

# **1 CHAPTER ONE: INTRODUCTION**

## ***1.1 GENERAL BACKGROUND TO PROCUREMENT IN BOTSWANA***

At independence in 1966, the economy of Botswana was supported mainly by limited revenue derived from the cattle industry and the new Republic of Botswana inherited limited public buildings from the British Colonial Administration. Botswana required grants to support the recurrent budget until self-sufficiency was achieved in the early 1970s when diamonds were discovered and explored. The rapid growth that occurred after that necessitated planning on public expenditure. However, funds for the development of the mining infrastructure and associated services still had to come from aid agencies hence coherent plans were needed to attract assistance. At that stage, most planning was centred around the government budget. The ability to obtain aid was crucial and the National Development Plan (NDP) was created around projects for which finance was sought. The NDP is a master plan for a five year period. It entails capital and expenditure budgets for infrastructure development.

Since the economy has grown in size and sophistication, the planning system has developed. Successive development plans have become broader in scope and more sophisticated in technique. Botswana has operated sufficient resources domestically and is capable of sustaining long-term costs of projects. According to the Bank of Botswana annual report dated March 2002, the country also holds close to US \$ 6 billion in foreign exchange reserves. Institutional arrangements have become diverse and more sophisticated. The growth of the Ministerial Planning Units (MPUs) and the diverse structure of the Ministry of Finance and Development Planning (MFDP) are two examples. Under this ministry there is the Department of Architectural and Building Services (DABS) - along with its counterpart the Department of Electrical

and Mechanical Services (DEMS), whose functions are to coordinate the design, construction and maintenance of public buildings. DABS and DEMS have dedicated units called Direct Works Department that carry out maintenance works to buildings after handover.

### ***1.2 THE STATEMENT OF THE PROBLEM***

The government is concerned about the quality of buildings, the time and cost overruns in building projects. The overruns and the poor quality of buildings are attributable to the current procurement system. The major challenge faced by the government is to adopt an efficient and effective system to cater for better quality of buildings, reduced cost and time overruns without compromising transparency and high level of accountability required of the public sector in Botswana.

The problem therefore is to analyse and evaluate the existing procurement system for building Contractors and recommend more efficient and effective procurement strategies of public sector building Contractors in Botswana.

### ***1.3 THE SUB PROBLEMS***

The sub-problems relate to the hypotheses in section 1.4 that follows. They are written in a question format in order to set out clearly the problem areas to be addressed.

*1.3.1 What are the causes of project cost and time overruns? Do the overruns affect the quality of buildings?*

*1.3.2 Is the tendering information accurate and timely?*

- 1.3.3 *Is the tendering system too complicated for smaller Contractors?*
- 1.3.4 *Are Contractors provided with clear details of the adjudication criteria?*
- 1.3.5 *Does preferencing for Citizen Contractors reduce competition among Contractors?*
- 1.3.6 *Does the mode of payment in government create cash flow problems for Contractors?*
- 1.3.7 *What are the views of Citizen and non-citizen Contractors on the targeted procurement?*
- 1.3.8 *Does the type of contract used affect timely delivery and budget control?*

The objective is to analyse each stage as a sub-problem by identifying the weakness and strengths of the government processes and make recommendations for each stage in order to reduce or eliminate the weaknesses whilst enhancing the strengths and opportunities. These recommendations will culminate in the development of overall recommendations that will apply to the entire process of building procurement in the public sector.

#### ***1.4 THE HYPOTHESES***

The following seven hypothesis form the basis of the treatise:

- 1.4.1 The poor quality of buildings, time and cost overruns are a direct result of slow and ineffective procurement processes within the public sector.
- 1.4.2 Tendering information is inaccurate and untimely, making it difficult for would be tenderers to take full advantages of tendering opportunities.
- 1.4.3 The tendering process is perceived by many smaller Contractors as complicated. It is therefore imperative that assistance is provided in an effective and efficient way. This is also true for new and emerging Consultants.
- 1.4.4 Details of the adjudication criteria are unknown in some cases and therefore hamper the objective of transparency. This is especially true where price will no longer be the only criterion in awarding tenders.
- 1.4.5 The system of maintaining an approved list is preferred by both building Consultants and Contractors.
- 1.4.6 The mode of payment to Contractors and the procedures followed thereof results in cash flow problems for Contractors and therefore cost and time overruns.

1.4.7 Citizen Contractors prefer targeted procurement whereas non-citizen Contractors do not.

1.4.8 The type of contract currently used for procuring the services of building Contractors does not provide sufficient incentives for the Contractors to avoid cost and time overruns.

### ***1.5 ASSUMPTIONS***

1.5.1 The government is very keen to implement a procurement system that is more effective and efficient without compromising transparency and accountability.

1.5.2 The pool of human resources within the relevant departments in government has limited knowledge about the alternative models that can work more effectively in the procurement process.

1.5.3 Contractors and Consultants are unhappy about the current procurement process and would like to see change and improvement.

1.5.4 The contracts currently used for Contractors and Consultants are inadequate in allocating risks appropriately.

1.5.5 There is a paucity of historical data on procurement system in Botswana, thus the research would be based on observation, interviews and empirical findings from a survey questionnaire.

- 1.5.6 The recommendations applicable to the government's procurement system can be adapted to suit the parastatal bodies under the control of government.

### ***1.6 DELIMITATIONS AND SCOPE***

- 1.6.1 The analysis is exclusive to the procurement of the services of building Contractors in the public sector. Consultants are used in the questionnaire for comparison only.
- 1.6.2 Focus is on the procurement system employed by the government of Botswana and not parastatals or other affiliated organizations.
- 1.6.3 Focus is in the building construction, it does not involve experiences in mining.
- 1.6.4 The study excludes international focus or specialised contracts for which the government is implored to source international Contractors. Other types of contracts and procedures may be imposed on the government in order to conform to international standards.
- 1.6.5 The stage of the project commencement assumes that government has secured land for development and has complied with all building regulations. Therefore, the treatise shall focus on the relationship between government, Consultants in the construction industry and building Contractors.

- 1.6.6 The treatise focuses on the procurement of main Contractors and not Sub-Contractors.

### ***1.7 RESEARCH METHODOLOGY***

Research will be carried out through interviews, questionnaire survey and literature review. A comprehensive literature study will precede the empirical data analysis.

The approach in this paper is to identify the strengths and weaknesses of the procurement system in the public sector building environment. The research will further analyse and evaluate the existing procurement system in Botswana against the strengths and weaknesses identified in the survey and literature review.

### ***1.8 IMPORTANCE OF THE STUDY***

The key element of the study is to provide more efficient and effective solutions for problems encountered in the procurement system for the government of Botswana. This objective is based on the underlying assumption that government is concerned about the waste of resources and is keen to explore an alternative model that will eliminate time and cost overruns and improve the quality of buildings without compromising transparency and accountability.

### ***1.9 SUBDIVISION OF THE STUDY***

- 1.9.1 *Chapter One*: This will be an introductory chapter, which defines the problem and the intended method of research. It also details the intended layout of the treatise.
- 1.9.2 *Chapter Two*: The review of related literature. Very little has been written about the procurement system in Botswana, therefore the

literature review will be based on studies by writers from South Africa, United Kingdom and the United States of America. This chapter will provide some theoretical models as discussed and proposed by different writers on the topic. The chapter will also outline the policies and procedures followed in the public sector as well as cover the background and developments of the procurement process in Botswana.

- 1.9.3 *Chapter Three:* The method of empirical investigation is discussed. At this stage all data collected will be analysed and interpreted as established from interviews, survey questionnaires and the literature. The data analysis will include statistical and qualitative methods. The summary of this chapter will illustrate each sub–problem and the extent to which the respective hypotheses were affirmed or not affirmed.
- 1.9.4 *Chapter Four:* The Recommendations. These are developed and based on the findings in the analysis and evaluation of data. The recommendations constitute an important part of the main problem and therefore deserve a dedicated chapter.
- 1.9.5 *Chapter Five:* Summary and Conclusions. This chapter provides an overview of the whole treatise, a summary of the main findings and the respective recommendations as well as overall conclusions drawn from the study.



## **2 CHAPTER TWO: LITERATURE REVIEW**

### ***2.1 PROCUREMENT DEFINED***

Harold Kerzner (2001) defines procurement as the acquisition of goods and services. He further explains that it is a process that involves two parties with differing objectives who interact in a given market segment. According to Kerzner, procurement can be treated as a series of cycles. Kerzner identifies these cycles as follows:

- a) Requirement Cycle: scope definition*
- b) Requisition Cycle: analysis of sources of services*
- c) Solicitation Cycle: the bidding process*
- d) Contractor selection and award*
- e) Contract Administration: managing the construction process*

In addition to these processes, planning and closeout may be treated as cycles. Planning plays an important role in the procurement process to the extent that the quality of planning at every stage of procurement affects the quality of the final outcome of the project. However, because of the different procurement strategies adopted by the public sector and the private sector a review of project outcomes in the two sectors can help to derive optimal benefits of the different procurement strategies.

### ***2.2 PUBLIC AND PRIVATE SECTOR COMPARED***

Research undertaken by Bruce N. Baker et al (1974) revealed some of the success and failure patterns associated with public sector projects and the private sector. A report on this will help to illustrate some of the weaknesses and strengths experienced in public sector building procurement. Although this research was based on studies of

projects carried out in the United States, some concepts are universal and therefore can be applied to the Botswana scenario.

Procurement is considered an important integral of project management. Trevor Kent (2002) states that the success or failure of the project is closely linked to the procurement strategy. If procurement is well thought out and competently implemented, the project has an excellent chance of success. Kent further states that procurement begins with further defining the requirements of the project, followed by the selection of suppliers or Sub-Contractors. Hence successes and failures of a project can be directly linked to the procurement strategy.

A review of the comparison between the public and private sector project performance helps towards drawing some important conclusions about the role that procurement plays in the success or failure of the project.

Table 1 below, summarises some popular preconceptions regarding private sector projects and public sector projects. The hypotheses given in Chapter 1 form similar preconceptions about public sector procurement in Botswana.

*Table 1: Some preconceptions regarding Private Sector and Public Sector Projects*

<b>PRIVATE SECTOR</b>	<b>PUBLIC SECTOR</b>
<i>Efficient</i>	<i>Inefficient</i>
<i>Effective</i>	<i>Ineffective</i>
<i>On Schedule</i>	<i>Behind Schedule</i>
<i>Within budget</i>	<i>Overrun of Budget</i>
<i>Well planned</i>	<i>Poorly planned</i>
<i>Competitive</i>	<i>Non – competitive</i>
<i>Capable managers</i>	<i>Incapable managers</i>
<i>Competent workers</i>	<i>Incompetent workers</i>
<i>Free of Politics</i>	<i>Encumbered by Politics</i>
<i>The end product “works”</i>	<i>The end-product does not work</i>
<i>Minimum Paperwork</i>	<i>Excessive paperwork</i>
<i>Definitive Goals</i>	<i>Nebulous goals</i>
<i>Feelings of satisfaction</i>	<i>Feelings of dissatisfaction</i>
<i>People seem to care</i>	<i>People do not seem to care</i>
<i>Good team spirit</i>	<i>Lack of team spirit</i>
<i>Incompetent people are fired</i>	<i>Incompetent people cannot be fired</i>
<i>Good performance is rewarded</i>	<i>Good performance is not rewarded</i>

*Source: Baker et al (1974): Project Management Handbook edited by Cleland D.I and King W.R: page 921.*

Baker (1974) reports that studies of actual cost performance and original cost estimates were performed in the 1950s in which 12 typical weapon system programs

in USA were analysed. The average cost growth was found to be 220% beyond original target cost. Identical results were found during the same period in which 68 estimates were analysed involving 22 Air Force weapon systems.

In these projects an average cost overrun of 226% beyond the original cost estimate was realised. Baker associated these results to the type of contract for procuring construction. These projects involved the cost plus fee contracts of the 1950s.

Baker further reports that in the 1960s incentive contracts were used rather than the cost plus incentive fee. Two studies undertaken in the period when incentive contracts were used showed a move of the actual program cost closer to the cost estimates.

Robert Perry et al (1985) reported in the study of 21 Army, Navy and Air Force system programs that on average, cost estimates for the 1960s were about 25% less than those for programmes for the 1950s. Rand studies of defence procurement in the 1970s showed less cost and schedule overrun than in the 1960s, and studies of the 1980s conducted to-date show improvement over the 1970s.

Other reasons sited for these overrun problems in the public sector are, the interaction of federal, state, and local government, otherwise called red tape or bureaucracy create their inherent set of problems in addition to obstacles encountered in the project itself. Certain more sensitive projects, such as nuclear plant construction, freeway construction entailed the interaction of governmental agencies, many types business entities and public interest groups or lobby groups.

In that study the cost and schedule overruns were also associated with the size of the project and the difficulty of meeting technical specifications. It remains to be seen whether the public sector procurement in Botswana encounters overruns resulting

from red tape, the contract type used, schedule difficulties and the problem of meeting technical specifications. An attempt at answering this question shall be made in the analysis that follows in Chapter 3 when analysing the data from questionnaires.

Table 2, also adopted from Baker et al (1974) summarises some determinants of cost and schedule overruns.

*Table 2: Determinants of Costs and Schedule Overruns*

▪ <i>Cost Underestimates</i>
▪ <i>Use of “Buy-In” Strategies</i>
▪ <i>Lack of Alternative Backup Strategies</i>
▪ <i>Lack of Project Team Goal Commitment</i>
▪ <i>Functional rather than project type organisational structures.</i>
▪ <i>Lack of Team participation in setting up schedules</i>
▪ <i>Lack of Team Spirit and Sense of Mission</i>
▪ <i>Inadequate Control Procedures</i>
▪ <i>Insufficient use of networking techniques</i>
▪ <i>Insufficient use of progress reports</i>
▪ <i>Decision delays</i>
▪ <i>Inadequate Change Procedures</i>
▪ <i>Insufficient Project Manager Authority</i>
▪ <i>Lack of Commitment to Budget and Schedule</i>
▪ <i>Overall lack of experience in similar projects.</i>

*Source: Baker et al (1974): Project Management Handbook edited by Cleland D.I and King W.R: page 925.*

### ***2.3 PRIVATE AND PUBLIC SECTOR PROJECTS COMPARED***

In the study by Baker cited above, some preconceptions outlined in Table 1 were not affirmed. Some of the findings appeared counter intuitive. For instance, even private sector project managers were found to have lesser authority than previously conceived. The perceived tendency for aggressive competition in the private sector was also negated. Clients in the private sector have a stricter approach to adhering to specifications than was previously thought. Legal restrictions also create a substantial amount of delays in the private sector than was previously thought. In the studies it was revealed that project managers in the private sector are replaced more often than in the public sector.

However, most of the items in the study coincided with the preconception. These include red tape in public sector projects, over control, over involvement of the public, politics and the amount of paper work.

From the picture created by the cost plus fee contract, it might appear fit that scales are tipped towards the incentive fee contract. However, powerful arguments have been raised supporting the use of the cost plus fee contracting. Butler F.M et al (1988) argues elaborately in favour of the use of the cost plus. The arguments shall be considered in the discussion that follows.

#### ***2.4 THE CASE FOR COST PLUS CONTRACTING***

The Institute of South African Architects, Practice Manual D2 (1979) states that the cost plus contract consists of an agreement between the Employer and the Contractor whereby the Employer undertakes to compensate the Contractor for all his costs. It further states that in addition, a specific percentage or amount is paid to the Contractor to cover overheads and profit.

The general view given on this contract is that it has many risks for the Employer but little or no risks for the Contractor. Therefore, the disadvantages of this contract can be summarised as follows:

- 1) If the Contractor's overheads and profit are paid for on a percentage basis, then higher costs mean higher rewards for the Contractor and so wastefulness is encouraged. This is probably why there were cost overruns in excess of 200% in the American research studies sited above.
- 2) It is expected that in this contract, the quantity surveyor assumes the role of the technical auditor of the Contractor's accounts. Strict supervision of costs has to be exercised at all times and perfection in this regard is not always possible.
- 3) Budget cost decisions are also complicated by the fact that the final cost of the contract cannot be known or even assessed until the final account stage is reached.

However, Butler et al (1988) observes that in South Africa in the 1980s Contractors were bidding at a loss because of intensive competition and the use of fixed price

contracts. Where the lowest fixed bid is the main criterion for Contractor selection, Contractors are forced to tender on low prices in order to win the tender. Butler attests that this resulted to great losses to Contractors in the 1980s and invariably, disputes over changes, liabilities, and indemnities on projects undertaken in that period. The often sited advantage of the fixed price contract or lump sum contract is that the Employer gets the advantage of a fixed price before a contract is concluded. It affords the Employer to budget and make his cost decisions more firmly. Effectively, the Contractor agrees that any cost to the project above fixed price will be borne by him except for changes, changed conditions, and errors through design and quality modifications.

The reason sited for the use of the cost plus contract applies to Botswana government contracts. Further analysis in Chapter 3 will reveal that the government is not unencumbered with litigations, vexing additional claims from Contractors and formal complaints to the cabinet as a result of losses made by Contractors.

Since time, cost and quality are the cornerstones of project management, Butler et al (1988) makes an assessment of how improvements in the three facets can be achieved by using the cost plus contracting.

### ***2.5 TIME IMPROVEMENTS WITH COST PLUS CONTRACTING***

The Contractor can start work with only the workable drawings available. He does not have to wait for full working drawings to be availed. Occupancy can start before construction is complete. Because of the burden of risks laden on the Employer, he has much closer control of schedule over a cost plus contract than over a fixed price contract.



## ***2.6 COST IMPROVEMENTS WITH COST PLUS CONTRACTING***

Butler et al (1988) state clearly that a cost plus contract cannot save money unless it is managed properly. Since the Contractor has no risks, there is no Contractor contingency in the contract. Unlike in the fixed price contract, the Contractor does not assume any risks, therefore he does not have to put money in his bid to account for the risk.

Furthermore, the Employer can closely control procurement of permanent materials and Sub-Contractors. The owner has to manage the procurement process to ensure that best prices are obtained for both labour and materials.

The cost plus contract eliminates claims and litigation, which characterize the fixed plus contract and therefore legal costs are reduced.

## ***2.7 QUALITY IMPROVEMENTS WITH COST PLUS CONTRACTING***

Business Roundtable (1982) observed that there are many benefits in involving a Contractor at the design phase of the project. The benefits can be derived from integration of construction expertise in the engineering of a project. This eliminates conflicting items and those that would result in non-constructible materials. Butler et al (1988) states that Contractors can be useful in identifying and eliminating situations that may result in future claims.

Butler et al further state that many designers specify items that do not work, are no longer available or would otherwise be unsuitable. An assessment by Contractors often uncovers these before they become contentious issues susceptible to litigation.

## **2.8 INCENTIVE CONTRACTING**

Because of the tremendous results in reducing cost overruns in the American studies cited above, incentive contracting is worthy of mention in this topic. Crown Eagle Communications Pty Limited (Course Manual – 2001) makes a distinction between cost incentive, delivery incentive and performance incentive. The aim of the *performance incentive* arrangement is to motivate the Contractor to introduce into his product improvements in particular areas, which will be of overall financial benefit to the customer by offering long-term savings greater than the initial outlay.

The objective of the *delivery incentive* arrangement is to motivate the Contractor to improve on the delivery he might otherwise be expected to achieve. Crown Eagle further states that performance and delivery incentive arrangements are always expressed as a variation in the profit that the Contractor can earn from the contract, depending on his achievements. The Contractor will earn additional profit if he achieves a level of performance better than the target set in the specification. Therefore, it is essential that some variation in the outturn must be acceptable to the Employer.

Incentive contracting has never been implemented in the public sector in Botswana. The argument often put forward against these creative models of contracting is that the required level of accountability in government is too high to allow for any morsel of uncertainty in contracting.

However, it can be argued that modified versions of incentive contracting, such as targetry, provide adequate security because a Contractor is given an incentive to strive for speedier delivery, quality and savings on cost whilst setting maximum limits on

expenditure. The limits permit a public authority to budget and account for costs in a transparent manner.

## ***2.9 TARGET COST INCENTIVE ARRANGEMENT***

Bentley G.C (1985) Incentive Contracting states that targetry involves the principle that both the cost to the customer and the return to the Contractor will vary and depend on the actual costs incurred with the difference between actual and estimated costs being shared between the parties in an agreed ratio.

He states that under targetry, where the actual costs exceed the target, the Contractor receives his costs plus the target fee less whatever proportion of costs above the target he has agreed to bear himself. If the actual costs are less than the target, the Contractor receives his costs plus the target fee plus whatever proportion of the savings against target agreed upon.

Bentley G C (1985) further identifies the essential components of target cost incentive arrangement as follows:

- 1) A target cost: he defines this as the best estimate determined mutually by the Employer and the Contractor as to what the cost of the work should be.
- 2) A target fee: the amount of profit that will be paid by the Employer if the costs turn out to be precisely as he expected.
- 3) A sharing formula: the arrangement under which the Employer and the Contractor will share in an agreed ratio, the differences between target and overturn costs.

The arrangements for sharing over runs and under runs are usually expressed as a ratio. A simple example adopted from Bently is considered below:

Example: assuming a cost sharing ratio of 75/25 is the arrangement where the Employer will bear 75% of any over runs and enjoy the benefits of 75% of any under run. The Contractor will bear the 25% of the cost of any over run and enjoy the benefits of 25% of any under run.

Given a target cost of R 100 k, a target profit of 10% on costs, a 75/25 sharing ratio and an out turn cost of R 120 k, the actual price payable to the Contractor would be calculated as follows:

*Table 3: Summarising scenario A:*

<b>Item</b>	<b>Rand ('000)</b>
Actual Cost	120
Target Profit	10
Equals	<b>130</b>
Less 25% of 20k overrun on costs	5
Price payable	<b>125</b>

*Source: Bently G C: Incentive Contracting (1985) page 113.*

The Contractor would thus earn a profit of R 5 k on costs of R 120 k equal to 4.2 % on costs. A Contractor under this scenario loses R 5 k in nominal terms. If they had achieved a target of R 100 k they would have earned their 10% on cost or R 10 k.

**Scenario B:**

Given an under run on costs of R 80 k, the actual price payable would be calculated as follows:

*Table 4: Summarising scenario B:*

<b>Item</b>	<b>Rand ('000)</b>
Actual Cost	80
Target Profit	10
Equals	<b>90</b>
Less 25% of 20k overrun on costs	5
Price payable	<b>95</b>

*Source: Bently G C: Incentive Contracting (1985) page 114.*

In this scenario, the Contractor would have earned R 15 k profit on costs of R 80 k, equating to 18.75% on costs. Therefore the Contractor who saves the Employer money is better off by R 5 k compared to target at R 10 k or 10% of target cost.

**2.10 TARGETTED PROCUREMENT OR PREFERENCING**

**2.10.1 THE BACKGROUND**

Traditionally, construction projects are awarded to big enterprises with vast amounts of resources and financial power. These criteria often preclude emerging enterprises in the form of small Contractors or Consultants.

In view of the above, governments are sometimes compelled to create policies that will ensure that smaller emerging enterprises are not marginalized. In the process they consider socio-economic variables such as the regional economic environment,

including such variables as localised economies, recessions, inflation, cost of borrowing money and unemployment. They may also as in Botswana and South Africa take into account past treatment of emerging Contractors. The system provides opportunity for participation by targeted enterprises even those who may not have all the resources, capacity or expertise to perform contracts in their own right.

Preferencing is not unique to developing economies. Harold Kerzner (2001) gives an example in the United States in which a foreign corporation had undertaken a large project that involved the hiring of several Contractors. Because of the country's high unemployment rate, the decision was made to give preference to Contractors in cities where unemployment was the greatest, even though there were other more qualified suppliers and Contractors in other cities. Therefore, a sound preferencing policy should enable social objectives to be linked to procurement in a fair, equitable, competitive and cost effective manner.

Preferencing is similar to what is described in the South African context as targeted procurement. According to the Public Sector Procurement Law Review, No. 5 of 2000, targeted procurement is just one of the criteria relevant to the contract award. The paper further states that these criteria must be balanced against other criteria such as price and quality.

### ***2.10.2 PROJECT MANAGEMENT IN DEVELOPING COUNTRIES***

Al-Sedairy T S (1991) researched on project management as a way forward in developing countries. Some of the features he identified in his research may to a large extent be relevant to Botswana at its current stage of development. Al-Sedairy identifies some of the problems common to developing countries as follows:

- 2.10.2.1 The need to develop human resources quickly so that the country can continue to develop everything else. This often leads to conflict between education and training, since a government will undertake education programs and some training, but private industry must also carry a large proportion of the training needs on its shoulders.
- 2.10.2.2 Because of the size of government's administration and public administration, often rapid and uncoordinated growth, it is not the best vehicle for managing the development of projects unless comprehensive training and updating is undertaken.
- 2.10.2.3 An impatience to have nationals takeover in managerial and technical roles. This often leads to premature transfers which in turn create problems for project development.
- 2.10.2.4 Good management techniques may be at odds with tradition and socio-cultural background, which play an important part in the life of indigenous managers and determine much of their behaviour.

Al-Sedairy also observes that the nature of a developing country involves creation of very large often complex projects, which are undertaken in single or staged phases. As a result a number of distinctive features are identified:

- a) Experience gained particularly in the project management field is not readily transferred to subsequent projects for their benefit.
- b) Errors in estimates of time and cost may be large, since there may be no standards or precedents to follow.
- c) The need for parallel transfer of skills to local employees is considered essential in most projects.

- d) Most products and materials are imported from different countries and thus use different standards and fittings. Imported materials also cause delays in delivery, communication and decision making.

The major client in a developing country is the government. However, as development proceeds, certain types of investment may be reserved for the private sector in an attempt as the case in point to diversify the economy. Al-Sedairy reports that nearly all client types in developing countries exhibit the major problem of management skills in staff and weakness of administrative systems. He further recommends the following strategies for improving public sector administration:

- a) Setting up of well staffed agencies or units for the preparation of feasibility studies and for the planning and follow-up of project implementation.
- b) The streamlining of administrative procedures to accelerate payments and facilitate training of locals.

### ***2.10.3 THE CONTRACTOR***

As a developing country moves along its development continuum, the role of the large international Contractor diminishes and the importance of the small Contractor grows. However, the concept of competitive bidding is widely used in developing countries, leaving the small Contractor with very few opportunities to penetrate. The design is established and materials and equipment prices are almost set for all tenders so the small Contractor is left with only a few areas on which to make profit. Al-Sedairy T S (1991) identifies these areas as follows:



- a) Reduce overheads.
- b) Improve labour productivity
- c) Improve site management
- d) Clever purchasing

These happen to be the areas where smaller Contractors in developing countries are least qualified.

In his research on project management in developing countries, Al-Sedairy noted that foreign large to medium sized Contractors often play a major role in the early development stages of a country. However, the time comes eventually when the local Contractors or Citizen Contractors will take over much of the construction work. This calls for conscious training and education programs for local Contractors.

#### **2.10.3.1 Risk Allocation**

Government can partake in risk allocation, acquiring some of the risks normally associated with Contractors. Risk taking can be structured in the following way:

- a) Damage to the works resulting from natural causes should be at the client's cost.
- b) The client should take responsibility for providing data on sub-ground conditions and then compensate the Contractor if the data prove incorrect.
- c) The Contractor should not be required to be responsible for checking the drawings for error.
- d) Penalties for late completion should be moderated.

### **2.10.3.2 Modification of contract letting procedures**

The level of sophistication required to price designed projects is often lacking from local Contractor's systems, leaving them disadvantaged against foreign, well experienced competitors. The government can support the local contracting industry as follows:

- a) Using tender documents that relate to the local Contractor's method of pricing rather than to an international, design oriented set of documents.
- b) Relaxing of requirements for guarantees and bonds in certain areas, or provision for such bonds through the government.
- c) Limiting the use of imported materials with their associated financial exchange rate problems.
- d) Considering alternative design approaches from the Contractor which are based upon knowledge of practical construction methods.

### **2.10.3.3 Efficient Compensation programs**

Poor cash flow is the major reason that indigenous Contractors either cannot obtain work or fail to complete that which they gain. An unsteady cash flow may well result from the Contractor's own poor organisation, but quite often in developing countries it derives from erratic, cumbersome payment procedures by the Employer.

#### **2.10.3.4 Provision of Contractor Registration Procedures**

A Contractor registration procedure is used in many developing countries. However, the Contractors do not often know the standards required to qualify for approved lists. The client should make requirements known in order to enable Contractors to strengthen those areas in their organization that are weak when compared with registration requirements.

#### **2.10.3.5 The Level of Project Generation**

Inconsistencies in the supply of projects present a severe strain on the local small Contractor who cannot afford resources for a project and with little or no guarantee that another will be forthcoming in the near future. Governments can consider their development plans with a view to providing more smaller projects within one large one thus providing a chance for the local Contractor to participate in what would otherwise be beyond its capabilities.

Local Contractors often lack any form of federation and so have no cohesive vehicle for representation to the government. The small Contractor therefore has to deal with the mass of government bureaucracy alone.

#### ***2.10.4 PREFERENCING IN BOTSWANA.***

The policy of preferencing in Botswana is derived very much from the observations made by Al-Sedairy in his studies of project management in developing economies. He rightfully states that as a country moves through its development continuum, the role of the large international company diminishes and the importance of the small Contractor grows. In Botswana competitive bidding has also left the small Contractor

with very few opportunities because of the stringent criteria placed by government for large development projects. Large international companies such as Murray and Roberts, Stocks and Stocks and the influx of many Chinese construction companies have created much stiffer competition resulting in a fall of some local Contractors.

This culminated in a special plea for assistance to the government by the Association of Citizen Contractors in 1991. According to a memorandum from the Association, citizens were forced to bid at low prices in order to win jobs due to competition from foreign companies. This resulted, according to the memo in many citizens losing money and being forced to inject additional capital from bank borrowings.

The memo further stated that the introduction of the fixed fee contract for Local Authorities was not responsive to movements in the prices of labour, equipment and material. The Association also claimed that government specified a number of suppliers who enjoyed certain monopolies yet could not deliver crucial material in time resulting in project time overruns.

Therefore, the Association proposed that government should help them restructure and refinance their debts by setting up a P 50 million revolving fund. They proposed that the fund would lend money for the purpose of refinancing citizen owned companies by payment of debts and by providing working capital for specific projects.

The government responded by engaging a Task Force to investigate the allegations. According to a cabinet memo dated 20<sup>th</sup> October 1995 the findings were as follows:

- a) Many project failures were attributable to poor management practices by Citizen Contractors. These included such factors as inability to submit

economic bids, poor project planning and poor site productivity and management.

- b) It was further observed that Citizen Contractors are generally reluctant to employ professional and skilled staff that could provide the needed expertise for the successful implementation of the projects.
- c) The construction boom of the 1990s led many new Contractors to enter the construction industry. The economic downturn that followed resulted in reduced demand for construction.
- d) It was also found that following the impact of Chinese, construction prices and profit margins stabilised.

Despite resistance by the government to assist local companies in the manner proposed by the Association, it became clear that some sort of assistance had to be provided. Pressure from civil servants, influential political party-liners and the advent of citizen economic empowerment, resulted in the government developing a policy directed at citizen preferencing.

The recently promulgated Procurement and Asset Disposal Legislation empowers the minister of Finance and Development Planning to press economic and social objectives to introduce reservation and preference schemes in favour of Citizen Contractors. Although the government is still battling with the modalities, it is clear that citizenship is an important criterion in the adjudication process.

Even though many supported the preferencing policy, especially citizens, some sectors have received it with mixed feelings. It has been criticized for encouraging a

culture of entitlement, for patronising and undermining serious citizens, encouraging citizens to prostitute their citizenship through fronting for non-citizen companies, as well as being xenophobic policy. Alternatives offered include promotion of talent, hard work and innovativeness and reward systems for good performance and penalties for non-performance.

Much can also be learnt from the South African context. The public sector law review No. 5 2000 stated that targeted procurement provides employment and business opportunities for marginalized and disadvantaged individuals and communities referred to as “target groups”. Small and medium enterprises are targeted in a generic or area bound basis. Generic targeting can target either all small scale enterprises within a country or small scale enterprises within demarcated political boundaries.

The Law Review further defines targeted procurement as a technique of making the social benefits just one of the criteria relevant to contract award, which must be balanced against other criteria such as price and quality to ensure that social benefits are obtained with minimum possible costs to the government. In South Africa, Contractors are given the flexibility to decide exactly how the targeted groups will be used, rather than the government deciding on the way in which those groups should be involved. This argument has also ensued in the Botswana situation, some critics believe that the government should not prescribe the way Contractors relate. They believe that the relationship should be left to the Contractors. Targeted procurement should in essence also promote business linkages between large and small enterprises. Such linkages should also extend to service provision, materials supply, manufacture and transportation.

## **2.11 THE PROCUREMENT PROCESS IN BOTSWANA**

### **2.11.1 THE PROCESS DESCRIBED**

The government of Botswana has appointed Planning Officers (POs) in each Ministry. Their duties are to initiate and motivate for the project and thereafter co-ordinate it and act as a liaison officers between the recipient Ministry and Department of Architectural and Building Services. The process derives much from the Kerzner's procurement cycles stated above. However, for the purpose of this treatise, a brief outline of the process in government is provided in order to familiarise the reader with the relationships of departments in government within these processes. The process is influenced by the crucial requirement for transparency, high level of accountability and fairness within the public sector. Hence certain procedures are mandatory even though they may seem too rigorous relative to the size of the project.

#### **a) Requirement Cycle and the Development Plan**

The Planning Officers identify accommodation requirements for their own Ministries. They do so by carrying out space audits of each department and considering the current and future requirements for each department. They then prepare a preliminary brief for DABS. This will state the requirements and the proposed location for the project. It will also state, the number of people to be accommodated, the function of the building, a contingency plan and future projections. The planning officers identify requirements to cater for 5 to 10 years, which is the same period applicable to successive National Development Plans.

## **b) National Development Plans**

The Department of Architecture and Building Services then prepares a preliminary cost estimate. The estimate will cover contingencies, Consultant's fees, and allow for inflationary effect. The Preliminary estimate then forms part of the Thumbnail Sketch (TNS) which is forwarded to the Ministry of Finance and Development Planning (MFDP). If it is acceptable, the TNS is submitted through cabinet to Parliament, normally as part of a new National Development Plan, but may take the form of a supplement to the plan. The MFDP advises cabinet on the availability of funds to finance the project.

## **c) Requisition Cycle**

Assuming that the parliament approves the project, DABS inspects the site for suitability and verifies the availability for supporting infrastructure such as, roads, telephones and other services. The Planning Officers then prepare a detailed brief to DABS who then carry out detailed designs and cost estimates. The designs have to be approved by the Ministry involved. Upon approval of the design, scope and estimates, a Project Memorandum (PM) is prepared to MFDP. The MFDP appraises the memorandum and the approved project is submitted for funding within the Ministry. The Central Tender Board then prepares tender documents for Contractors. Most buildings are designed by DABS. However, for larger projects and specialist work or works of an urgent nature, the project is contracted out to professional Consultants. The tendering and procurement of Contractors is coordinated by CTB, who calls for qualifying Contractors for each project. The tenders are advertised in the government gazette. They are opened in public on the due date. DABS evaluates the tenders and makes recommendations to CTB for an award of the contract. The CTB adjudicates



the tenders and either authorizes DABS to accept tender or re-advertise as the case may be. Funds may be limited or devolved to other projects of higher priority.

**d) Contract Administration**

Once the tender is accepted, the Contractor starts construction of the buildings. Construction is supervised by DABS or in the case of involvement of Consultants, DABS supervises the Consultants. DABS reports progress to the Permanent Secretary in the Ministry of Finance and Development Planning. The building contract provides for a maintenance period of six months during which the Contractor is responsible for defects which may become apparent.

A certain amount of retention is withheld until the end of the maintenance period. The above process will be analysed and evaluated in the chapters that follow. The questions are whether the process allows for effectiveness in light of expediency requirements of certain projects, effective use of funds, timely delivery and the political pressures that are characteristic of major projects. Other procedures though catering for the requirement of transparency can have trade-off in cost effectiveness, timeliness and sometimes quality.

***2.11.2 THE PROCUREMENT AND ASSET DISPOSAL ACT 2001***

A new Act was enacted in July 2001 called the Public Procurement and Asset Disposal Act 2001. This Act repeals the Supplies Regulations issued by cabinet in 1988. The new Act aims at introducing changes to the structure and regulation of public procurement and asset disposal.

The Act provides for replacement of the Central Tender Board (CTB) with the new board called the Procurement and Asset Disposal Board (PABD). The PABD will in conjunction with other Ministerial Committees regulate public procurement for the government. The new board is tasked with ensuring competitiveness, fairness and equitable treatment of Contractors during the procurement process, as well as, enforcing transparency and accountability.

The Board will also standardise the bidding system or packages for use by all government departments. It will review all tender packages and tender notices that are issued by government departments. It will also receive and respond to complaints from Consultants, Contractors or members of the public.

The Act reaffirms the position taken by government and communicated through a number of cabinet memos that government shall have the power to institute reservation and preferencing policies for the benefit of Citizen Contractors. The Act further prescribes that preferencing be equitably distributed, competitively tendered for and based on a company's ability to perform.

The Act further sets out the types of contracts to which reservations shall apply. The preferencing regime shall be analysed in the Chapter 3. However, strong arguments have been raised regarding the prescription of this Act. The Architects Association of Botswana recently released statements that the Act does not seek to reduce the length of the procurement process even though this has been identified as the major cause of delays and subsequent cost escalations. The Act is criticized for prescribing the relationship between citizen and non-citizens in the preferencing provisions. They argue that the Act should set goals and leave it to the market to respond to those goals.

At the moment, the procuring departments have very little decision-making and award power as these have all been vested in the Central Tender Board. The Act will ensure that the powers are decentralised by establishing Ministerial Committees to handle procurement within their own Ministries. These Committees are awarded adjudication and award making powers against tight reporting to the Public Procurement and Asset Disposal Board.

The regime for preferencing comes from the pressure of Citizen Consultants and Contractors that have been marginalized by more powerful foreign competitors from participating in the development and mainstream of their own economy.

However, the government has at some stage expressed reservations about employing Citizen Contractors. The argument is that many of the Citizen Contractors fail to meet their contractual obligations because of poor management practices, poor project planning, poor site productivity, high overhead costs and inability to submit economic bids. On the other hand, the Association of Citizen Contractors argues that Contractors are forced to bid too low because of pressure from foreign competitors, and in particular Chinese Contractors. They complain that the fixed price contracts are not responsive to price movements hence many Contractors could not meet their financial obligations with suppliers when prices escalated. These arguments will be analysed and reviewed in Chapter three.

## ***2.12 SUMMARY***

This literature review was an attempt at finding those areas of research that can answer the questions raised by the sub-problems and to see how the answers relate to the hypotheses.

Project procurement is a cycle within a cycle of project management, therefore, procurement is an important factor in determining the success or failure of a project. A comparison of the public sector and private sector was an attempt at answering the question of efficiency in the public sector projects. There were many pre-conceptions made about public sector projects in the American studies, some of which were not affirmed. However, bureaucracy in the procurement process is found to be a major cause of cost and time overruns.

It is important to select a contract that will give Contractors sufficient incentives to save money and meet contract schedules. Research in the USA has found incentive contracting to be ideal for helping Contractors meet their budget and schedule overruns.

Because of high levels of accountability and transparency required of the public sector, the procurement process in Botswana is quite lengthy and this impacts heavily on costs and schedule overruns.

The government of Botswana like many governments in developing countries recognizes the importance of local or citizen preferencing, hence the Minister of Finance is empowered by the new legislation to give reservation where he sees fit in order to empower citizens. The literature has also provided alternatives ways in which government can assist Citizen Contractors such as risk allocation, modification of

contracts, efficient compensation programs, registration procedures and project inflow.

The next chapter forms an analysis of the data collected through questionnaires, interviews and from other researchers. It is a further attempt to answer the main and the sub-problems about public sector procurement in Botswana.

### **3 CHAPTER THREE: DATA ANALYSIS & EVALUATION**

#### ***3.1 INTRODUCTION***

The objective of the questionnaire was to collect sufficient statistical and qualitative data to help in answering questions raised by sub-problems and make conclusions on whether the respective hypotheses are affirmed or not.

Sixty questionnaires were distributed, thirty to Contractors and another thirty to Building Consultants, such as, architects and quantity surveyors. The questionnaires were hand delivered to Contractors and Consultants living in Gaborone. Out of the 60 questionnaires distributed 48 were returned. Twenty of the 48 respondents were Contractors and 28 were Consultants.

The questionnaire was divided into two sections; Section A) dealt with more specific questions susceptible to statistical analysis whereas Section B) entailed general questions of opinion more prone to qualitative analysis. Section A) will be analysed using statistical methods such as prevalence techniques, the mean, median and mode or number of entries per question. The general survey was structured in such a manner that respondents gave their opinions on the question at hand and suggested suitable alternatives where applicable. For instance, opinions on targeted procurement stated the advantages, the disadvantages and alternatives or ideas on improving the system were provided.

An interview was arranged with a respondent whenever there were issues in the questionnaire that needed clarification or whenever the information on specific questions contradicted the opinion survey in a material way.

### **3.2 SECTION A: SPECIFIC QUESTIONS: SURVEY QUESTIONNAIRE**

*(Paragraphs 1 to 12).*

1. Determinants of Choice of Contractor: The question was phrased as follows: *Which of the following factors are important in determining the choice of the Contractor?* The weighting of determinants in the table below was based on a scale from 1 to 10;

1 – least important and 10 – most important.

*Table 5: Summarising the criteria in appointing Contractors*

<b>Determinant</b>	<b>Experience With Similar Projects</b>	<b>Financial Capability</b>	<b>Completion Period Proposed</b>	<b>Reputation</b>	<b>Citizenship</b>
<b>Average Score</b>	<b>8.33</b>	<b>7.67</b>	<b>5.25</b>	<b>7.17</b>	<b>4.67</b>

This question seeks to establish the importance of citizenship as a criterion for evaluating Contractors. The criterion is compared to other traditionally applied criteria for evaluating tenders.

Despite the advent of citizen economic empowerment, this research indicates that the criteria relating to citizenship does not carry as much weight as it was previously conceived. The traditional criteria in favour of big established companies, with established reputation, experience and financial capability are still dominant. Experience with similar projects scores 8.33 of the 10 points and citizenship scores only 4.67 of the 10 units on the scale and is the lowset.

2. The quality of brief provided by government departments. The question was phrased as; *What is the accuracy and quality of brief provided by government departments?* Of the 48 respondents 20 rated the quality and accuracy of the brief as poor, 24 respondents as fair, 4 respondents as good and none as excellent. The question was intended to establish the causes of poor building quality.

*Table 6: Summarising the scores for the quality of briefs provided*

<b>Quality</b>	<b>Poor</b>	<b>Fair</b>	<b>Good</b>	<b>Excellent</b>	<b>Total</b>
<b>Scores</b>	<b>20</b>	<b>24</b>	<b>4</b>	<b>0</b>	<b>48</b>
<b>Percentage (%)</b>	<b>41.67</b>	<b>50</b>	<b>8.33</b>	<b>0</b>	<b>100</b>

A substantial number of respondents actually believe that the government’s design brief is poor, inadequate and partly a reason for time and cost overruns. Further analysis of the impact of the poor briefs is discussed under the opinion survey in section B) below. Poor and inadequate briefs were cited as factors contributing to the poor quality of public sector buildings.

3. The factors considered as important at planning stage of projects. The question was phrased as follows; *Are any of the following factors considered at the planning stage of the project? Indicate the importance of each variable on a scale of 1 to 5.*

The question sought to establish the level of detail incorporated at the planning stage and whether planning was considered an important integral part of the project.

Detailed initial planning must help later on in the progress of the project. Any shortfall in budget will require an application by the client user department for funds and this takes a lengthy process involving approval by the Cabinet. Detailed time schedules should indicate whether the project can reasonably be completed within the stipulated time or whether more resources will be required to meet the date of completion.



*Table 7: Summarising the average scores out 5 for variables considered as important at planning stage*

<b>Variable</b>	<b>Average Score Out Of 5.</b>
<b>Milestones</b>	<b>2.83</b>
<b>Deliverables</b>	<b>2.58</b>
<b>Quality Assurance</b>	<b>2.5</b>
<b>Budgets</b>	<b>4.08</b>
<b>Time Schedules</b>	<b>3.33</b>
<b>Pre Agreed Format For Meetings</b>	<b>2.17</b>
<b>Control Mechanisms</b>	<b>2.35</b>
<b>Reports</b>	<b>3.0</b>

The above results indicate that at planning stage, emphasis is placed on budgets and completion period and lesser attention is given to the quality of the building.

4. *Do government departments provide all documentation for pricing before the project is implemented?* Of those who responded, 83% answered **NO**, the remainder answered **YES**.

5. *Is the scope of the project sufficiently defined to allow an outside party to price it?* Of those who responded, 58% answered **YES** and the 42% answered **NO**.

The two observations above validate the results in paragraph 2 above. The briefs and documents given at tender by government are inadequate and incomplete. This makes it difficult to price accurately. In the case of over pricing, resources are wasted

because value for money is not achieved. On one hand under pricing results in cost and time overruns.

6. Expected additional claims as a determinant in appointing Contractors. The question was phrased as follows; *In appointing Contractors, do you take account of the level of additional claims expected?* This question was followed by an explanatory note on the Yes or No answer. Of those who responded, 67% answered **YES**, 33% answered **NO**.

From this result, it would appear that some Contractors have developed a reputation for making additional claims. Further analysis in Section B) indicated that the additional claims are perceived as frivolous, hence they are associated with a desire to maximise profits. However, site conditions and client related changes, variation orders and poor briefs are also considered as important causes of additional claims.

7. The tendering method used by government departments; The question was framed as, *Which of the following methods of obtaining a price is applied by the government?* Please tick.

*Table 8: Showing the type of tendering method used by the government*

<b>Method Of Tendering</b>	<b>Open Tenders</b>	<b>Selected Tenders</b>	<b>Negotiation With Contractor</b>	<b>Both Selected and Open</b>
<b>Score</b>	<b>36</b>	<b>4</b>	<b>0</b>	<b>4 each</b>
<b>Percentage (%)</b>	<b>75</b>	<b>8.33</b>	<b>0</b>	<b>16.67</b>

The summary table above indicates that the tendering method is predominantly by open tender. The tendering method determines the choice of the Contractors and performance in a contract. The choice ultimately determines progress in a project as well as the overall quality of the building.

This question is therefore important because a tender method, ultimately affects the price of the contract, progress of the project as well as the overall building quality. The choice of the Contractor impacts also on such aspects as relationship management, co-operation, communication and site co-ordination. The Contractor's ability in working with Sub Contractors and Suppliers may affect progress on site. Therefore the choice of method is as important as the Contractor appointed for the project. This research indicates that the Open Tender is used predominantly as a method of procuring Contractors for government projects. The method has many advantages for the government but it is also fraught with disadvantages.

1) Advantages Of The Open Tender Method.

- a. It is open to participation by Contractors from a wide spectrum and therefore encourages competition.
- b. Enables emerging Contractors to participate.
- c. Client can obtain a desirable price.
- d. It is an open method and is therefore more transparent than the selective tender and negotiated tender. For this reason, the method is more appropriate for public sector building projects where the government must account openly for the use of public funds.

2) Disadvantages Of The Open Tender Method.

- a. Many Contractors participate even those without the requisite skills, resources and experience to execute the project.
- b. Because of the massive turnover of Contractors, it takes long to evaluate the tenders leading to delays in site handover and project completion.

- c. Too many queries are expected, particularly from the multitude of Contractors who are not selected for the project.
- d. If price is used as the major criterion for appointing a Contractor, quality and performance may be compromised.
- e. The method is not suitable for projects requiring highly specialized skills and experience.

Negotiated tenders normally include specialized Works Contractors and are more prominent in the private sector. Selection of a Contractor is based on reputation, name and standing in the market place, specific experience in the type of project, personal past experience with the Contractor or pre tender qualification.

Under the selected tender method, a number of selected or pre-qualified Contractors are invited to tender. It is assumed that the pre-qualification evaluates other criteria of selection and therefore it is ethical (but not mandatory) to appoint the lowest tenderer.

8. The criteria used in adjudicating tenders from Consultants? Weighting from 1 to 10

*Table 9: Showing the criteria used by government in appointing Consultants*

<b>Criteria</b>	<b>Director's CVs</b>	<b>Experience In Business</b>	<b>Workforce</b>	<b>Previous Works</b>	<b>Citizenship</b>
<b>Weight</b>	<b>5</b>	<b>8.67</b>	<b>7</b>	<b>8.7</b>	<b>3.33</b>

The analysis on criteria for appointing Consultants is used here to compare with that used for Contractors. In this case the criterion of citizenship is still considered as less important, therefore more established firms of Consultants are still preferred by government departments. The argument in favour of the traditional criteria in appointing Contractors is that the government's objective is to achieve sustainable

development through good quality building or infrastructure. The involvement of less established firms, with no reputation, limited experience, skills and resources would make the objective unattainable. As observed in paragraph 2 above, poor designs and briefs impact on the building quality, construction costs, delivery time and life cycle costs.

9. The question was phrased as follows: *What are Common Causes Of Building Alterations During Construction?*

*Table 10: Summarising the causes of building alterations during construction*

<b>CAUSES</b>	<b>PREVALENCE</b>
<b>Client's Requirements</b>	<b>44</b>
<b>Funds Still Exist for the Project</b>	<b>4</b>
<b>Site Conditions</b>	<b>28</b>
<b>Unworkable Designs</b>	<b>16</b>
<b>Contractor's Prerogative</b>	<b>4</b>

This question was intended to establish the source of variation orders. It is closely related to paragraph 1 and 2 above which links poor building quality to the completeness of information at tender and design quality. The reasons cited for variations during construction are mainly changes in client's requirements, site conditions and unworkable designs. In this case the involvement of Contractors at the stage of design and thorough site inspection would assist in identifying possible practical problems at an early stage.

10. The question was framed as follows: *What are the common causes of additional claims by Contractors?*

Each respondent was permitted to tick any number of causes believed to be important. Therefore each respondent may have ticked at least one of the five variables listed as causes. This question sought to further establish whether the causes leading to

building quality also impact on the additional claims by Contractors or whether different reasons apply and to create a comparison thereof.

*Table 11: Summarising the causes of additional claims by Contractors*

<b>CAUSES</b>	<b>Legislative Price Changes</b>	<b>Under Pricing By Contractor</b>	<b>Maximise Profit</b>	<b>Site Conditions</b>	<b>Client</b>
<b>PREVALENCE</b>	<b>16</b>	<b>16</b>	<b>28</b>	<b>24</b>	<b>24</b>

The perception that Contractors seek to maximise profits and thereby find means and ways of claiming from government is held highly. This observation reaffirms the analysis in paragraph 6 above. However, other factors such as client’s influence and site conditions also play a major role and the responses are still consistent with the findings in paragraph 9 above.

It must be noted that some respondents were Consultants who act on behalf of the government and as liaison agents working closely with Contractors. As part of their duties, they handle applications for additional claims from Contractors and advise the government on each application. Contractors can to a great extent exert undue pressure on Consultants to recommend an application for additional claims. The task of recommending multiple applications can be daunting for a Consultant wishing to create and develop a good relationship with the government. Therefore, Consultants may have posited an element of bias in stating that Contractors’ claims are frivolous and are motivated by the desire to maximise profit.

It is believed that more elaborate and precise contract conditions can help address the issue of claims and therefore extinguish the small feud between Contractors and Consultants. The New Engineering and Construction Contract (1995) deals with the issue of claims elaborately and it is recommended for this purpose.

11. The question was phrased as follows: *What do you consider to be the Contractors' common reasons for applying for Extension of Time?*

Client related problems are noted in the summary table below as being of major concern. They also impact on increased budget overruns and additional claims.

**Table 12: Showing common reasons for applying for extension of time**

<b>CAUSES</b>	<b>PREVALENCE</b>
<b>Site Conditions</b>	<b>24</b>
<b>Inclement Weather</b>	<b>36</b>
<b>Poor Site Planning and Management</b>	<b>20</b>
<b>Poor Execution</b>	<b>20</b>
<b>Poor Productivity</b>	<b>20</b>
<b>Underestimation of Completion Period</b>	<b>32</b>
<b>Supplier Problems</b>	<b>32</b>
<b>Client Related Problems</b>	<b>40</b>

The extension of time has many implications on the project. This question is intended to establish the root cause of the Contractors' applications for extension of time. If the root cause of the problem is known, the matter can be addressed from an informed perspective rather than rely on negative preconceptions associated mainly with the Contractor on site. Other implications of granting extension of time are as follows:

- 1) The government takes possession of the building later than planned and this has the following disadvantages:
  - a. Additional expenditure in respect of renting current premises.
  - b. Loss of interest from additional expenditure disbursed in the project.
  - c. Lower return on investment, as a result of increased capital expenditure.

- 2) Granting of extension of time implies the following;
  - a. The building Contractor is exonerated from the responsibility of paying penalties for non-completion of the works for the period of such extension.
  - b. The government pays increased fees for professional services.
  - c. The government incurs any increases in the cost of labour or material supplies.
  - d. The cost of preliminaries are in the account of the government during the extended period.

It goes without further mentioning that the granting of extension of time costs the government a lot of money. Therefore, in considering an application for extension of time, the government should consider the cost implications of the decision against the reasons advanced by the Contractor as well as the benefits derived by the government or user departments thereof.

12. *What are considered as cornerstones of the project success?*

This was an all-embracing question, which sought to encapsulate the thoughts of Contractors and Consultants on the views regarding important variables crucial to project success based on their experience in doing business with the public sector.

Prevalence in the summary table below refers to the number of scores out of the 48 questionnaires received. Respondents were allowed to tick more than one factor hence, the sum of the scores is not 48 but may be any figure less than or equal to 48 for each variable.



*Table 13: Showing factors considered to be cornerstones of project success*

Cornerstones of Success	Leadership	Cooperation	Trust	Skills	Funding	Client's Support	Others
Prevalence	44	44	16	32	32	8	4

*Leadership, Cooperation, Skills and Funding* were considered the cornerstones of project success. These variables heavily hinge on the extent of involvement of the client. The government as a major client can influence success factors by devising project strategies that address the identified success factors.

### **3.1 SECTION B: GENERAL QUESTIONS: OPINION SURVEY.**

#### ***(Paragraph 1 to 11)***

The questionnaire also included discussion questions, which permitted the respondents to give their opinions and offer alternative solutions to the problems in question.

1) The question on whether the current procurement system is transparent and fair was broken down into advantages, disadvantages and alternatives. Although the responses varied from one respondent to another they were collated in a literary structure and the observations summarised accordingly.

#### **a) Advantages.**

The system is open to all who have registered with CTB. By being registered with CTB a Contractor is pre-qualified to go to open tender and may be appointed on a selective basis. It is also perceived as transparent. Because Contractors are allowed to compete against each other, this method is considered fair and transparent.

b) Disadvantages.

It takes too long for tenders to be analysed. Because of intense competition, Contractors are compelled to quote lower and this leads to trade offs in performance and the quality of the buildings. The process excludes competent Contractors who are not registered with the CTB. If price is used as a heavily weighted criteria, quality and delivery time are likely to be compromised. The process excludes small emerging Contractors and favours established Contractors.

c) Alternatives.

A performance-based system is required. Close out reports should evaluate the performance levels of every Contractor for future allocation of work, that is, selection should be based on past performance. Jobs of high complexity and magnitude should be shared between Contractors.

2) On the question whether the current mode of payment of fees is fair and efficient.

a) Advantages.

Regular payment to Contractors ensures steady cash flow to Contractors. The system follows a standard set of fees and the remuneration is generally perceived as fair. Because government is a big client there is always assurance that payment will be made. The strength and reliability of the client permits some Contractors to obtain material and supplies on credit. A bill of quantities contract is used and this allows for accurate evaluation of works performed.

b) Disadvantages.

There are always delays in the process of payment of fees. Since contracts are drafted by public officers or agents the terms generally protect the government, for instance, no interest is charged on late payments. Fees structures apply to Contractors across the board, there are no penalties for poor performance or incentives for good performance. This system promotes mediocrity in executing government projects.

c) Alternatives Offered.

Contractors should be graded according to more objective past performance evaluation, for instance, evaluation based on time, cost and quality. The government should adopt fees set by professional bodies or institutes. Because of the perceived inexpediency within government departments the government should set a code of conduct specific to the administration of building projects.

3) The question of why there are cost and time overruns, included a suggestion slot for improvements in the system to address the issue of overruns. The respondents stated that the overruns are caused by incomplete information and inadequate detail at tender stage, lack of skilled labour or manpower, belated instructions, many variations orders from the client and cash flow problems created by late payments to Contractors.

It has also been stated that mechanical engineers sometimes give design intent only which is insufficient to give a fair estimate of builders work. Gross underestimations of provisional sums for the installations and external works create overruns. At times designs are simply poor and unworkable and variations are required to be performed on site. Poor project administration and unfinished design also cause delays and cost.

There is also a need to improve site and project management and introduce flat organizational structures in government with specific mandate and authority for each project.

The respondents further made suggestions on how to improve the procurement system in order to reduce overruns and the responses were as follows. They stated that the government should introduce the concept of project management and employ qualified professional people to undertake projects. The client's departments should provide a well-researched brief. They should keep the politics of empowerment outside projects and introduce the notion of project audit. The designs for mechanical and electrical works should be taken to working drawings together with the super structural designs. Provisional sums for substructures and external works should be estimated accurately based on known site conditions at design stage. Detailed brief and full working drawings should be made available at the tender stage and the client should commit to these designs as much as possible.

4) The respondents were further required to make suggestions on how to improve the quality of buildings in Botswana. The following responses were received:

Management systems such as value engineering and project management should be introduced in Botswana. Value engineering is a structured and systematic approach to developing a common understanding of a project's aims and requirements as well as all aspects of design, construction and operation. The government should set standards of buildings by providing guidelines on design and material specifications. A plan for cyclic and preventative maintenance should be put in place to ensure that the value of buildings is maintained and enhanced.

Well researched and all encompassing briefs and strict control on government requirements should be maintained.

5) The defects in government buildings were largely attributed to poor designs and workmanship. This view reaffirmed the observations in Section A) paragraph 1, 2, 6 and 10.

6) The respondents were requested to give their views on the government's policy of preferring citizens. The views were provided in terms of advantages, disadvantages and alternatives. This question is linked to the hypothesis that Citizen Contractors prefer the preferencing system of procurement.

The following responses were provided:

a) Advantages

Preferencing is considered a noble idea. It seeks to promote self reliance, encourage emerging Contractors and empowers citizens. It helps to retain the country's wealth not only within the country but among citizens. It is considered good for creating the much needed local capacity. The government is seen to provide work for its own electorates. It can also be assumed that citizens have a long term stake in the development of the country, are more patriotic and as such, would like to produce a good quality and sustainable building for their own country. The transfer of skills, training and development amongst local Contractors is also facilitated.

b) Disadvantages

The government does not place emphasis on quality delivered and may lose money since some citizens may not have the requisite experience to carry out

complex projects. The government may trade off skills by not emphasizing on technical know-how, qualifications, performance and experience. There may also be partisan patronage at the expense of professionalism. The system also encourages a culture of entitlement and is xenophobic. Preferencing has in some sectors created fronting and collusion with non-citizen companies and therefore defeated the social objectives of empowering citizens.

c) Alternatives.

There should be emphasis on training in construction and financial management. The government should not reward longevity by equating it to experience. The scheme should be maintained with a mechanism to administer and manage it to achieve the intended objectives. A system of rewarding Citizen Contractors who perform well should be instituted. The government should also develop related policies to guard against fronting and collusion with groups that are not targeted.

7) *How can the procurement process be quickened without compromising accountability and transparency?* The responses provided were as follows:

The government should reward good performance, give opportunities to all – particularly citizens and strike out bad performers. All interested stakeholders should put clear and straightforward guidelines forward. DABS should be given time limits when dealing with recommendations from Consultants.

The delay is not attributed to the whole process per se, but largely to unproductive forces at work within the government departments. It was further suggested that the CTB should only be appointed to oversee the appointment of large and complex

projects only. Otherwise decision making in Local Authorities should be decentralised to Sub Committees in those areas.

In order to avoid inaccurate estimates, the application for project funding should be based on estimates emanating from preliminary designs and a review on cost carried out regularly. The government should develop categories of Contractors who can tender for a specified value and complexity, so that the number of tenderers per contract is reduced. The categories should then be updated as required based on performance of Contractors on past projects.

8) *Should the tendering system be simplified?* This question relates to the hypothesis that the tendering system is too complex and prohibitive for emerging Contractors. The following responses were obtained:

The adjudication committees should notify Contractors about the evaluation criteria at tender stage, they should provide feedback on areas where Contractors fell short of winning the tender so that Contractors can improve on their submissions in the future. The general feeling is that the process should be shortened and simplified. However, most respondents believe that the system is well thought out and blame slowness on unproductive civil servants. Smaller and less sophisticated Contractors need to be guided through the tender documents, hence there is a need to simplify the tendering system.

9) *Are the details of the adjudication criteria made known to tenderers?* This was a yes or no question intended to help further reiterate the observations in paragraph 8) above. However all respondents answered in the affirmative **YES**. This implies that, contrary to what was previously conceived, the details on adjudication criteria are made known to tenderers.

10) On the question whether there is a need for an Adjudication Ombudsman. All respondents answered in the affirmative **YES**. The reasons advanced for this is that Contractors invest a lot in tendering and must therefore have faith in the fairness of the system. It is only fair to have an office to appeal to or lodge complaints if one feels unfairly treated. The Ombudsman will help improve transparency, guard against corruption, favouritism and witch hunting.

11) *Do Contractors Prefer pre-qualification and maintaining of approved lists or do they prefer that open tender system be employed for every project?* A 75 % majority of the respondents prefer the maintenance of an approved list and the remainder prefer open tenders. The question further requested for a reason given for the answer and the following reasons were provided:

It is believed that the first option of maintaining an approved list makes it easier for government to monitor performance. It also reduces time spent on Contractors who do not have the resources to carry out the project. However, the government should re evaluate the list on an annual basis since companies change their organisation, management, performance levels and resources all the time. The list should always be revised and new deserving companies included. The system of approved lists is quicker and more efficient in taking projects to site.

On the contrary some believe that submitting tenders for all individual projects is better. They think that it helps draw a greater pool of experience and expertise. They believe that pre-qualification or selective tender is only suitable on specialized and more complex projects. It is believed that open tenders encourage more competition, more openness and assures quality and improves public accountability.



### ***3.2 EVALUATION OF CONTRACTS***

This evaluation is based on a report compiled by a company called Joint Venture (Pty) Limited. The company was employed by the government of Botswana in the year 2001 to carry out consultancy work on standardising Bidding Packages or tender documents. The data was adopted from the report by Joint Venture and is used in this treatise to evaluate various contracts used to govern building and engineering construction.

The Joint Venture began by identifying features in a chosen list of contracts that met a set of specified criteria. This evaluation by Joint Venture was carried out with the intention to recommending to government a more suitable contract than the one currently being used in the public sector. It was agreed that a contract for procuring services of a Contractor should have suitable characteristics predetermined and agreed by the group. With those characteristics at hand, the eight contracts were evaluated and ranked as indicated in table 14 below:

*Table 14: Showing eight contract types and their rankings*

NO.	CONTRACT TYPE	RATING IN TERMS OF SATIFYING CRITERIA	
		Percentage	Ranking
#1	Republic of Botswana – Agreement and Schedule of Conditions of Building Contract	25%	8
#2	FIDIC Conditions of Contract For Plant And Design – Build (1 <sup>st</sup> edition 1999)	70%	4
#3	FIDIC Conditions of Contract For Construction For Building and Engineering Works Designed By the Employer (1 <sup>st</sup> Edition 1999)	80%	2
#4	FIDIC Conditions Of Contract For EPC Turnkey Projects (1 <sup>st</sup> Edition 1999)	60%	6
#5	FIDIC Short Form Of Contract General Conditions (1 <sup>st</sup> Edition 1999)	70%	4
#6	NEC Engineering and Construction Short Contract (1 <sup>st</sup> Edition, 1999)	80%	2
#7	NEC Engineering and Construction Contract (ECC) (2 <sup>nd</sup> Edition 1995)	85%	1
#8	World Bank Procurement of Works, Smaller Contracts (1995)	55%	7

*Source: Unpublished Report on the Standardisation of bidding packages prepared by Joint Venture (Pty) Limited in 2001 page 2.*

**Table 15: The Characteristics used for Evaluating Works Contracts**

NO.	DESIRABLE CHARACTERISTICS FOR WORKS CONTRACTS.
1	Do not contain provisions that could prejudice the rights of any party.
2	Separate the Conditions of Tender From Those of Contract.
3	Not tailor-made to suit technical specifications or methods of measurement and evaluation
4	Clearly identifies the roles of all persons involved.
5	Employer's representative fully empowered to act on employer's behalf.
6	Permits appropriate allocation of risks.
7	Clearly sets out the period within which interim payments must be made to all participants failing which an interest is charged.
8	Provides reasonable flexibility to accommodate both public and private sector administrative practices.
9	Stipulates formal contractual relationships between the contractor and all Sub-Contractors, whether nominated or domestic, which provides for fair and equitable conditions of sub contract.
10	Encourages the participants to take all possible steps to avoid conflict, while providing for speedy conflict resolution by an impartial individual.
11	Contains provisions for dispute resolution through adjudication.
12	May be used across the full range and scope of engineering and building disciplines.
13	Encourages co-operative attitudes with shared financial motivation.
14	Permits and encourages the application of partnering techniques between employer/client and the contractor in a manner that preserves protection of contractual rights.
15	Uses clear and unambiguous language, not complex and contains guidance notes.
16	Encourages the employer to take all reasonable steps to avoid
17	Contains provision for assessing interim payments by methods other than monthly evaluation.
18	Provides for Design to be carried out either party to a predetermined extent.
19	Provides other compatible Sub-Contracts.
20	Contains provisions, which permit works, which may not have full specifications and adequate descriptions to be executed and paid for when such specifications become available.

*Source: Unpublished Report on the Standardisation of bidding packages prepared by Joint Venture (Pty) Limited in 2001 page 1.*

### ***3.2.1 The New Engineering And Construction Contract 1995***

In addition to the advantageous features stated in table 4 of Chapter three, the New Engineering and Construction Contract (NEC) has the following advantages over the contract currently employed by the government:

- 1) It can be used whether the Contractor has full or partial design responsibility and where the Contractor does not have responsibility for designs at all, for instance, it can apply on both design and build contracts and conventional contracts.
- 2) It provides for different contract options, for example target contracts, cost reimbursable contracts, incentive contracts and management contracts. Therefore if the government decides to employ an incentive based system, the NEC contract still applies.
- 3) The New Engineering Contract also includes sub contract works. It facilitates flow of information, consistency and ease of reference to main contracts. This avoids contradictions in clauses pertaining to the responsibilities of the Employer, the Main Contractor and Sub-Contractors.
- 4) The NEC includes health and safety requirements. The requirements are stated in the Works Information since they provide ways in which the Contractor should provide works. They require the Contractor to provide a health and safety plan for the contract at tender.
- 5) It provides for a bonus for early completion of the project, thereby making provision for incentive contracting.

- 6) It provides for interest on delayed payments Clause 51.4. The Clause can therefore persuade government officials to be more productive when it comes to fulfilling the Employer's obligations.
- 7) Provision is also made in clause 31.1 for a programme to be identified in the contract data or to be submitted by the Contractor to the Employer within a specified period. The government should also request for programmes to be submitted with tenders in order to judge whether the Contractor understands the scope of the work and whether he is likely to complete the work within the proposed period.
- 8) It compels the Employer to initiate quality systems at the design stage (Clause 20.1). The analysis in Chapter three revealed that the quality of building is a reflection of the designs. Therefore the NEC will help address quality imperatives at an early stage of the project.
- 9) The NEC contract handles the topic of extension of time extensively in Clauses 30 and 36. As noted in Chapter three granting of extension of time has many cost implications for the government. The clauses indicate precisely what should be included in the Contractor's programme.

Brummer D. G (1998) also noted that there is provision for measures regarding acceleration of the project and *inter alia* the contract places a duty upon the building Contractor to indicate allowances for float and time risks. The procedures regarding programme revision are also provided.

- 10) The New Engineering Contract 1995 (Clause 30 to 36) makes a list of circumstances under which extension of time may be granted. It also distinguishes between circumstances under which extension of the construction period may be granted without adjusting the contract sum to compensate the Contractor for expense or loss and extension for which the contract sum is adjusted.

### ***3.2.2 The Current Government Procurement Contract***

The existing contract has been used for more than twenty years. This contract was drafted specifically for use by government departments. Its use by the departments formed part of the procurement policy. In addition to the poor coverage of desirable features identified in table 4 other notable weaknesses of this contract are as follows:

- 1) Very little detail, does not adequately address risk allocation, productivity and safety on site.
- 2) It is also less flexible and highly customised than the NEC, for instance, clauses make specific reference to individual positions in government and departments. It makes reference to the Permanent Secretary in the Ministry of Finance. Any restructuring in the government would require corresponding modifications in the clauses.
- 3) It does not make reference to meetings and inspections or any specific issues on quality, cost and time trade offs.

- 4) It is not suitable for non-technical specifications or contract objectives, such as, employment creation, which form part of the deliverables in preferencing contracts.

### **3.3 SUMMARY**

In summarising this chapter we shall look at the extent to which the hypotheses have been affirmed or not affirmed by the data collected as well as comment on additional findings.

The hypotheses were given as follows:

- a) The poor quality of building, time and cost overruns are a direct result of slow and ineffective procurement processes within the public sector*

Affirmed: Client related problems are still the major causes of overruns. Paragraph 11 on Section A) shows the most prevalence on the side of client related problems. The client is also responsible for frequent alterations as depicted by paragraph 9 in Section A). This is further validated by paragraph 10 in Section A) where the client is found to be responsible for additional claims.

The client related problems entail, incomplete briefs, slow processes, frequent variation orders, delays in adjudicating tenders and delayed payments. The government should review its internal process to ensure that the overruns do not emanate from its side. This observation is not welcome, since it reveals that it is actually the government's processes, which waste the taxpayer's money.

*b) Tendering information is inaccurate and untimely, making it difficult for would be tenderers to take full advantages of the tendering opportunities.*

Affirmed: Paragraph 4 and 5 in Section A) revealed that most respondents did not answer in the affirmative on the question whether government departments provide all documents for pricing at tender stage and whether the scope of the project is sufficiently defined at this stage to allow for pricing accurately.

The briefs and documents provided at tender are inadequate and incomplete. This makes it difficult to price accurately. The government needs to review internal and administrative systems. Qualified building professionals should be engaged in providing more accurate and researched briefs and in assessing site conditions for feasibility.

*c) The tendering process is perceived by many smaller Contractors as complicated. It is therefore imperative that assistance is provided in an effective and efficient way.*

Affirmed: The opinion question paragraph 8 Section B) on whether the system should be simplified was answered in the affirmative. The feeling amongst respondents is that the process should be shortened and simplified. Smaller and less sophisticated Contractors need to be guided through the tender documents. The findings by the Joint Venture (2001) have revealed that different government agencies use different conditions of tender and conditions of contract. The Venture further reported that those responsible for preparing procurement documents randomly mix conditions of tender, contract conditions, specifications and payment terms. This has resulted in documentation being complex and ambiguous, particularly with reference to risk allocation. It is believed that



uniformity or standardization will result in the simplification of the procurement process, effective participation by emerging Contractors, savings in cost and improvement in quality.

*d) Details of the adjudication criteria are unknown in some cases and therefore hamper the objective of transparency. This is especially true where price will no longer be the only criterion in awarding tenders.*

Not Affirmed: Contrary to this preconception, the responses on this question indicated that the details of the tender criteria are known to all the tenderers. All respondents stated that they knew the criteria being used. Perhaps what is not known is how the adjudication committee finally appoints a particular Contractor. No feedback is provided to Contractors who lose tenders. The feedback could assist Contractors to identify their areas of weakness and seek to improve on them in future tenders.

*e) Contractors prefer the system of maintaining an approved list.*

Affirmed: Seventy five percent of the respondents, paragraph 11, Section B) prefer the maintenance of an approved list. Maintaining an approved list surely reduces the time spent on tenderers who may not have adequate resources to carry out the project. Any means of saving time in the procurement process without compromising transparency or trading of quality and delivery is acceptable.

*f) The mode of payment to Contractors and the procedures followed thereof result in cash flow problems for Contractors and therefore cost and time overruns.*

Not Affirmed: Where monthly payments are made, no cash flow problems are encountered. However, unproductive work force in government is still perceived as the major cause for delays in payments. Productivity campaigns in government should help bring about a culture of work ethics and hopefully bring about a sense of expediency in the public sector.

*g) Citizen Contractors prefer targeted procurement.*

Affirmed: From the opinion survey, this is a welcome move by the government. However, it appears from the survey that the government only gave cheap talk to citizens.

The criteria on citizenship is still lightly considered, paragraph 1 and 8 Section B). It is not enough to empower the Minister of Finance to give preference as he sees fit, but these criteria should be given the highest weight and control mechanisms put in place to ensure that it is implemented.

However, the Joint Venture (2001) commented that the government should not prescribe the relationship between citizen and non-citizen Contractors. Rather the government should set goals and offer benefits for achieving them. The goals and deliverables will be structured as follows:

- 1) Clearly definable to make them contractually enforceable.
- 2) Measurable to allow them to be evaluated and monitored objectively.

- 3) Auditable to satisfy public sector requirement for transparency
- 4) Citizen Contractors will be defined in a manner that addresses collusion and fronting. Declaration Affidavits and manuals and procedures to conform the bona fides of Citizen Contractors will be provided.

Joint Venture (Pty) Ltd argue that joint ventures between citizens should be encouraged so that they can share meaningfully in the ownership, control, risks and profits of the venture. Joint ventures will also facilitate sharing of resources to execute the project.

The data analysis brings the treatise closer to a complete evaluation of the procurement of Contractor's services in Botswana. In this chapter an analysis of the contract used and the recommendations made by the Joint Venture (2001) were considered. The Venture evaluated and listed the requirements of a desirable contract in government's procurement. The NEC Engineering and Construction Contract is recommended for Contractors.

However, it may be argued that the characteristics listed in table 5 above do not seek to address the question of overruns, which is a major issue. The criteria should include incentives to curtail costs and time overruns. The characteristics should stipulate a reward system based on achievement of timeliness, quality and meeting of budgets.

## **4 CHAPTER FOUR: RECOMMENDATIONS**

### ***4.1 INTRODUCTION***

The problem statement in this treatise entails evaluating and analysing the public sector procurement system and thereafter making recommendations for improving the effectiveness and efficiency of the system. This chapter covers the recommendations and is divided into two sections namely Section A) which covers strategic issues on specific topics and problem areas such as adjudication criteria for emerging Contractors, the procurement Ombudsman, evaluation of the New Engineering Contract, Targeted Procurement, Unbundling of Contracts and so on. Section B) deals with broad based principles. The Section recommends strategies for overcoming political constraints as well as strategies to address problems related to large projects. The previous chapter on analysis helped to reveal problem areas in the procurement system. The purpose of this chapter is therefore to recommend effective and efficient methods of improvement in the system in light of the problems identified.

The strategic imperatives developed in Section A) were adopted mainly from the Green Paper On Public Sector Procurement Reform In South Africa: The Initiative of The Ministry of Finance and the Ministry of Public Works (April 1997). Although the paper covers the South African scenario on affirmative action and procurement in other disciplines, the analysis in this treatise affirms the relevance of the principles discussed to the Botswana context. The principles in Section B) were adopted mainly from the writings by Baker et al (1974) in his research report on Project Management in Developing Countries. The features he identified in his report can, to a large extent, be implemented in Botswana.

## **4.2 SECTION A: SPECIFIC AREAS OF PROCUREMENT**

### **4.2.1 ACCESS TO TENDERING INFORMATION AND SIMPLIFICATION OF TENDERS**

The simplification of tender procedures, information and documentation should remove barriers which prevent emerging Contractors from competing freely for public sector contracts.

There is perceived lack of transparency in the process of awarding tenders in the public sector. The criteria that are used to adjudicate tenders are not clearly spelt out and often no reasons are given for acceptance or rejection of a tender.

The following are the recommendations based on the above observations:

#### *4.2.1.1 The Tendering Award Process Should Be More Transparent*

- a) Reasons for awarding or rejecting a tender should be furnished to the tenderer upon request.
- b) Proceedings at adjudication meetings should be recorded and transcripts made available for public scrutiny should the need arise.
- c) Lists could be prepared for all tenders adjudicated indicating submissions that have been considered and those that have been disqualified.
- d) Information regarding the adjudication procedures and criteria should be included in the tender documents.

#### *4.2.1.2 A List Of Approved Suppliers Should Be Established*

A database of all Contractors, including smaller emerging Contractors should be compiled. The Contractors should be further categorized in

terms of quality, delivery, reliability, stability, expertise, experience, existing facilities and human resource levels of the supplier.

#### *4.2.1.3 An Information Booklet On Tendering Should Be Established*

The booklet should provide guidelines on how to tender. The prospective tenderer should then familiarize himself with the terminology used, the general conditions of tender and procedures to be followed.

The booklet can also be published periodically and used as an interactive media between the public sector and Contractors. It should include general tendering information such as projected tendering opportunities, tendering policies and procedures, general conditions and requirements of tenders.

#### **4.2.2 UNIFORMITY IN CONSTRUCTION STANDARDS AND DOCUMENTATION**

Government departments often mix conditions of tender, conditions of contract, specifications, measurement and payment terms. This increases the complexity of documents and makes documentation of tender very ambiguous. This calls for standardising the bidding packages or tender documents.

Standardization in contract documentation should achieve the following:

- a) Effective participation by citizen Contractors.
- b) Cost effectiveness, working with standard documents facilitates easier flow of administrative functions.
- c) It simplifies the documentation process.
- d) Tenderers can easily determine the scope and risk level of the project.

- e) There is less uncertainty in procedures and this saves time and effort, which can then be diverted to achieving quality.

The Botswana Bureau of Standards should introduce standardisation of materials, specifications and construction standards. The standards should also set out the requirements for the performance of a building, or element thereof without specifying the materials, dimensions or methods of construction.

Standardisation of construction standards will not only contribute to quality, cost, effective products and savings in construction costs but will also enable emerging Contractors to learn what is required of them in a consistent and systematic manner. The quality of training will also improve and be aligned to practical requirements, since trainers will know what standards are applicable.

Construction contracts documents should be drafted in such a manner that it caters for the level of complexity of projects. Moving towards this system will greatly enhance the confidence and capability of emerging Contractor. Furthermore, it saves the adjudicator's time and money if documentation contains only what is necessary.

#### ***4.2.3 ESTABLISHING THE OFFICE OF THE PROCUREMENT OMBUDSMAN***

The government should establish the office of the Procurement Ombudsman. The office of the Ombudsman will oversee the manner in which the government carries out business with the private sector in order to ensure that the procurement of Contractors is conducted in a fair, equitable, transparent, competitive and cost effective manner in accordance with the new Act, government policies and procedures.

The duties of the Procurement Ombudsman should be set out as follows:

- a) To ensure that procurement officers implement policies and regulations in an appropriate, consistent and systematic manner.
- b) Establish national databases in respect of Contractors and suppliers and gather information on procurement related issues and trends.
- c) Monitor preference provisions.
- d) Assist government officers in executing national procurement policy and penalize those who are not adhering to or implementing policy as prescribed.
- e) Promote communication between government departments and the private sector.
- f) Regulate contract documentation.
- g) Monitor the way in which policy is being implemented in respect of development objectives and standards on value for money, delivery mechanisms employed in works of contracts.
- h) Issue instruction to ensure uniform application of the national procurement policy.

#### ***4.2.4 ADJUDICATION OF CONSTRUCTION WORKS***

Emerging Contractors should be afforded some protection from tendering unrealistically low rates. The acceptance of unrealistic prices will inevitably lead to failure of such Contractors and increased costs to complete contracts. Low tender prices usually translate into unacceptable wage payments since labour is usually the largest cost component of such contracts.



A system which is designed to award contracts to emerging Contractors should be based on the following:

- a) Contractor selection should be on the basis of demonstrating credentials through the submission of tenders.
- b) Prices should be controlled but not imposed.
- c) Participants should learn to price work from the onset.

An estimated price should be determined by DABS before evaluating tenders or when preparing tender documents. The estimate by DABS should not be disclosed until at tender opening stage. In the interest of transparency the method and criteria of adjudication should be made known to tenderers. Tenderers who price below a certain predetermined percentage should be automatically rejected. Tenders should be allocated to the tenderer who is immediately above the cut off value.

#### **4.2.5 EVALUATION OF CONTRACTS**

##### **4.2.5.1 *The New Engineering and Construction Contract 1995***

In addition to the advantages stated in table 4, of Chapter three, the New Engineering and Construction Contract (NEC) has the following advantages over the contract currently employed by the government. These advantages have been stated in Chapter 3, they are repeated in this chapter for emphasis and ease of reference:

- a) It can be used whether the Contractor has full or partial design responsibility and where the Contractor does not have responsibility for designs at all, for instance, it can apply on both design and build contracts and conventional contracts.
- b) It provides for different contract options, for example target contracts, cost reimbursable contracts, incentive contracts and management contracts.

Therefore if the government decides to employ an incentive based system, the NEC contract still applies.

- c) The New Engineering Contract also includes sub contract works. It facilitates flow of information, consistency and ease of reference to main contracts. This avoids contradictions in clauses pertaining to the responsibilities of the Employer, the Main Contractor and Sub-Contractors.
- d) The NEC includes health and safety requirements. The requirements are stated in the Works Information since they provide ways in which the Contractor should provide works. They require the Contractor to provide a health and safety plan for the contract at tender stage.
- e) It provides for a bonus for early completion of the project, thereby making provision for incentive contracting.
- f) It also provides for interest on delayed payments Clause 51.4. The Clause can therefore persuade government officials to be more productive when it comes to fulfilling the Employer's obligations, such processing of certificates of payment.
- g) Provision is also made in clause 31.1 for a programme to be identified in the contract data or to be submitted by the Contractor to the Employer within a specified period. The government should also request for programmes to be submitted with tenders in order to judge whether the Contractor understands the scope of the work and whether he is likely to complete the work within the proposed period.
- h) It compels the Employer to initiate quality systems at the design stage (Clause 20.1). The analysis in Chapter three revealed that the quality of

building is a reflection of the designs. Therefore the NEC will help address quality imperatives at an early stage of the project.

- i) The NEC contract handles the topic of extension of time extensively in Clauses 30 and 36. As noted in Chapter three granting of extension of time has many cost implications of the government. The clauses indicate precisely what should be included in the Contractor's programme.
- j) Brummer D. G (1998) also noted that there is provision for measures regarding acceleration of the project and *inter alia* the contract places a duty upon the building Contractor to indicate allowances for float and time risks. The procedures regarding programme revision are also provided.
- k) The New Engineering Contract 1995 (Clause 30 to 36) makes a list of circumstances under which extension of time may be granted. It also distinguishes between circumstances under which extension of the construction period may be granted without adjusting the contract sum to compensate the Contractor for expense or loss and extension for which the contract sum is adjusted.

#### ***4.2.5.2 The Current Government Procurement Contract***

The existing contract has been used for more than twenty years. This contract was drafted specifically for use by government department. Its use by the departments formed part of the procurement policy. In addition to the poor coverage of desirable features identified in table 4 other notable weaknesses of this contract are listed below. The weaknesses are also repeated in this chapter for ease of reference and emphasis.

- a) Very little detail, does not adequately address risk allocation, productivity and safety on site.
- b) It is also less flexible and highly customised than the NEC, for instance, clauses make specific reference to individual positions in government and departments. For instance, it makes reference to the Permanent Secretary in the Ministry of Finance. Therefore, any restructuring in the government would require corresponding modifications in the clauses.
- c) It does not make reference to meetings and inspections or any specific issues on quality, cost and time trade offs.
- d) It is not suitable for non-technical specifications or contract objectives, such as, employment creation, which form part of the deliverables in preferencing contracts.

#### **4.2.6 TARGETED PROCUREMENT STRATEGIES**

Targeted procurement in Botswana prefers citizen-based Contractors. Targeted procurement or preferencing is intended to provide employment and business opportunities for disadvantaged Contractors. This procurement method therefore provides opportunities for participation by targeted Contractors, even to those who may not have all the resources, capacity or expertise to perform contracts in their own right. Contracts of this nature include technical, design and social deliverables. Examples of social deliverables include, creating employment for Citizen Contractors and wealth distribution.

In this situation, contracts should be awarded on the basis of the most advantageous offer and on the balance between the tendered price and tendered deliverables.

Sanctions must be applied to Contractors who fail to deliver their contracted social deliverables in the performance of their contracts.

The government should make clear specifications both on social deliverables and deliverables relating to outputs such as quality, cost and time deliverable for each major contract. In the targeted procurement system deliverables should also entail resource specifications that can measure socio economic deliverables and used in contracts together with technical and management deliverables.

The government should specify the targeting strategy for a particular contract prior to inviting bids. The social objectives should be established and form part of the tender as deliverables. The Contractors should be required to indicate the methods they would use in meeting the required social objectives. For instance, in creating employment, a Contractor may engage employment intensive based methods and labour intensive technologies in order to increase employment per unit of expenditure. It is imperative that, the government should not prescribe the relationship between citizens and non-citizens, instead, it should set goals and offer benefits for achieving the goals and let the Contractors respond within the framework of the stated goals.

The goals or deliverables should be structured as follows:

- a) Clearly defined to make them contractually enforceable.
- b) Measurable and quantifiable to allow them to be monitored and evaluated.
- c) Verifiable and auditable to satisfy public sector requirements for equity and transparency.

Targeted procurement should provide a framework within which all the above can be achieved before awarding the contract. This will enable monitoring for compliance in

respect of the technical and social objectives to be effected immediately upon site handover. For instance, a Contractor who provided for unbundling of his contract to create opportunities for smaller Contractors should be monitored to ensure that this objective is achieved.

#### **4.2.7 UNBUNDLING OF CONTRACTS**

Small Contractors can participate in public sector procurement as Main Contractors or Sub-Contractors. Unbundling is a process whereby the Main Contractor divides his contract into smaller manageable contracts in order to procure the services of smaller Contractors for the smaller contracts.

Unbundling of contracts can make it possible for projects to be accessible in the following ways:

- a) By procuring works in the smallest practicable quantities, that is, minor and micro quantities.
- b) By encouraging structured joint venture between large Contractors and smaller Contractors.
- c) By providing third party management support to Contractors who are not capable of operating as Main Contractors.

#### **4.2.8 EARLY PAYMENT CYCLES**

Cash flow is perceived as the number one enemy of small emerging Contractors. Delayed payments to Contractors aggravate their cash flow problems. As Contractors succeed in obtaining larger contracts their ability to finance the projects diminishes. As the Contractors are only emerging they may not have the credit worthiness usually

required by traditional financing sources. Banks may be unwilling to provide additional bank drafts if existing drafts are depleted. The government should adopt early payments strategies in order to help Contractors meet their credit obligations and cash flow requirements. The following changes to the payment system should be adopted:

- a) Electronic payment systems should be introduced. This will reduce paperwork and delays in payment.
- b) The audit procedures of interim payments in construction should be revised, to allow for speedier payments.
- c) Appointment of project managers to facilitate early payment cycles in the construction process.
- d) Payment systems should be streamlined and rationalized, for instance, fortnightly payments can be made provided that the works done are adequately priced. For instance, payment can be made for works priced at P 50 000.00 or above per fortnight

#### ***4.2.9 VALUE FOR MONEY***

The government needs to embrace the disciplines of value engineering. Value engineering entails the structured and continuous approach to developing a common understanding of a project's aims and requirements together with all aspects of function, design, construction and operation. Value engineering will enable the best functional balance between cost, reliability, performance and value for money to be achieved.

#### ***4.2.10 LIFE CYCLE COSTING***

This concept is closely related to best value for money. Best value for money is the optimum combination of the whole life cycle and quality to meet a user department's long term cost plan and not the lowest short term cost. Whole life cost takes into account all aspects of cost over the lifetime of the asset, including capital, maintenance, management and operating costs.

In construction, design quality is about providing added value over and above merely adequate quality. The procurement system needs to be designed in such a manner that quality designs and not lowest cost design is procured. Therefore high quality as opposed to least cost lower quality designs should be procured in construction projects where life cycle costs savings are more important than initial capital costs

Procurement procedures should encourage tenderers to offer alternative designs, techniques or proposals that offer better value for money. Proposals that enhance the intrinsic quality without affecting monetary savings should also be considered.

#### ***4.2.11 QUALITY OF BUILDINGS***

Quality may be regarded as conformance to stated requirements or specifications rather than fitness for purpose. Therefore it is achieved by executing a contract to the stated requirements.

The research results in this treatise indicated that many of the problems of quality in construction result from poor designs. A poor design may give rise to additional costs both in the construction process and on future maintenance. Particular attention must therefore be given to the quality of past design work in appointing the design team.



The government can achieve quality in the construction work by the following means:

- a) Providing full and workable designs and specifications before construction commences.
- b) Involvement of Contractors at the design stage. Contractors can help determine whether designs are workable or not and whether specified materials are readily available.
- c) The government should pre-qualify tenderers where exceptional quality is required. However, pre-qualification should not be used to preclude specific Contractors or to limit competition.
- d) Awarding tenders in terms of price and quality mechanisms that evaluates both the price and quality on offer.
- e) Requiring tenderers to submit their plans for maintaining and improving quality together with their tenders.

Quality can be managed and given visibility by total quality assurance, for instance, ISO 9000 certification, total quality management, the development or training of government officers and Contractors and bench marking.

#### ***4.2.12 CODE OF CONDUCT***

The code of conduct should address the laxity and delays in government departments. It should address specific areas, such as, the participation of suppliers, service providers and Contractors in the public sector procurement. Similarly a code of conduct should be drafted to govern the work ethics of government officials or the way in which they conduct themselves in relation to project related work. This should help improve productivity in government departments.

The Procurement Ombudsman should also attend to and investigate the complaints received from members of the public regarding tender procedures and any regulations.

The Ombudsman should also be empowered to audit procurement work that for reasons of national security or confidentiality or political expediency cannot follow normal procedures, such as procurement of security systems for the Bank of Botswana or the Botswana Defence Force.

### ***4.3 SECTION B: BROAD BASED STRATEGIES***

#### ***4.3.1 STRATEGIES FOR OVERCOMING POLITICAL-DIFFICULTIES***

Several strategies have been devised by researchers with the aim of maximizing the success potential of public sector projects. The strategy in this Section is based on the writings of Baker et al (1974) from a book referred to in the literature review and some findings in this treatise. Baker et al places heavy emphasis upon diligent pursuit of the project goals. The strategies recommended are as follows:

- a) Encourage openness and honesty amongst participants right from the on set, and avoid too many “buy ins”, that is infiltration and interference of new stakeholders. When legal political difficulties surround a project, the difficulties can only be compounded in the long run by permitting “buy ins” to occur. In the short run, it may appear advantageous to secure initial program funding and initial contracts in order to enable “ the camels nose to enter the tent” but in the long run such a strategy or acquiescence to such strategy result in:

- i) Inefficient use of resources.
- ii) Panic reprogramming of public funds.
- iii) Diminished reputation of the agencies and Contractors involved with the project.
- iv) Loss of credibility regarding future efforts.
- v) Poor relations with legislative bodies.
- vi) Poor relations with the public.

In view of these factors, it is important to plan and secure adequate funding commitments to complete the project. If the funding is considered excessive in relation to other deserving projects, then the project may be deferred or rejected. The government must refrain from placing excessive pressure on project managers to proceed with the project before cost estimates are finalized or before funds are secured.

- b) Develop realistic cost, schedule and technical performance estimates and goals.

Realistic cost estimates can be achieved by obtaining independent cost estimates from Consultants or external agencies.

- c) Seek to enhance the public image of the project.

Planning Officers should be required and encouraged to obtain public participation during the planning and approval phase of the project affecting public interest. However, the project manager's objective is to create good public relations but reduce levels of public participation and criticism.

- d) Make prompt decisions regarding project go ahead or contract award.

Proper project studies, planning definitions should be carried out before soliciting bids on a contract. But once bids are sought, the schedule of contract award or go ahead should be adhered to. Otherwise the morale of the project team deteriorates and cost increases are encountered due to delays.

- e) The government must establish definitive goals for the project and establish clear understanding and consensus among the principal project participants, that is, client departments, the government and the project team regarding, in particular the importance of the project goals.

#### ***4.3.2 STRATEGIES FOR OVERCOMING DISADVANTAGES OF LARGE PROJECTS***

4.3.2.1.1 The government should establish a project team of adequate size but with a flexible and flat organizational structure to facilitate the decision making process and reduce red tape.

4.3.2.1.2 Establish definitive goals for the project and clear understanding and consensus among the principal project participants regarding the importance of the goals.

4.3.2.1.3 Create an atmosphere that encourages healthy, but not cutthroat competition amongst Contractors. The larger the project, the more likely there will be many Contractors who will be anxious to participate. It is sometimes tempting for a

public agency to take advantage of this situation by creating cutthroat competition. A public agency must be especially careful to support healthy aspects of free enterprise system.

- 4.3.2.1.4 Delegate sufficient authority to the principal agent or project manager and let him promptly approve or reject the important project decisions. This will help to overcome the sluggishness of large departments and the traditional red tape associated with public projects.

#### ***4.4 SUMMARY***

This research revealed that there is need to re-examine the procurement practices in Botswana. Section A) above deals with specific aspects of procurement process and makes recommendations thereof. Section B) provides broader principles and strategies on the typical influence of politics and large projects. These aspects constitute action plans and can be summarized as follows:

##### ***4.4.1 SECTION A): SPECIFIC PRINCIPLES***

###### ***4.4.1.1 ACCESS TO TENDERING INFORMATION AND SIMPLIFICATION OF TENDERS***

The simplification of tenders will foster more participation by small emerging Contractors. Standardisation will reduce the complexity of tender documents.

Communication should be improved between client departments and the Contractors. Use of publicity and widely read media, periodicals and booklets can be used to inform Contractors about new policies and processes, generic government requirements, pre-qualified Contractors and the adjudication criteria. Such communication can improve transparency, educate and inform Contractors.

#### ***4.4.1.2 UNIFORMITY IN CONSTRUCTION STANDARDS AND DOCUMENTATION***

Uniformity and Standardization improves quality, saves time and construction costs. It reduces risk and uncertainty and can help Contractors know what is required of them in a consistent and systematic manner.

#### ***4.4.1.3 ESTABLISHING THE OFFICE OF THE OMBUDSMAN***

The government should establish the office of the Procurement Ombudsman that will oversee how the public sector carries out business with Contractors. The Ombudsman will ensure that the procurement of Contractors is conducted in a fair, transparent, equitable, competitive and cost effective manner.

#### ***4.4.1.4 ADJUDICATION OF CONTRACTORS***

An estimated price should always be made by DABS before evaluating tenders. Emerging Citizen Contractors should be afforded protection from tendering unrealistically low prices. Low prices will lead to failure of Contractors and increased costs to complete the contract if the government has to go through another process of engaging other Contractors for the same project.

#### ***4.4.1.5 EVALUATION OF CONTRACTS***

The New Engineering Contract (1995) should be adopted by government departments. This contract addresses many weaknesses associated with the standard contract currently being used by the government.

#### ***4.4.1.6 TARGETED PROCUREMENT STRATEGIES***

The government or client departments must specify the objective of each contract. The objectives should entail both the technical and socio economic deliverables. The specifications should be clear and measurable in order to facilitate evaluation and monitoring.

#### ***4.4.1.7 UNBUNDLING OF CONTRACTS***

The government or Contractors can divide large contracts into smaller manageable contracts to ensure that smaller Citizen Contractors can participate. Unbundling should be linked to citizen empowerment objectives and employment creation.

#### ***4.4.1.8 EARLY PAYMENT CYCLES***

The government should adopt early payment strategies in order to assist Contractors to meet their cash flow requirements. Facilities such as the electronic payment system must be explored. Project Managers should also be appointed to facilitate early payment cycles in the construction process.

#### ***4.4.1.9 VALUE FOR MONEY***

The government should embrace the discipline of value engineering. Value engineering will enable the best functional balance between cost, reliability, performance and value for money to be achieved. The government should also encourage Contractors to offer alternative methods, designs, techniques or proposals that offer better value for money.

#### **4.4.1.10 LIFE CYCLE COSTING**

Life Cycle Costing should be carried out for all major projects. All the life cycle costs should take into account all aspects of cost over the lifetime of a building including capital costs, maintenance, management and operating costs. This exercise should be carried out during the value engineering workshop to establish the feasibility of an option or alternatives.

#### **4.4.1.11 QUALITY OF BUILDINGS**

This research revealed that many problems of building quality are related to poor and unworkable designs. Poor designs may give rise to additional costs, both in the construction process and future maintenance. Particular attention must therefore be given to the quality of past design work in appointing the design team.

#### **4.4.1.12 CODE OF CONDUCT**

A code of conduct should be drafted to govern the participation of suppliers, service providers and Contractors in public sector procurement. The code of conduct must be drafted in such a manner as to govern the productive levels of government officers conduct themselves, particularly in relation to their project administration duties. The code of conduct will address issues of laxity and unproductive forces at work, referred to in the analysis.

#### **4.4.2 SECTION B: BROAD BASED PRINCIPLES**

This chapter culminates with suggestions on strategies for overcoming constraints related to the nature of government projects. The strategies deal specifically with political constraints and constraints related to large projects. In the former, emphasis is placed upon diligent pursuit of goals and seeking public acceptance of the project.



In the latter, flat organisation structures are recommended in order to facilitate the decision making process and reduce red tape. The project manager should be appointed with sufficient authority to promptly approve or reject important project decisions.

## **5 CHAPTER FIVE: SUMMARY AND CONCLUSIONS**

### ***5.1 BRIEF OVERVIEW OF THE STUDY***

The aim of the study was to analyse and evaluate the public sector procurement for building Contractors' services in Botswana and recommend more effective and efficient systems thereof. The study focused on procuring the services of main Contractors.

The introductory Chapter 1 sets out the main objective of the study, that is, what the study should and should not achieve. The literature review in Chapter 2 was followed by Chapter 3 on the analysis and evaluation of data collected. Thereafter, Chapter 4 followed and was dedicated to the recommendations.

The literature review set the tone of discussions and gave direction to important research areas in building procurement. The review initially discussed broader building procurement related topics and was progressively narrowed down to more specific areas relevant to the main problem and the respective sub - problems. Since little empirical research has been carried out on this topic in Botswana, the literature was obtained from journals and books written and published in the United Kingdom, United States of America and South Africa.

Chapter 3 is an analysis and evaluation of the data collected. The main source of data for analysis was the survey questionnaire. However, some information was gathered from a research report written by a company called Joint Venture (Pty) Limited who carried out research on behalf of the government in 2001. Chapter 3 is a very important chapter since data collected is analysed and interpreted. Furthermore, a summary of findings is made in Chapter 3 and this states the extent to which each

sub-problem was affirmed or not affirmed and this is backed by the data in the summary tables and reports.

Chapter 4 is exclusively dedicated to recommendations. The recommendations form the main objective of the study and therefore deserve special attention. They are directed by the research findings, that is, opinions and ideas generated from the survey questionnaire. The chapter is further strengthened by some strategic models developed by Baker et al (1974) and a report written by the South African Ministry of Finance and Public Works dated April 1997.

This summary chapter or Chapter 5 will include a summary of the main findings, conclusions and recommendations for further study.

## ***5.2 SUMMARY OF THE MAIN FINDINGS AND RECOMMENDATIONS***

The summary of findings and recommendations relates back to the sub-problems in Chapter 1, lessons learnt from the review of the literature, the findings in the chapter on analysis and evaluation and the recommendations made in Chapter 4.

### *5.2.1 Sub problem 1: What are the causes of project cost and time overruns?*

#### *Do the overruns affect the quality of buildings?*

##### *5.2.1.1 Findings:*

Client related problems, these include frequent alterations, incomplete briefs, poor designs, slow cumbersome processes, frequent variation orders, delays in adjudication and payments.

*5.2.1.2 Recommendations:*

- a) Provide working drawings for both superstructure and substructure at tender stage.
- b) Develop a code of conduct governing the performance of public servants on projects.
- c) Develop a flat organizational structure and delegate sufficient authority to the project manager.
- d) Introduce value engineering and employ qualified project managers.
- e) Involve Contractors at design stage.

*5.2.2 Sub-Problem 2: Is the tendering information accurate and timely?*

*5.2.2.1 Findings:*

The briefs and documents provided at tender stage are inadequate and incomplete. This makes it difficult to price accurately.

*5.2.2.2 Recommendations:*

- a) Provide working drawings at tender.
- b) Briefs must be well researched and detailed to allow for more accurate pricing.

*5.2.3 Sub Problem 3: Is the tendering system too complicated for smaller Contractors?*

*5.2.3.1 Findings:*

The tendering system is too complicated for smaller emerging Contractors

*5.2.3.2 Recommendations:*

- a) The tender documents should be uniform and standard.
- b) Documents should be shortened and simplified.
- c) Smaller Contractors need to be guided through the tender documents.
- d) Media publications and Contractors' booklets or periodicals should be used to communicate, educate and interact with Contractors.

*5.2.4 Sub Problem 4: Are Contractors provided with clear details of the adjudication criteria?*

*5.2.4.1 Findings:*

Contractors know the general criteria. However, there is no feedback provided to Contractors who lose tenders to say why they lost, who won the tender and how.

*5.2.4.2 Recommendations:*

- a) Tendering process should be more transparent.
- b) Information regarding the adjudication criteria should be made available at tender.
- c) The reasons for awarding or rejecting a tender should be furnished upon request.
- d) Proceedings at adjudication meetings should be recorded and the minutes made available to the public should the need arise.

5.2.5 *Sub Problem 5: Does preferencing for Citizen Contractors reduce competition amongst Contractors?*

5.2.5.1 *Findings:*

Preferencing is less weighted than other traditional criteria for appointing Contractors. At this stage preferencing does not influence the level of competition.

5.2.5.2 *Recommendations:*

- a) Larger contracts should be unbundled to allow smaller Contractors to participate.
- b) The government should set clearer goals on preferencing.
- c) The Office of the Ombudsman should be introduced to monitor preference provisions.
- d) An estimated price should be determined before evaluating tender documents.

5.2.6 *Sub Problem 6: Does the mode of payment in government create cash flow problems for Contractors?*

5.2.6.1 *Findings:*

The payment mode by government is slow. Although it is generally acknowledged that the process is intended to provide necessary checks and balances, delayed payments are blamed on unproductive work force in the public sector and not the process itself.

*5.2.6.2 Recommendations:*

- a) Develop a code of conduct governing the performance of civil servants engaged in projects to encourage work ethics.
- b) Develop flat organisational structures appropriate for each major project.
- c) Introduce early payment cycles.
- d) Introduce electronic payment systems.

*5.2.7 Sub Problem 7: What are the views of citizen and non-citizen Contractors on preferencing?*

*5.2.7.1 Findings:*

Citizen Contractors prefer targeted procurement or preferencing. Non Citizen Contractors acknowledge its importance. However, preferencing has not made an impact in construction, since citizenship is still considered lightly as a criterion in appointing Contractors.

*5.2.7.2 Recommendations:*

- a) The government should set technical and socio economic goals to be achieved for each project.
- b) Each Contractor should be evaluated in accordance with the extent to which he fulfils the prescribed goals.
- c) Goals should be measurable to allow for monitoring and evaluation.
- d) Citizens should be defined in a manner that prohibits collusion and fronting.

- e) The Office of the Procurement Ombudsman should be established to oversee the implementation of government policies on procurement.

*5.2.8 Sub Problem 8: Does the type of contract used affect timely delivery and budget control?*

*5.2.8.1 Findings:*

The type of contract currently used by government departments is inadequate to address all the inherent risk associated with construction projects. It does not provide incentives for Contractors to complete works within schedule and budget.

*5.2.8.2 Recommendations:*

The New Engineering and Construction Contract (NEC) is recommended. This contract addresses many weaknesses associated with the standard contract currently being used. The strengths and weaknesses of the two contracts are discussed in Chapter 3 and 4.

### **5.3 CONCLUSIONS**

The main objective of this treatise was to analyse and evaluate the public sector procurement system for building Contractors and thereafter make recommendations for a more effective and efficient system. In doing this, the main problem was divided into eight (8) sub-problems. A survey questionnaire was developed from the questions raised by the sub-problems. Therefore, the questionnaire was focused on addressing the sub-problems and the main problem.



The data collected from the questionnaire, interviews and literature review was then analysed, evaluated and interpreted. The interpretation culminated in recommendations derived from the research and additional literature findings.

The interpretation of the information and data collected helped in answering all the questions raised by the sub-problems as demonstrated in the summary of findings and recommendations above. The recommendations for each sub-problem were also developed.

Therefore, the research effort in this treatise has adequately helped in fulfilling the main objective of the treatise. The objective was to analyse, evaluate the public sector procurement system of Contractors and recommend more efficient and effective procurement systems.

Additional areas of research recommended are as follows;

- a) The procurement of building materials and the impact on delays, cost overruns and extension of time. Most of the building materials are ordered from South Africa, including such basic items as cement. Any delays in delivery affect project progress.
- b) A more detailed analysis and evaluation of the procurement of the services of Sub-Contractors and the Professional Team. This research focused only on the procurement of Main Contractors. Therefore, research covering Sub Contractors and Consultants will be a much-needed expansion.
- c) A more elaborate investigation into the use of incentive contracts, with the view to reducing cost and time overruns in government projects. The literature

review in Chapter 3 revealed that incentive contracts helped reduce cost overruns in the studies carried in the United States in the early 1970s.

The main objective of this research project was adequately fulfilled. Therefore, the research findings in this treatise and the recommendations made thereof can help modify and improve the public sector procurement of building Contractors in Botswana.