>
</tr>
</tbody>
</table>
4.2.5.3 Usage of selected hoisting equipment in terms of a cost–benefit ratio

The responses to Question 16, which enquired regarding the usage of selected hoisting equipment in terms of a cost–benefit ratio, are presented in Table 4.18.

In terms of a cost-benefit ratio, cranes are rarely used as a hoisting mechanism, with a MS of 2.77, which is $\geq 2.60 \leq 3.40$ (rarely to neutral / neutral). 73.9% ($34.8\% + 39.1\%$) of the respondents indicated that usage of cranes is not preferred, while 22.8% ($15.2\% + 7.6\%$) of the sample indicated that craneage is indeed often used. The results indicate that crane hoisting is considered expensive in terms of a cost-benefit criterion.

Moreover, 58.7% ($27.2\% + 31.5\%$) of the respondents indicated that pulleys were also rarely used as a hoisting mechanism, while 40.2% ($18.5\% + 21.7\%$) of the respondents indicated that pulley hoisting systems were often used. The pulley system is popular when offloading materials from heights while the lifting set up is cumbersome to use. In general the response was neutral, with a MS $\geq 2.60 \leq 3.40$: between rarely to neutral / neutral.

The most popular hoisting mechanism is ramps for higher level structures. 76.1% ($39.1\% + 37.0\%$) of the interviewees stated that ramps are the most cost effective method of hoisting materials to higher levels of a structure, while 21.7% ($9.8\% + 11.9\%$) considered the method unpopular in terms of a cost-benefit basis.

However, any other methods different to the ones in this survey were unpopular. 48.9% ($20.6\% + 28.3\%$) indicated that any other hoisting methods are rarely used, while 35.9% ($25.0\% + 10.9\%$) considered that there are methods that are not included in the study, which are used more often and have a better cost-benefit ratio.
In general, when looking at the cost and not the speed or ease of construction; the following table presents the ranking of hoisting mechanisms relative to the most popularly to the least used.

**Table 4.18: Frequency of use of selected hoisting equipment**

<table>
<thead>
<tr>
<th>Hoisting mechanism</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure</td>
<td>Very rarely</td>
<td>Very often</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Ramps</td>
<td>2.2</td>
<td>9.8</td>
<td>11.9</td>
</tr>
<tr>
<td>Others</td>
<td>15.2</td>
<td>20.6</td>
<td>28.3</td>
</tr>
<tr>
<td>Pulleys</td>
<td>1.1</td>
<td>27.2</td>
<td>31.5</td>
</tr>
<tr>
<td>Cranes</td>
<td>3.3</td>
<td>34.8</td>
<td>39.1</td>
</tr>
</tbody>
</table>

**4.2.5.4 Usage of selected formwork equipment in terms of a cost–benefit ratio**

The responses to Question 17, which evaluated the use of common formwork materials in terms of a cost–benefit ratio, are presented in Table 4.19.

However, findings indicate that in terms of a cost-benefit ratio wooden formwork is the most popular and often used method of formwork, with a MS of 3.84, which is $> 3.40 \leq 4.20$ (neutral to often / often). 75.0% (34.8% + 40.2%) of the interviewees acknowledged that wooden formwork is often used, while 21.7% (9.7% + 12.0%) indicated that wooden formwork is rarely used. Wood as a natural resource is readily available at a reasonable cost as compared to other formwork materials.
Moreover, metal formwork is rarely used as compared to wooden formwork, but often used as compared to permanent or pre-fabricated formwork, with a MS > 2.60 ≤ 3.40: between rarely to neutral / neutral. 55.4% (31.5% + 23.9%) of the respondents indicated that metal formwork is rarely used as compared to 42.4% (20.7% + 21.7%) of the respondents who declared that metal formwork is widely used in terms of a cost-benefit criterion.

The least and rarely used form of formwork in terms of a cost-benefit criterion is pre-fabricated formwork, with a MS of 2.51, which is > 1.80 ≤ 2.60 (rarely to neutral / rarely). 31.5% (20.6% + 10.9%) declared that pre-fabricated formwork is often used, while 64.2% (27.2% + 37.0%) indicated that this form of formwork is rarely used.

Each type of formwork was cost per unit time of use and the table below ranks the popularity of each formwork type in relation to its cost.

Table 4.19: Frequency of use of formwork material

<table>
<thead>
<tr>
<th>Formwork Type</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure (1)</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Wooden</td>
<td>3.2</td>
<td>9.7</td>
<td>12.0</td>
</tr>
<tr>
<td>Other</td>
<td>7.6</td>
<td>23.9</td>
<td>26.1</td>
</tr>
<tr>
<td>Metal</td>
<td>2.2</td>
<td>31.5</td>
<td>23.9</td>
</tr>
<tr>
<td>Prefabricated</td>
<td>4.3</td>
<td>27.2</td>
<td>37.0</td>
</tr>
</tbody>
</table>

4.2.5.5 Usage of selected scaffolding equipment in terms of a cost–benefit ratio

The responses to Question 18, which evaluated the use of common scaffolding material in terms of a cost–benefit ratio, are presented in Table 4.20.
The findings indicate that the use of wooden scaffolds is the most popular type of scaffolding, with a MS of 3.64, which is \( > 3.40 \leq 4.20 \) (neutral to often / often). 72.9\% (41.3\% + 31.6\%) of the respondents declared that wooden scaffolds are often used, while 27.1\% (13.0 + 14.1\%) of the respondents indicated that wooden scaffolds are rarely used.

The other forms of scaffolds are rarely used relative to the wooden scaffolds. For instance, 57.6\% (33.7\% + 23.9\%) of the respondents indicated that metal scaffolds were rarely used, while 42.4\% (22.8\% + 19.6\%) of the sample indicated that metal scaffolds were often used. None of the respondents were undecided of the response. In general, for metal scaffolds, with a MS \( > 2.60 \leq 3.40 \): between rarely to neutral / neutral.

However, permanent forms of scaffolds, with a MS of 2.68, which is \( > 2.60 \leq 3.40 \) (neutral / neutral) are not as popular as metal or wooden scaffolds, but are relatively more often used than permanent scaffolds. 55.4\% of the interviewees recorded that permanent scaffolds are rarely used, while 34.8\% of the respondents indicated that the scaffolds were often used. 9.8\% of the sample was undecided.

Conversely, the least used scaffolding type in terms of a cost-benefit ratio was prefabricated formwork, with a MS of 2.40, which is \( > 1.80 \leq 2.60 \) (rarely to neutral / rarely). 69.6\% of the respondents recorded that this type of formwork is rarely used, while 29.4\% of the respondents indicated that the formwork is often used.

Each form of scaffold was cost per unit time of use and the table below ranks the popularity of each scaffold form in relation to its cost.
Table 4.20: Frequency of use of scaffold material

<table>
<thead>
<tr>
<th>Scaffold Type</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure</td>
<td>Very rarely</td>
<td>Very often</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Wooden</td>
<td>0.0</td>
<td>13.0</td>
<td>14.1</td>
</tr>
<tr>
<td>Metal</td>
<td>0.0</td>
<td>33.7</td>
<td>23.9</td>
</tr>
<tr>
<td>Other</td>
<td>9.8</td>
<td>26.1</td>
<td>29.3</td>
</tr>
<tr>
<td>Prefabricated</td>
<td>1.1</td>
<td>29.3</td>
<td>40.2</td>
</tr>
</tbody>
</table>

4.2.5.6 Usage of selected common plant for concrete works equipment relative to a cost–benefit ratio

The responses to Question 19, which addressed use of common plant for concrete works in terms of a cost–benefit ratio, were presented in Table 4.21.

The findings indicate that the most often used plant in concrete works is the mobile concrete mixer, with a MS of 3.74, which is $> 3.40 \leq 4.20$ (neutral to often / often). 75.0% (38.0% + 37.0%) of respondents indicated that the mobile concrete mixer is often preferred on a cost on a cost-benefit ratio, while 25.0% (13.0% + 12.0%) of the sample declared that mobile concrete mixers are rarely used. No respondent was undecided.

Moreover, 72.8% (38.0% + 34.8%) of the interviewees indicated that gauge boxes are often used on concrete works, while 27.2% (14.1% + 14.1%) believed that gauge boxes are rarely used in concrete works in terms of a cost-benefit ratio. All respondents were sure of the function of gauge boxes and the use there of. In general, gauge boxes, with a MS $> 3.40 \leq 4.20$: between neutral to often / often.
In addition, poker vibrators are often used as compared to concrete delivery trucks. 63.0% (28.2% + 34.8%) of the respondents indicated that poker vibrators are rarely used as compared to 31.6% (19.6% + 12.0%), which declared that poker vibrators are often used. 5.4% of the respondents were undecided regarding either the question or the answer. In general a MS of 2.52 which is $> 1.80 \leq 2.60$ (rarely to neutral / rarely) confirms the results of the use of poker vibrators.

In terms of a cost-benefit criterion, concrete trucks are rarely used as confirmed by the results of the survey, with a MS of 2.21, which is $> 1.80 \leq 2.60$ (rarely to neutral / rarely). 75% (35.9% + 39.1%) of the respondents suggest that concrete delivery trucks are rarely used, while 22.8% (14.1% + 8.7%) declared that concrete trucks are often used.

In general, the use of concrete plants studied in this survey is ranked in terms of popularity in the Table 4.21 below.

**Table 4.21: Frequency of use of concrete plant**

<table>
<thead>
<tr>
<th>Plant</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure</td>
<td>Very rarely</td>
<td>Very often</td>
</tr>
<tr>
<td>Mobile concrete mixer</td>
<td>0.0</td>
<td>13.0</td>
<td>12.0</td>
</tr>
<tr>
<td>Gauge boxes</td>
<td>0.0</td>
<td>14.1</td>
<td>13.1</td>
</tr>
<tr>
<td>Poker vibrator</td>
<td>5.4</td>
<td>28.2</td>
<td>34.8</td>
</tr>
<tr>
<td>Concrete delivery trucks</td>
<td>2.2</td>
<td>35.9</td>
<td>39.1</td>
</tr>
</tbody>
</table>

**4.2.5.7 Usage of selected common masonry material in terms of a cost–benefit ratio**
The responses to Question 20, which investigated the use of common masonry material in terms of a cost–benefit ratio, are presented in Table 4.22.

The findings confirm that in terms of a cost-benefit ratio, the most popular bricks used are clay bricks, with a MS > 3.40 \leq 4.20: between neutral to often / often. The study results indicate that 85.9% (51.1% + 34.8%) of the interviewees confirmed that clay bricks are often used on projects, while 13.0% (4.3% + 8.7%) of the respondents indicated that clay bricks were rarely used. Only 1.1% of the respondents were undecided on the survey question.

However, concrete bricks were indifferent in the findings, with a MS > 2.60 \leq 3.40: between rarely neutral / neutral. 50% (31.5% + 18.5) of the respondents indicated that stabilised soil bricks are often used in terms of a cost-benefit criterion, while 50% (23.9% + 26.1%) of the respondents indicated that stabilised soil bricks are rarely used in construction projects.

Based upon the survey results, stabilised soil bricks, with a MS of 2.95 which is > 2.60 \leq 3.40 (rarely to neutral / neutral) are not as popular as concrete bricks but are often used as compared to engineering bricks. 47.8% (25.0% + 27.8%) of the respondents stated that concrete bricks were often used on projects, while 50% (22.8% + 27.2%) of the sample indicated that concrete bricks were rarely used in terms of a cost-benefit aspect; 2.2% were undecided.

Lastly, engineering bricks were rarely used on projects, with a MS of 2.00, which is > 1.80 \leq 2.60 (rarely to neutral / rarely). In terms of a cost-benefit criterion 81.5% (39.1% + 42.4%) of the respondents stated that engineering bricks are rarely used in construction, while 15.2% (9.8% + 5.4%) declared that engineering bricks were often used.

In general, the four types of bricks studied were used in projects; the popularity of the bricks are summarised and ranked in Table 4.22 below.
Table 4.22: Frequency of use of masonry materials

<table>
<thead>
<tr>
<th>Brick Type</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Clay bricks</td>
<td></td>
<td>1.1</td>
<td>4.3</td>
</tr>
<tr>
<td>Stabilised soil bricks</td>
<td></td>
<td>2.2</td>
<td>22.8</td>
</tr>
<tr>
<td>Concrete bricks</td>
<td></td>
<td>0.0</td>
<td>23.9</td>
</tr>
<tr>
<td>Engineering bricks</td>
<td></td>
<td>3.3</td>
<td>39.1</td>
</tr>
</tbody>
</table>

4.2.5.8 Usage of selected roofing material in terms of a cost–benefit ratio

The responses to Question 21, which evaluates the use of common roofing materials in terms of a cost–benefit ratio, are presented in Table 4.23.

The findings indicate that 72.8% (42.4% + 30.4%) of the respondents consider corrugated roof sheeting as the most often used roofing material in terms of a cost-benefit ratio, while 27.2% (13.1% + 14.1%) of the respondents state that corrugated roof sheeting are rarely used in construction projects.

In comparison, corrugated roof sheeting - also known as Victorian Profile sheeting is a sinusoidal profile sheet, which can be used for both roofing and side cladding, with a MS of 3.70, which is \( \geq 3.40 \leq 4.20 \) (neutral to often / often) is followed in popularity by 24 gauge Inverted Box Rib (IBR) sheeting, which is an angular trapezoidal-fluted sheet, designed for use as a roof covering and sidewall cladding, (3.64); 69.7% (35.9% + 34.8%) of the respondents indicated that IBR sheeting was often used in terms of a cost-benefit ratio, while 25% indicated that IBR sheeting was rarely used in projects. 4.4% of the respondents were undecided.
Moreover, roofing tiles, with a MS > 1.80 ≤ 2.60 (rarely to neutral / rarely) were more often used than grass thatching; 64.1% of the interviewees declared that roofing tiles were rarely used, while 39.5% of the respondents indicated that roofing tiles were often used in terms of a cost-benefit criterion on construction projects.

Furthermore, grass thatching is rarely used on projects, with a MS > 1.00 ≤ 1.80 (very rarely / rarely). Only 10.9% of the respondents declared that grass thatching is often used in construction, while 89.1% stated that grass thatching is rarely used in construction projects.

In general, the form of roofing used indicates that durability is a major priority in choosing roofing material, followed by authenticity, and lastly affordability. The results of this research question are summarised in Table 4.23.

**Table 4.23: Frequency of use of roof sheeting**

<table>
<thead>
<tr>
<th>Roofing type</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure</td>
<td>Very rarely</td>
<td>Very often</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Corrugated iron sheets</td>
<td>4.3</td>
<td>10.9</td>
<td>14.1</td>
</tr>
<tr>
<td>IBR sheets</td>
<td>0.0</td>
<td>13.1</td>
<td>14.1</td>
</tr>
<tr>
<td>Roofing tiles</td>
<td>4.4</td>
<td>34.8</td>
<td>29.3</td>
</tr>
<tr>
<td>Grass thatching</td>
<td>0.0</td>
<td>63.0</td>
<td>26.1</td>
</tr>
</tbody>
</table>

**4.2.5.9 Usage of selected common water sources in terms of a cost–benefit ratio**

The responses to Question 22, which evaluated the use of common water sources in terms of a cost–benefit ratio, are presented in Table 4.24.
In terms of a cost-benefit ratio borehole water is most often used as compared to all the other sources of water studied in this research, with a MS of 3.80, which is $> 3.40 \leq 4.20$ (neutral to often / often). 75.0% (33.7% + 41.3%) of the respondents declared that borehole water is often used on construction projects, while 25.0% (10.9% + 14.1%) of the respondents differed, stating that borehole water is rarely used on projects. None of the respondents were undecided.

Furthermore, stream / river water was also often used in development projects. 59.8% (31.5% + 28.3%) of the respondents indicated that stream water was often used on community construction projects on a cost-benefit ratio, while 37.0% (16.3% + 20.7%) of the interviewees differed, stating that this water source is rarely used on projects.

Moreover, tap water, with a MS $> 2.60 \leq 3.40$: between rarely to neutral / neutral; was more popular than water bowsers, but less likely to be used as compared to river water. 51.1% (34.8% + 16.3%) of the respondents indicated that tap water was often used on development projects while in terms of a cost-benefit to the project aspect 48.9% (23.9% + 25.0%) of the sample declared that tap water is rarely used.

Lastly, water bowsers are rarely used commodities in providing water to projects, with a MS of 2.46, which is $> 1.80 \leq 2.60$ (rarely to neutral / rarely). 62.0% (28.3% + 33.7%) of the interviewees indicated that on cost-benefit criterion water bowsers are rarely used in development projects, while 28.2% (20.6% + 7.6%) of the sample indicated that water bowsers were often used on projects.

The responses to the question regarding water sources are presented in Table 4.24.
Table 4.24: Frequency of use of water sources

<table>
<thead>
<tr>
<th>Source</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Borehole</td>
<td>0.0</td>
<td>10.9</td>
<td>14.1</td>
</tr>
<tr>
<td>Stream / River</td>
<td>3.2</td>
<td>16.3</td>
<td>20.7</td>
</tr>
<tr>
<td>Tap</td>
<td>0</td>
<td>23.9</td>
<td>25.0</td>
</tr>
<tr>
<td>Water bowsers</td>
<td>9.8</td>
<td>28.3</td>
<td>33.7</td>
</tr>
</tbody>
</table>

4.2.6 INFLUENCE OF STAKEHOLDERS ON PROJECTS

4.2.6.1 Influence of stakeholders on project matters and decision making

The responses to Question 23, which rated the influence of stakeholders on projects, are presented in Table 4.25.

However, the findings indicate that the board committee is the most influential stakeholder on projects, with a MS of 3.27, which is $> 2.60 \leq 3.40$ (rarely to neutral / neutral); 59.8% (38.0% + 21.8%) of the respondents stated that board committees are the most influential stakeholders on projects. 38.0% (16.3% + 21.7%) of the respondents indicated that board committees were not as influential on projects. 2.2% were undecided.

Moreover, contractors’ influence, with a MS of 2.88, is not as strong as the boards’ influence on projects, but it is stronger that the engineers’ influence on project matters. 45.7% (30.4% + 15.3%) of the respondents declared that contractors are very influential on project matters, while 48.9% (23.9% + 25.0%) of the respondents indicated that contractors were not as influential. 5.4% of the respondents were undecided.
Lastly, the engineers, with a MS of 2.73, which is $> 2.60 \leq 3.40$ (rarely to neutral / neutral), have the least influence on project matters and decisions. 40.2% of the respondents insisted that the engineers were very influential on project matters and decisions, while 55.4% of the interviewees stated that the engineers held no influence on project matters and decisions. 4.4% of the respondents were undecided.

Table 4.25: Stakeholders’ influence on projects

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure 1</td>
<td>Low 2</td>
<td>3</td>
</tr>
<tr>
<td>Board Committee</td>
<td>2.2</td>
<td>16.3</td>
<td>21.7</td>
</tr>
<tr>
<td>Contractor</td>
<td>5.4</td>
<td>23.9</td>
<td>25.0</td>
</tr>
<tr>
<td>Engineers</td>
<td>4.4</td>
<td>25.0</td>
<td>30.4</td>
</tr>
</tbody>
</table>

**4.2.6.2 Influence of some stakeholders’ mandate to change the location of a project**

The responses to Question 24, which investigated the influence of some stakeholders’ mandate to change the location of a project, are presented in table 4.26.

The findings indicate that board committees’ mandate to change the location of a project is the most influential, with a MS of 3.59, which is $> 3.40 \leq 4.20$ (neutral to influential / influential); 67.4% (37.0% + 30.4%) of the respondents stated that board committees have the most influential mandate to change location of a project. 27.2% (12.0% + 15.2%) of the respondents indicated that board committees had no influence regarding the decision to change the location of a project. 5.4% were undecided.
However, the engineers’ mandate to change project location, with a MS $> 2.60 \leq 3.40$: between rarely to neutral / neutral, was not as influential as boards’ mandate, but was more influential than contractors’ mandate. 50% (26.1% + 23.9%) of the respondents declared that engineers’ mandate was very influential in project allocation, while 44.6% (16.3% + 28.3%) of the respondents indicated that the engineers’ mandate was not as influential. 5.4% of the respondents were undecided.

Lastly, contractors’ mandate, with a MS of 3.30, which is $> 2.60 \leq 3.40$ (not influential to neutral / neutral) was least influential in changing project location. 40.2% (18.5% + 21.7%) of the respondents insisted that the contractors’ mandate for changing project location was influential, while 56.5% (27.2% + 29.3%) of the interviewees stated that the contractors held no mandate in changing location of projects. 3.3% of the respondents were undecided.

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Board Committee</td>
<td>5.4</td>
<td>12.0</td>
<td>15.2</td>
</tr>
<tr>
<td>Contractor</td>
<td>3.3</td>
<td>27.2</td>
<td>29.3</td>
</tr>
<tr>
<td>Engineers</td>
<td>5.4</td>
<td>16.3</td>
<td>28.3</td>
</tr>
</tbody>
</table>

### 4.2.6.3 Likelihood of particular projects having a total change in scope

The responses to Question 25, which rated the chances of particular projects having a total change in scope, are presented in Table 4.27.
Public projects are more likely to have a total change in scope as compared to the other project types studied, with a MS > 3.40 ≤ 4.20: between neutral to likely / likely. 69.5% (40.2% + 29.3%) of the respondents indicated that public projects were most likely to have a total change in scope, while 27.2% (8.7% + 18.5%) of the respondents differed and indicated that public projects were less likely to have a total change in scope. 3.3% of the respondents were undecided.

However, grant aided projects were not as likely to have a total scope change, with a MS of 2.39, which is > 1.80 ≤ 2.60 (least likely to neutral / least likely); though 31.5% (19.5% + 12.0%) of the sample declare that grant aided projects have a likelihood of having a total change in scope, while 66.3% (38.0% + 28.3%) differ; thus it can be believed that it is unlikely to have a total scope change on the project. 2.2% were undecided on the matter.

Moreover, parastatal projects (2.36) were also less likely to undergo a total project scope change. 66.3% (34.8% + 31.5%) of respondents confirmed that it is very unlikely to have a total scope change in parastatal projects, while 27.2% (17.4% + 9.8%) of the respondents indicated that it is likely to have a scope change in parastatal projects.

Total change in scope on private projects was least likely to occur, with a MS of 1.98, which is > 1.80 ≤ 2.60 (least likely to neutral / least likely). 80.4% (46.7% + 33.7%) of the respondents declared that it is least likely to have a total change in scope on private projects, while 18.5% (12.0% + 6.5%) of the respondents indicated that it is likely to have a total change in scope on private projects.

Table 4.27 presents the responses of Question 25.
4.2.6.4 Influence in terms of decision making on development projects

The responses to Question 26, which evaluated certain stakeholders’ influence on decision making on development projects, are tabulated in Table 4.28.

However, the findings indicate that there is a significant impact certain stakeholders have on the influence of general decisions on projects. Based upon the results, the stakeholder with the highest influence in terms of decision making is a Member of Parliament, with a MS of 4.14, which is $> 3.60 \leq 4.20$ (neutral to influential / influential); 88.0% (45.6% + 42.4%) of the respondents indicated that MPs are the most influential stakeholders in terms of decision making on the development projects, while 12% (4.4% + 7.6%) of the respondents differed, stating that MPs were not as influential in decision making.

In addition, district commissioners have a significant influence in decision making on projects, with a MS within the range $> 3.60 \leq 4.20$: between neutral to influential / influential; 70.7% (34.8% + 35.9) of the respondents indicated that there is an impact of the district commissioners’ influence on decision making on projects as opposed to 28.2% (13.0% + 15.2%) of the respondents in terms of the statement that DCs are influential in decision making.

Furthermore, committee chairmen, with a MS of 3.50, which is $> 3.40 \leq 4.20$ (neutral to influential / influential), have lesser influence than DCs but have more

Table 4.27: Likelihood of project scope change

<table>
<thead>
<tr>
<th>Project type</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Public</td>
<td>3.3</td>
<td>8.7</td>
<td>18.5</td>
</tr>
<tr>
<td>Grant aided</td>
<td>2.2</td>
<td>38.0</td>
<td>28.3</td>
</tr>
<tr>
<td>Parastatal</td>
<td>6.5</td>
<td>34.8</td>
<td>31.5</td>
</tr>
<tr>
<td>Private</td>
<td>1.1</td>
<td>46.7</td>
<td>33.7</td>
</tr>
</tbody>
</table>
influence than village headmen in terms of decision making. 64.1% (29.3% + 34.8%) of the responders indicated that committee chairman were very influential in terms of decision making, while 33.7% (15.2% + 18.5%) of the respondents differed stating that committee chairman were not influential in terms of decision making.

Lastly, village headmen, with a MS of 2.71, which is > 2.60 ≤ 3.40 (not influential to neutral / neutral) were not as influential as the other stakeholders; 39.1% (21.7% + 17.4%) of the responders indicated that village headmen were influential in decision making, while 56.6% (29.4% + 27.2%) differed and indicated that village headmen were not influential in terms of decision making. 4.4% of the respondents were undecided on the matter.

Table 4.28: Influence of stakeholders in terms of decisions

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Member of Parliament</td>
<td>0.0</td>
<td>4.4</td>
<td>7.6</td>
</tr>
<tr>
<td>District Commissioner</td>
<td>1.1</td>
<td>13.0</td>
<td>15.2</td>
</tr>
<tr>
<td>Committee Chairman</td>
<td>2.2</td>
<td>15.2</td>
<td>18.5</td>
</tr>
<tr>
<td>Village Headman</td>
<td>4.3</td>
<td>29.4</td>
<td>27.2</td>
</tr>
</tbody>
</table>

4.2.6.5 Influence in terms of changing the technical specification on projects

The responses to Question 27, which addressed certain stakeholders’ influence on changing the technical specification on projects, are tabulated in Table 4.29.

In terms of development projects, the most influential stakeholder in terms of influencing change in technical specifications on the projects are committee
chairmen, with a MS of 3.51, which is $> 3.40 \leq 4.20$ (neutral to influential / influential); 64.1% (33.7% + 30.4%) of the respondents declared that committee chairmen have a lot of influence in terms of influencing change in technical specifications on projects, while 28.3% (15.2% + 13.1%) bid to differ, thus state that committee chairmen have no influence on instigating change in technical specifications on projects. 7.6% of the respondents were undecided.

Secondly, engineers' influence in terms of change in technical specifications on projects, with a MS within the range $> 3.40 \leq 4.20$: between neutral to influential / influential. 65.3% (37.0 + 28.3%) of the respondents indicated that engineers have the most influence in changing technical specifications on developmental projects, while 29.3% (16.3% + 13.0%) of the interviewees declared that the engineers are not as influential in terms of influencing change in technical specifications on projects. 5.4% of the respondents were undecided.

The third most influential stakeholder in terms of influencing change in technical specifications on projects is the contractor (3.26). The results from the survey indicate that 55.4% (29.3% + 26.1%) of the respondents declared that contractors are very influential in terms of influencing change in technical specifications on projects, while 38.1% (17.4% + 20.7%) of the respondents differed stating that contractors have little influence in terms of influencing change in technical specifications on projects. 6.5% of the respondents were undecided.

The fourth ranked stakeholder in terms of influencing change in technical specifications on projects was the village headman (2.91); 43.4% (22.8% + 20.6%) of the responders indicated that village headmen were influential in terms of influencing change in technical specifications on projects, while 46.8% (26.1% + 20.7%) of the respondents confirmed that village headmen were not influential in terms of influencing change in technical specifications on projects. This result indicates that village headmen have little influence in terms of changing technical
specifications than they have influence. 9.8% of the respondents were undecided.

However, MPs have very little or no influence in terms of influencing change in technical specifications on projects, with a MS of 2.84, which is $> 2.60 \leq 3.40$ (not influential to neutral / neutral). The study indicates that 40.2% (20.6% + 19.6%) of the respondents claim that MPs have influence in terms of changing technical specifications on projects, while 52.2% (28.3% + 23.9%) indicated that MPs have little or no influence in terms of influencing change in technical specifications on projects. 7.6% of the respondents were undecided.

Lastly, district commissioners (DCs) have the least influence in terms of influencing change in technical specifications on projects, with a MS within range $> 2.60 \leq 3.40$: not influential to neutral / neutral. 41.3% (25.0% + 16.3%) of the respondents claim that DCs have an influence on changing technical specifications, while 51.1% (34.8% + 16.3%) of the responders indicated that DCs have little impact in terms of influencing change in technical specifications on projects. 7.6% of the respondents were undecided.

Table 4.29: Influence of stakeholders in terms of changing technical specification

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Response (%)</th>
<th>MS</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unsure</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Committee Chairman</td>
<td>7.6</td>
<td>15.2</td>
<td>13.1</td>
</tr>
<tr>
<td>Engineer</td>
<td>5.4</td>
<td>16.3</td>
<td>13.0</td>
</tr>
<tr>
<td>Contractor</td>
<td>6.5</td>
<td>17.4</td>
<td>20.7</td>
</tr>
<tr>
<td>Village Headman</td>
<td>9.4</td>
<td>26.1</td>
<td>20.7</td>
</tr>
<tr>
<td>Member of Parliament</td>
<td>7.6</td>
<td>23.9</td>
<td>28.3</td>
</tr>
<tr>
<td>District Commissioner</td>
<td>7.6</td>
<td>34.8</td>
<td>16.3</td>
</tr>
</tbody>
</table>
CHAPTER 5

5.0 TESTING OF THE HYPOTHESES

5.1 INTRODUCTION

5.1.1 BACKGROUND OF THE PROBLEM

This research entitled ‘An evaluation of the impact of corruption, economic status and political influence on the Malawian construction industry’ was structured by outlining the statement of the problem. In this case, the statement of the problem was that the construction industry in Malawi is negatively influenced by political greed, corruption, flaws in policy formulation and the poor economy.

The statement of the problem was then sub-divided into four sub-problems, namely:
- The inequitable distribution of development projects;
- Certain contractors dominate over others;
- The construction industry has retrogressed, and
- Resource limitations to standard building specifications.

5.1.2 DERIVATION OF THE HYPOTHESES

Preliminary studies relative to the statement of the problem and sub-problems, taking into account existing phenomena, resulted in the evolution of the following hypotheses relative to the sub-problems:
- There is a significant negative bearing of political greed in the distribution of development projects;
- Corruption does create a dominance of particular contractors over others;
• Retrogression in the construction industry is due to the flaws in construction industry policy formulation, and
• The economy limits the standard specifications used during construction.

The testing of the hypotheses based upon the results and interpretation of the study is presented below.

5.2 TESTING OF THE HYPOTHESES

5.2.1 HYPOTHESIS ONE

*There is a significant negative bearing of political greed relative to the distribution of development projects*

59.8% of the respondents indicated that board committees are the most influential stakeholders regarding distribution of development projects (Table 4.25). The second most influential stakeholders are the contractors; 45.7% of the respondents declared that contractors are influential in decisions on project. Lastly, 40.2% of the respondents indicated that engineers have an influence in decision making on projects. The concern in terms of these results is that board committees comprise of influential politicians and that most contractors are politician owned, as presented in Table 4.6. Phenomenally, these unscrupulous politicians have a great deal of developmental greed.

Findings in the literature review state that as evidenced by Presidential greed, political greed by public officers is also prevalent. In order for an MP to be elected into power there is a need to convince the electorate that a developed built environment will be attainable in his tenure of office (Ng’ong’ola et al., 2001: 24).
However, Table 4.26 indicates that board committees’ mandate to change location of projects is most influential, with a MS of 3.59, which is $\geq 3.40 \leq 4.20$ (neutral to influential / influential); 67.4% of the respondents stated that board committees have the most influential mandate to change project location. Ranked second and third are contractors and engineers respectively. Analogously, distribution of projects is highly influenced by the changes in the location of projects.

Previous research conducted, as stated in the literature review, determined that community-driven approaches can also provide incentives that should act to reduce the development impact of allocating projects (Kenny, 2006: 39).

Table 4.27 indicates that public projects are the most likely type of projects to experience a total scope change as compared to other project types studied. Conversely, 69.5% of the respondents indicated that public projects are the most likely to experience total scope change, with a MS of 3.63, which is $> 3.40 \leq 4.20$ (neutral to likely / likely). Most of the public projects are community based developmental projects which are more likely to be manipulated by political greed.

As stated in the literature review, Devereux et al. (2004: 32) in the Institute of Development Studies (IDS) Research Report 56 strongly acknowledge the existence of political greed and political interference regarding project allocation and scope change.

Furthermore, in the literature review context, Devereux et al. (2006: 16) argue about the conditions set in determining allocation of development projects, the community participation, and the politicians’ involvement. Results show that political greed influenced the distribution of the projects.
Therefore, from the results of this research and previous surveys, it can be concluded that political greed influences the distribution of the projects.

**Conclusion:** The hypothesis is supported.

### 5.2.2 HYPOTHESIS TWO

*Corruption does create a dominance of particular contractors over others*

Table 4.3 indicates that corruption in the form of bribery exists, for contractors to gain favours in the construction industry. Moreover, 67.4% of the respondents indicated that the most likely people enticed by bungs are NCIC officers, with a MS of 3.59, which is $> 3.40 \leq 4.20$ (neutral to often / often). However, NCIC officers are responsible for rating contractors, thus certain contractors who bung have an upper hand in rating to those contractors who do not practice corruption. Moreover, evidence from BEEPS (2005: 7) surveys suggests that state-owned firms are more likely to bung for government contracts and licenses.

Therefore, in an approach based on Transparency International business principles, it was agreed among piping companies in Colombia’s water sector to reduce bribery, which resulted in significantly lower bid award prices for projects, with equality among the participating companies (Lee and Larnemark, 2007: 49).

However, Table 4.4 indicates that individuals are likely to be reprimanded on corruption grounds. This confirms the initial point that individuals are susceptible to corruption in forms of bungs from contractors. Moreover, Table 4.4 also indicates that NCIC inspectors are the most often reprimanded individuals on corrupt grounds. Furthermore, the results indicate that 69.6% of the respondents declared NCIC inspectors as the most often reprimanded individuals while NCIC officers were ranked second. The make or break point for contractors in the
industry is the ability to qualify to bid for tenders, this is where NCIC officers and inspectors play a pivotal role in qualifying contractors to be eligible to bid.

Therefore, as stated in the literature context, Lambsdorff et al. (2005: 23) combined with World Bank led fiduciary assessments and the consultation process which prompted the development of a number of mitigation measures regarding project fiduciary arrangements; new financial management systems and improved audits, and an enhanced supervision process involving the monitoring of `red flags' such as price variance regarding bids and procurement delays which were laid out as an annex to project bid documents (World Bank, 2006: 27).

Table 4.5 indicates the likelihood of contract award to underperforming contractors. 73.8% of the respondents declared that public project contracts are often awarded to underperforming contractors. However, this result is presented in Table 4.6, which confirms that 84.8% of public projects, with a MS of 4.28, which is $> 4.20 \leq 5.00$ (often to very often / very often), are often awarded to politician owned contractors. In addition, Table 4.7 indicates that public contract award is often influenced by corrupt endeavours from contractors which substantiate the phenomenon of contract awards to politically owned contractors on dubious grounds.

As reiterated in the literature review, this reflects that construction firms rely on governments for a considerable part of their business; but also that they tend to make larger payments, as a percentage of contract values, when they bung. Construction firms in Eastern Europe believe that a typical payoff made for securing a government contract in their industry is around 7% of the contract value (Olken, 2004: 56).

Therefore, as previously stated, construction firms represented in BEEPS have significantly larger `bung budgets' than the average firm, and they bung more
often to gain dominance over others. Of the total bung budget a larger percentage goes to gain government contracts. An average of 23% for construction compared to 15% for all firms in the sample (BEEPS, 2004: 27).

In conclusion, from the findings in the literature review and the corresponding results of this survey, corruption does create a dominance of particular contractors over others

Conclusion: The hypothesis is supported

5.2.3 HYPOTHESIS THREE

Retrogression in the construction industry is due to the flaws in the formulation of construction industry policies

Table 4.9 indicates that public projects have a high rating of flaws in policies and its governance. Moreover, 84.8% of the respondents, with a MS of 4.10, which is > 4.20 ≤ 5.00 (neutral to high / high), indicated that public projects have a massive challenge in policy flaws and governance. On the three other project types studied, parastatal projects are also victimised regarding their policy flaws; 67.4% of the respondents declared that parastatal projects possess high policy flaws, with a MS of 3.55, which is > 3.40 ≤ 4.20 (neutral to high / high). However, Table 4.9 also indicates that policy flaws are highly ranked in public and parastatal projects.

Related to this, the OED (2006: 38), citing the World Bank report (2006: 67) confirms that the Asian Development Bank and the International Finance Corporation all incorporate core labour standards in the design and formulation of their investments. If a country's regulatory standards are considered inadequate for a particular construction project, specific standards can be elaborated for contracts.
Table 4.10 indicates the bureaucratic procedures for securing funds from selected sources. However, the findings illustrate that bureaucratic procedures to acquire funds from banking institutions are the most complex; 82.6% of the respondents acknowledged this fact. Statistically, a MS of 3.96, which is $> 3.40 \leq 4.20$ (neutral to complex / complex), confirms that policies set to acquire project funding from banking institutions are complex.

Moreover, policies for securing funds from government treasury are the simplest of all the five sources studied; with a MS of 3.00, which is $> 2.60 \leq 3.40$ (neutral / neutral). In general, Table 4.10 indicates that there are policy flaws in securing project funding.

As previously stated, the Malawian construction sector is closely intertwined with government. A considerable portion of public investment goes to construction. The Malawi Government remains the dominant provider of infrastructure services countrywide, accounting for 78% of investment 1984 - 2003 (Estache, 2006: 6). Government investment in road transport alone can account for between 2 to as high as 3.5% of GDP (Rioja, 2003: 34).

Table 4.11 indicates that client nominated contract award is the most popular contract award method. However, policies on client nominated contracts protect the interest of clients and project award is on the clients’ jurisdiction. Moreover, 59.78% of the respondents acknowledge that client nominated contract award is often used. Furthermore, tender board contract award has well outlined policies, but the findings of this research show that this method of contract award is rarely used; a MS of 2.59, which is $> 1.80 \leq 2.60$ (rarely to neutral / rarely). In general, Table 4.11 indicates that individuals take advantage of contract policy flaws regarding contract award, relative to award methods which may be manipulated to satisfy their greed.
Levy (2007: 81) cites the Paraguay Road Maintenance Project, launched with the support of the World Bank in 2006, and suggests that it is possible to combine a number of governance and anti-corruption approaches in one intervention without overwhelming institutional capacity. The project combines a sectored approach to governance and corruption issues with output-based and community-driven approaches in execution.

Tables 4.12 to 4.15 present inadequacies in policy formulation and contract award. For instance, Table 4.12 indicates that good contractor performance, with a MS of 3.55, which is $> 3.40 \leq 4.20$ (neutral to good / good), is noted from contractors selected by the tender board. Conversely, Table 4.14 indicates a general performance of client nominated public contracts as below par; 56.5% of the respondents declared that performances of client nominated public projects are ranked below par.

In general, this analysis and the findings in the literature review contend that the retrogression in the construction industry is due to flaws in the construction industry policy formulation.

**Conclusion:** The hypothesis is supported

**5.2.4 HYPOTHESIS FOUR**

*The economy limits the standard specifications used during construction.*

Table 4.16 indicates that 60.9% of the respondents declared that current projects have changed specifications due to unavailability of resources. However, 32.6% of the respondents indicated that current projects have not changed specification scope; the study shows that most of the projects under this category are donor funded projects. The unavailability of resources arises from the preference for low cost commodities.
For instance, community-based construction of schools in Malawi and Mauritania cut costs by one half to two thirds over national competitive bidding approaches although some considerable part of this saving was due to lower architectural standards (Theunynck, 2006: 5).

However, Table 4.18 to Table 4.24 illustrates the fact that there is a preference for the use of low cost materials for construction works, and also for build-ability purposes on developmental projects. Conversely, Table 4.18 shows that for hoisting activities, 73.9% of the respondents indicated that cranes are rarely used, while 75.1% of the respondents suggested that ramps are often used. The MS of 3.81, which is $> 3.40 \leq 4.20$ (neutral to often / often) confirms the relative high usage.

The findings in the literature review concur that Malawi is listed as the eighth poorest country in the world with a Gross Domestic Product (GDP) increase of 5.6% in 2007 (Le Roux, 2006: 6). This statistic has an effect on the characteristics and constructability of infrastructure to be constructed and the priorities of the infrastructure in relation to alternative structures which may be deemed necessary to construct.

Moreover, Table 4.19 indicates the usage of selected types of formwork. In general, wooden formwork is the most popular type of formwork and relatively the least expensive; a MS of 3.84, which is $> 3.40 \leq 4.20$ (neutral to often / often) for wooden formwork, surpasses the use of: metal formwork; pre-fabricated formwork, and any other formwork. The same analysis applies to scaffolding.

Furthermore, Table 4.20 presents results of different types of concrete plant relative to its usage. The researcher listed prerequisite plant in concrete cast specification (BS 8110, 2003; 23). The results contend that basic concrete casting compactors such as poker vibrators are not often used, with a MS of
2.52, which is $> 1.80 \leq 2.60$ (neutral to rarely / rarely). In general, similar results applied to common masonry materials, roofing materials, and construction water sources.

In summary, the technical development of Malawi reflects the general standard of specifications on development projects as stipulated in the results of the survey and the findings in the literature review.

**Conclusion:** The hypothesis is supported.
CHAPTER 6

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 SUMMARY

The construction industry in Malawi, as evaluated, is negatively influenced by political greed; corruption; flaws in policy formulation, and the poor economy. The role players in this statement of the problem are political stakeholders; public works officers; city council officers; DDC members; MASAF officers; NCIC officers, and NRA officers.

The target group of these role players is workable in order to deduce a turn around in the construction industry. This research has depicted: the problem in the industry; the sub-problems there of; the role players of the problem, and the proposed solutions. These four parameters provide a workable basis, in construction management, to improve the state of the construction industry.

6.2 CONCLUSIONS

In conclusion, inequitable distribution of development projects is principally due to political greed. The degree and extent of greed regarding these unscrupulous politicians may not be abated by any study, but highlighting the situation in studies and reports will bring awareness of this selfish and out of character behaviour.

Regarding certain contractors dominating over others, the study deduced that corruption in the form of bribery is rampant. Contractors take advantage of low income personnel, such as NCIC officers and inspectors, who play a pivotal role regarding contractor qualification for tender award. The dominance of contractors
is not necessarily based upon performance, as evaluated in this study; politician owned contracting firms relative to their below par performance still dominate with regards to the award of public projects.

In terms of the retrogression of the construction industry, flaws in the construction industry policy formulation and governance thereof are at fault. The personnel entrusted in these responsibilities are not capable, with regards to their: education; profession; experience; expertise, and etiquette. The decision makers in this case ministers or MPs are appointed as figure-heads, but due to the power and authority vested in that office, decisions are made over-looking advice from construction management professionals.

Finally, relative to resource limitations regarding standard building specifications, the economy limits technical specifications used during construction. Low-cost commodities are used, and on a cost-benefit criterion the standard of the final built environment regarding: durability; quality; timely completion, and fitness for purpose for use by the community is normally below par. Relaxing of technical specifications need to be revisited.

In conclusion, relative to the statement of the problem, the construction industry in Malawi is negatively influenced by political greed, corruption, flaws in policy formulation and the poor economy.

6.3 RECOMMENDATIONS

Management of political greed is the root solution to the inadequate distribution of development projects. The role players relative to this scenario are political stakeholders, these include: the President; MPs; ministers, and community heads. The results and findings relative to the aforementioned role players leads to the deduction that there is a mandatory requirement to change the mindset of
individuals. This can be achieved by frequent education in construction management.

Regarding corruption, there is lack of enforcement regarding mitigation measures, as studied. The study concluded that mitigation measures are in place; laws and regulations governing corruption are well outlined, but there is lack of implementation. Double standards are applied regarding mitigation and punishment of individuals involved in corrupt practices. Dominance of unscrupulous contractors over others due to bungs and hand outs may be abated by enforcing the law.

Regarding flaws in policies and their formulation, government has to include professional and qualified construction managers to drive the policy formulation and its implementation. These individuals should also be in the fore-front of the governance of these policies. The role players in this case are MPs and ministers.

Lastly, regarding the poor economy driving resource limitations and standards of the built environment; the role players are clients, in this case the community. A change in mindset is required to uplift the community. This is achievable through a national training initiative regarding community awareness.

### 6.4 RECOMMENDATIONS FOR FUTURE STUDIES

This study was not exhaustive of all the parameters to be evaluated regarding the extent of political influence in the Malawian construction industry. Further studies or research can be undertaken regarding:

- Evaluation of the Malawian construction industry flaws relative to construction management principles;
- The impact of corruption on the Malawian construction industry;
• Rules of engagement to optimise contractor performance relative to the Malawian construction industry;

• An analysis of politicians and political role players’ responsibilities in the Malawian construction industry, and

• An evaluation of the impact of construction project management on Malawian construction projects.

It is of the researcher’s interest to pursue some of the recommended studies in either a doctoral study or ad-hoc studies.
REFERENCES


Available from:  

[http://www.ids.ac.uk/ids/bookshop/rr/Rr52.pdf](http://www.ids.ac.uk/ids/bookshop/rr/Rr52.pdf).  
[Accessed 25 November 2007].


Dear Madam / Sir

Re: An evaluation of the impact of political influence on the Malawian construction industry

This MSc (Construction Management) research project requires that a survey be conducted among political stakeholders, professional practitioners, and members of the community. Your participation is paramount to the success of the survey – without your participation the study will not attain the desired objectives.

We would be grateful if you would assist the researcher by setting aside approximately 12 to 15 minutes of your valuable time to complete the attached questionnaire and return it in the self addressed envelope by 10 October 2009.

Your response will be treated with confidentiality, and the findings of the study can be made available to you upon completion thereof.
Your anticipated support is much appreciated.

Regards

[Signature]

Mulima Phiri

Professor John Smallwood
Professor and Head, Department of Construction Management
Programme Director, MSc (Built Environment) Programme

Mulima Phiri
Researcher
Annexure – B: Questionnaire

AN EVALUATION OF THE IMPACT OF POLITICS ON THE MALAWIAN CONSTRUCTION INDUSTRY

Mark the appropriate box with an 'X'.
Please note the ‘unsure’ options.
If 'other', please record adjacent to 'other' where applicable.

1. On a scale of 1 (rarely) to 5 (often), how would you rate the likelihood of the following corrupt activities relative to the registration of contractors?

<table>
<thead>
<tr>
<th>Activity</th>
<th>Unsure</th>
<th>Very rarely</th>
<th>Very often</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Bribing the referees</td>
<td>U</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>1.2 Bribing the NCIC officers</td>
<td>U</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>1.3 Bribing the NCIC management</td>
<td>U</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>1.4 Bribing the NCIC Board</td>
<td>U</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>1.5 Bribing the inspectors</td>
<td>U</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>

2. On a scale of 1 (rarely) to 5 (often), how would you rate the frequency of the following individuals being reprimanded or disciplined on the grounds of corruption?

<table>
<thead>
<tr>
<th>Individual</th>
<th>Unsure</th>
<th>Very rarely</th>
<th>Very often</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1 Registration officers</td>
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<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>2.2 Inspectors</td>
<td>U</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>
### 2.3 Managers

<table>
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### 2.4 Board members

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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

### 3. On a scale of 1 (rarely) to 5 (often), how do you rate the likelihood of the following projects being awarded to underperforming contractors?

<table>
<thead>
<tr>
<th>Projects type</th>
<th>Unsure</th>
<th>Rarely</th>
<th>Often</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>2</td>
<td>3</td>
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</table>

#### 3.1 Parastatal

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<thead>
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<th>2</th>
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</table>

#### 3.2 Public

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</table>

#### 3.3 Grant aided

<table>
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<th>2</th>
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#### 3.4 Private

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<th>U</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

### 4. On a scale of 1 (rarely) to 5 (often), how would you rate which projects will most likely feature civil contractors that are owned by politicians?

<table>
<thead>
<tr>
<th>Project type</th>
<th>Unsure</th>
<th>Rarely</th>
<th>Often</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
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</table>

#### 4.1 Parastatal

<table>
<thead>
<tr>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

#### 4.2 Public

<table>
<thead>
<tr>
<th></th>
<th>U</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

#### 4.3 Grant aided

<table>
<thead>
<tr>
<th></th>
<th>U</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

#### 4.4 Private

<table>
<thead>
<tr>
<th></th>
<th>U</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

### 5. On a scale of 1 (rarely) to 5 (often), how would you rate the likelihood of the following types of contracts being awarded due to corrupt endeavours?

<table>
<thead>
<tr>
<th>Project type</th>
<th>Unsure</th>
<th>Rarely</th>
<th>Often</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

#### 5.1 Parastatal

<table>
<thead>
<tr>
<th></th>
<th>U</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

#### 5.2 Public

<table>
<thead>
<tr>
<th></th>
<th>U</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>

#### 5.3 Grant aided

|       | U | 1 | 2 | 3 | 4 | 5 |
5.4 Private | U | 1 | 2 | 3 | 4 | 5

6. On a scale of 1 (not efficient) to 5 (very efficient), how would you rate the following corruption mitigation measures?

<table>
<thead>
<tr>
<th>Mitigation measure</th>
<th>Unsure</th>
<th>Not……………………………………Very</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1  2  3  4  5</td>
<td></td>
</tr>
<tr>
<td>6.1 Poster awareness</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>6.2 Training</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>6.3 Civil action</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>6.4 Dismissals</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>6.5 Suspensions</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>6.6 Increase in salaries</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>6.7 Publishing of names</td>
<td>U</td>
<td>1</td>
</tr>
</tbody>
</table>

7. On a scale of 1 (low) to 5 (high), how would you rate the administrative flaws of the following projects?

<table>
<thead>
<tr>
<th>Project type</th>
<th>Unsure</th>
<th>Low……………………………………High</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1  2  3  4  5</td>
<td></td>
</tr>
<tr>
<td>7.1 Parastatal Projects</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>7.2 Public Projects</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>7.3 Grant Aided Projects</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>7.4 Private</td>
<td>U</td>
<td>1</td>
</tr>
</tbody>
</table>

8. On a scale of 1 (simple) to 5 (complex), how would you rate the beaurocratic procedures of securing funding from the following sources?

<table>
<thead>
<tr>
<th>Source</th>
<th>Unsure</th>
<th>Simple…………………………Complex</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1  2  3  4  5</td>
<td></td>
</tr>
<tr>
<td>8.1 Corporate funding</td>
<td>U</td>
<td>1</td>
</tr>
</tbody>
</table>
8.2 Government treasury | U | 1 | 2 | 3 | 4 | 5
8.3 Donour aid | U | 1 | 2 | 3 | 4 | 5
8.4 Public Private Partnership | U | 1 | 2 | 3 | 4 | 5

9. On a scale of 1 (least used) to 5 (most used), how would you rate the following methods of awarding contracts?

<table>
<thead>
<tr>
<th>Projects</th>
<th>Unsure</th>
<th>Least</th>
<th>Most</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.1 Appointed by the committee</td>
<td>U</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>9.2 Nominated by the client</td>
<td>U</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>9.3 Tender award</td>
<td>U</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>9.4 Other:</td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

10. On a scale of 1 (not important) to 5 (very important), how would you rate the importance of the following parameters when awarding a contract?

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Unsure</th>
<th>Not</th>
<th>Very</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.1 Previous performance</td>
<td>U</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10.2 Resource allocation</td>
<td>U</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10.3 Tender amount</td>
<td>U</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10.4 Contractor grading</td>
<td>U</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

11. On a scale of 1 (below par) to 5 (excellent), how have the contractors chosen by the Tender Board performed in previous projects?

<table>
<thead>
<tr>
<th>Project type</th>
<th>Unsure</th>
<th>Below par</th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.1 Public</td>
<td>U</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10.2 Private</td>
<td>U</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
12. On a scale of 1 (below par) to 5 (excellent), how have the contractors nominated by the client performed on previous projects?

<table>
<thead>
<tr>
<th>Project type</th>
<th>Unsure</th>
<th>Below par</th>
<th></th>
<th></th>
<th></th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10.1 Public</td>
<td>U</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10.2 Private</td>
<td>U</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10.3 Grant Aided</td>
<td>U</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10.4 Parastatal</td>
<td>U</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10.5 Other:</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

13. On a scale of 1 (below par) to 5 (excellent), how have the contractors appointed by the committee performed on previous projects?

<table>
<thead>
<tr>
<th>Project type</th>
<th>Unsure</th>
<th>Below par</th>
<th></th>
<th></th>
<th></th>
<th>Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10.1 Public</td>
<td>U</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10.2 Private</td>
<td>U</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10.3 Grant Aided</td>
<td>U</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10.4 Parastatal</td>
<td>U</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10.5 Other:</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

14. Has the project you are working on changed specification due to unavailability of specified resources?
15. On a scale of 1 (low) to 5 (high), how are the following resources weighted in terms of planning budget allocation relative to its availability?

<table>
<thead>
<tr>
<th>Resources</th>
<th>Unsure</th>
<th>Low………………………………………………..High</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>15.1 Labour</td>
<td>U</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>15.2 Plant</td>
<td>U</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>15.3 Supervision</td>
<td>U</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>15.4 Materials</td>
<td>U</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>15.5 Other:</td>
<td>U</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

16. On a scale of 1 (least used) to 5 (most used), when not specified in the contract, how would you classify the frequency of use of the following hoisting equipment, on a cost - benefit ratio for the project?

<table>
<thead>
<tr>
<th>Resource</th>
<th>Unsure</th>
<th>Least………………………………………………..Most</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>16.1 Cranes</td>
<td>U</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>16.2 Ramps</td>
<td>U</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>16.3 Pulleys</td>
<td>U</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>16.4 Other :</td>
<td></td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

17. On a scale of 1 (least used) to 5 (most used), when not specified in the contract, how would you classify the frequency of use of the following forms of formwork, on a cost - benefit ratio for the project?

<table>
<thead>
<tr>
<th>Resource</th>
<th>Unsure</th>
<th>Least………………………………………………..Most</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>17.1 Metal</td>
<td>U</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
17.2 Wooden | U | 1 | 2 | 3 | 4 | 5
17.3 Prefabricated | U | 1 | 2 | 3 | 4 | 5
17.4 Other: | | 1 | 2 | 3 | 4 | 5

18. On a scale of 1 (least used) to 5 (most used), when not specified in the contract, how would you classify the frequency of use of the following forms of scaffolding, on a cost-benefit ratio for the project?

<table>
<thead>
<tr>
<th>Resource</th>
<th>Unsure</th>
<th>Least………………………………………………Most</th>
</tr>
</thead>
<tbody>
<tr>
<td>18.1 Metal</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>18.2 Wooden</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>18.3 Prefabricated</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>18.4 Other:</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

19. On a scale of 1 (least used) to 5 (most used), when not specified in the contract, how would you classify the frequency of use of the following plant on concrete works, on a cost-benefit ratio for the project?

<table>
<thead>
<tr>
<th>Resource</th>
<th>Unsure</th>
<th>Least………………………………………………Most</th>
</tr>
</thead>
<tbody>
<tr>
<td>19.1 Poker vibrator</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>19.2 Mobile concrete mixer</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>19.3 Concrete delivery trucks</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>19.4 Gauge boxes</td>
<td>U</td>
<td>1</td>
</tr>
</tbody>
</table>
20. On a scale of **1 (least used)** to **5 (most used)**, when not specified in the contract, how would you classify the frequency of use of the following masonry materials, on a cost-benefit ratio for the project?

<table>
<thead>
<tr>
<th>Resource</th>
<th>Unsure</th>
<th>Least………………………………………………..Most</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>20.1 Clay bricks</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>20.2 Engineering bricks</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>20.3 Concrete bricks</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>20.4 Stabilised soil bricks</td>
<td>U</td>
<td>1</td>
</tr>
</tbody>
</table>

21. On a scale of **1 (least used)** to **5 (most used)**, when not specified in the contract, how would you classify the frequency of use of the following roofing materials, on a cost-benefit ratio for the project?

<table>
<thead>
<tr>
<th>Resource</th>
<th>Unsure</th>
<th>Least………………………………………………..Most</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>21.1 IBR sheets</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>21.2 Corrugated iron sheets</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>21.3 Roofing tiles</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>21.4 Grass thatching</td>
<td>U</td>
<td>1</td>
</tr>
</tbody>
</table>

22. On a scale of **1 (least used)** to **5 (most used)**, when not specified in the contract, how would you classify the frequency of use of the following water sources, on a cost-benefit ratio for the project?
### Borehole

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Unsure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borehole</td>
<td>U</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

### Tap

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Unsure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tap</td>
<td>U</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

### Water bowsers

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Unsure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water bowsers</td>
<td>U</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

### Stream/River

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Unsure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stream/River</td>
<td>U</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

23. On a scale of 1 (least influential) to 5 (most influential), how would you rate the influence of the following stakeholders on the project?

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Unsure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>The engineers</td>
<td>U</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Unsure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Board Committee</td>
<td>U</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Unsure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>The contractor</td>
<td>U</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

24. On a scale of 1 (least influential) to 5 (most influential), how would you rate the following stakeholders’ mandate to change the location of a project?

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Unsure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>The engineers</td>
<td>U</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Unsure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Board Committee</td>
<td>U</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Unsure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>The contractor</td>
<td>U</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
25. On a scale of **1** (**least likely**) to **5** (**most likely**), how would you rate the chances of the following projects having a total change in scope?

<table>
<thead>
<tr>
<th>Project type</th>
<th>Unsure</th>
<th>Least</th>
<th>Most</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parastatal</td>
<td>U</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Public</td>
<td>U</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Grant aided</td>
<td>U</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>Private</td>
<td>U</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>

26. On a scale of **1** (**least influential**) to **5** (**most influential**), how would you rate the following political stakeholders’ influence on decision making on a project?

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Unsure</th>
<th>Least</th>
<th>Most</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Member of Parliament</td>
<td>U</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>The District Commissioner</td>
<td>U</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>The Village Headman</td>
<td>U</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>The Committee Chairman</td>
<td>U</td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
</tbody>
</table>

27. On a scale of **1** (**least influential**) to **5** (**most influential**), how would you rate the following political stakeholders’ impact in changing the technical specifications on the project?

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Unsure</th>
<th>Least</th>
<th>Most</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1 2 3 4 5</td>
<td></td>
</tr>
<tr>
<td>27.1</td>
<td>The Member of Parliament</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>27.2</td>
<td>The District Commissioner</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>27.3</td>
<td>The Village Headman</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>27.4</td>
<td>The Committee Chairman</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>27.5</td>
<td>The engineer</td>
<td>U</td>
<td>1</td>
</tr>
<tr>
<td>27.6</td>
<td>The contractor</td>
<td>U</td>
<td>1</td>
</tr>
</tbody>
</table>

Please fill in your details below to facilitate contacting you, in the event of a query. Please note that the data provided in this questionnaire will be treated with the strictest confidence.

ORGANISATION: ________________   PHONE: _________________
ADDRESS:  ________________   FAX:  ________________
________________   MOBILE: _________________
________________   E-MAIL _________________

CONTACT PERSON: _________________________
REMININDER

Dear Sir / Madam,

Re: An evaluation of the impact of political influence on the Malawian construction industry

A questionnaire was sent to you by post a few weeks ago. Up to date I have not received your completed questionnaire.

If the questionnaire has been completed and returned before the receipt of this friendly reminder, accept my appreciation and please ignore the rest of the letter.

I acknowledge the fact that your time is very limited, but would appreciate if you could complete the questionnaire and return it at your earliest convenience.

In the case of non receipt or misplacement of the questionnaire pertaining to the research above, please contact me for the necessary arrangements – without your input, this research study will not be successful.
Your anticipated support is much appreciated.

Regards

Mulima Phiri

Professor John Smallwood
Professor and Head, Department of Construction Management
Programme Director, MSc (Built Environment) Programme

Mulima Phiri
Researcher