Midlands State University

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FACULTY OF COMMERCE

DEPARTMENT OF ACCOUNTING

AN INVESTIGATION OF THE FUNDING OPERATIONS OF ZIMBABWE GEOLOGICAL SURVEY DEPARTMENT.

BY
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*This dissertation is submitted in partial fulfillment of the requirements of the **Bachelor of Commerce (Honors) Degree in Accounting** in the Department of Accounting at Midlands State University.*

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APPROVAL FORM

The undersigned certify that they have supervised the student Garikai Francis Machengete's Dissertation entitled "**An investigation of the funding operations of Geological Survey Department** ,"submitted in partial fulfillment of the requirements of the Bachelor of Commerce Honours Accounting Degree.

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DEDICATION

To my wife Lynette Midzi, who is my rock, to my children Fortune, Mordekai, Salome, Anibal, my parents, brothers and sisters. Their care and support has been my pillar of strength.

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Firstly and simply, I owe and dedicate everything to god. Several people are credited for the completion of this dissertation and the degree programme awarded as a result of this dissertation. I thank the Faculty of Commerce, Department of Accounting at Midlands State University and in particular my supervisor Mr K. Mazhindu. I thank my work mates, brothers, sisters and parents for I could not have obtained this degree programme without their support and prayers. I impart and appropriately reserve the bulk of my gratitude to my wife Lynette. Her support, tireless effort, and endless patience made this degree programme possible.

ABSTRACT

The research sought to **investigate the funding operations of the Geological Survey Department, under Ministry of Mines and Mining Development.** The study was motivated by the fact that the department has been experiencing an increasing operational funding deficit. There has been a trend of perpetual rise in costs while revenue has been decreasing between 2010 and 2013. The Geological Survey department is gradually losing capacity to generate new information. There has not been any field mapping projects for a long time. The department has been incurring high costs in repairs and maintenance of obsolete Property, Plant and Equipment while employment costs arising from lost man hours of unfulfilled trips have also been fueling the rise in funding deficit. Restocking of the library has become very difficult. Records in the department show that geological bulletins and maps sold by the department are out of print and those available in stock are out-dated. Consequently their demand has fallen for the same period. Continual rise in deficit since 2010 has made it very difficult for the department to replace aged assets let alone upgrading the existing ones. This study sought to investigate the causes. A comprehensive review of literature related to the topic under study was carried out in the interest of obtaining data on what other authors who carried out studies on the same research area have contributed in order to obtain the relevant information. Qualitative and quantitative research methods were used to collect data related to the research. Questionnaires and personal interviews were the research instruments used to collect data that was used to obtain research findings that were later analyzed to fulfill the research objectives. The researcher recommended practical solutions that could address the department's funding challenges.

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

TABLE OF CONTENTS

CHAPTER ONE

Introduction

1.0 Introduction

This chapter gives an overview of background of the study, statement of the problem, main research question, sub research questions, research objectives, and significance of the study, assumptions, delimitations, limitations, and definitions of terms, acronyms and summary.

1.1 Background of the study

Zimbabwe Geological Survey (ZGS) is a department of Ministry of Mines and Mining Development (MMMD). Its mandate is to create and maintain comprehensive and systematic national geological databank that provides geo-scientific information and services for the exploration and development of minerals resources present within Zimbabwe. This is done through regional geological mapping and mineral deposit visits to gather technical data pertaining to those deposits, and publishing the information to make it readily available to users. Due to economic downturn and loss of funding, ZGS has been unable to continue mapping. Mugumbate (2010:28) says, "Over 40% of Zimbabwe remains unmapped. A large percentage was mapped more than 50 years ago, and many need to be re-mapped or re-interpreted using modern technology and new concepts of geology".

The background giving rise to this study is the increasing deficit in the funding operations of ZGS. The department's main operations that facilitate generation of revenue are field-based, and require substantial financial resources. The department incurs field work-related expenses that

include employment related costs, fuel, maintenance of PPE as well as business travel allowances for 21 field officers, each one with 25 trips planned annum. As shown in Table 1.1, operating costs have shown an upward trend while revenue has shown a descending tendency over the same period.

Table 1.1Schedule of Revenue and Expenditure

	2010	**2011**	**2012**	**2013**
Revenue generated by Department	107,000	84,000	59,000	17,000
Expenditure incurred by Department (Financed by Treasury Releases)	(132,000)	(140,000)	(169,000)	(230,000)
Operating Surplus /(Deficit)	**(25,000)**	**(56,000)**	**(110,000)**	**(213,000)**
% Increase in deficit		**99%**	**96%**	**93%**

Extract from MMMD Financial Statements (Income & Expenditure).

The department has continuously struggled to fulfil its mandate over several years due to operational funding deficit arising from unfulfilled field work that is supposed to facilitate the production of geological bulletins and maps. Mugumbate (2010:7) says "The Geological Survey is gradually losing capacity to generate new information. There has not been any field mapping projects for a long time. (Departmental meeting 2), Mugumbate (2013) added that the main geological map of the country was last up-dated in 1977 adding that mapping for smaller publications have been completed only up to 60%.

New mineral discoveries by both legal and illegal prospectors are frequently reported, but the department finds it difficult to visit them for verification and description for archiving and management." List of Publications, in the Library and Cartography sections show that 42% of the geological publications sold by the department to generate revenue are out of print and 58% of those available in stock are long out-dated. Consequently their demand has fallen by 84% between 2010 and 2013. (Departmental meeting no. 1), Mugandani (2013) argued that non-availability of field vehicles and suitable equipment had reduced their field visits from the planned 25 to 10 per annum forcing mapping projects to remain half-done.

The department's vehicle fleet is aged and 80% of other Property, Plant and Equipment have become redundant due to ageing, depreciation and damage. Rapid changes in technology have also rendered these assets obsolete. Mukandi (2010) argued that, "The digitalisation of geo-scientific data at the ZGS has been hampered by several factors. Some hardware has outlived its economic life." This has resulted in the organisation incurring very high costs without compensatory revenue to offset the soaring costs hence a continual rise in deficit. In the Departmental meeting 1, (2014) Ndlovu said only 18% of the entire fleet is suitable for fieldwork as the majority are more than five years old rendering them unsuitable for use in bumpy terrains.

1.2 Statement of the main problem

Geological Survey department is experiencing an increasing operational funding deficit. There seems to be a trend of perpetual rise in costs while revenue is decreasing. An average of 18% of

the department's expenses has been incurred through repairs and maintenance of obsolete PPE while 40% employment costs arise from lost man hours of unfulfilled trips.

Restocking of the library has become very difficult. Records in the department's Library and Cartography office show that 42% of geological bulletins and maps sold by the department are out of print. 58% of those available in stock are long out-dated. Consequently their demand has fallen by at least 84% between 2010 and 2013 as supported by declining revenue in Table 1.1.

It is against the above setting that the researcher is prompted to carry out an investigation of the funding operations of Geological Survey department.

1.3 Main research topic

An investigation of the funding operations of Geological Survey Department.

1.4 Sub-Research Questions

i. What is the Geological Survey Department's funding policy?
ii. What implementation guidelines exist for the funding policy?
iii. What personnel capacity is available to implement the guidelines?
iv. What funding challenges exist within the department?
v. What controls are in place over the policy implementation?
vi. What would be the best practice in funding operations within the department?

1.5 Research Objectives

i. To identify Geological Survey department's funding policy.

ii. To establish implementation guidelines that exist over the funding policy?

iii. To determine the personnel capacity available to implement the guidelines?

iv. To identify funding challenges that exist within the department?

v. To identify and evaluate controls that are in place over the policy implementation?

vi. To determine the best practice in funding operations within the department?

1.6 Significance of the study

The research is important mainly to the University, the Organisation and the researcher.

To the University

The research will give rise to a wider literature base for those who wish to research on the topic in future.

To the Organisation

The research will provide recommendations for consideration to the department.

To the Researcher

The research was conducted in the partial fulfilment of the Bachelor of Commerce Honours Accounting Degree.

1.7 Delimitation of the Research

The research was confined the study to the Geological Survey department, Harare. The study was carried out for activity period between January 2010 and 2013.

1.8 Limitations of the study

- Total co-operation of respondents–Not all respondents were willing to volunteer data. The researcher overcame this by effectively communicating the objectives of the study and giving assurance that all the data obtained would be protected and used solely for academic purposes.
- Financial Constraints- Research expenses in the form of stationery and travel demanded substantial financial resources. The researcher had to make personal sacrifice.
- Limited Time - The research was completed within set deadlines. The researcher had to sacrifice time working for long hours to meet deadlines.

1.9 Assumptions

The study was carried out based on the following assumptions:-

- Regulations, policies and the current conditions are not going to change over the research period.
- Data collected would be free from bias and other influence.

1.10 Definition of terms and Acronyms

ZGS - Zimbabwe Geological Survey

MMMD- Ministry of Mines and Mining Development

PPE - Property, plant and Equipment

1.11 Summary

This chapter focused on the background of the study, statement of the problem, main research topic, sub research questions, research objectives, and significance of the study, assumptions, delimitations, limitations, and definitions of terms, acronyms and summary. Chapter 2 will cover literature review on the research matter.

CHAPTER 2

Literature Review

2.0 Introduction

This chapter presents the literature review on the funding operations policy, implementation guidelines, funding challenges, controls and the best practice in funding operations within the department. The study broadly used a lot of internet search engines, journals and books related to the topic under study to provide information on how other institutions operate. The chapter will be concluded by a brief summary.

Fink (2009:32) postulates that Literature review reflects on what other people have written about one's area of study, collecting data in order to support one's arguments. According to Sheldon (2010:15) literature review is referred to as the evaluation of books and articles that might have bearing on a given research area.

2.1 Funding Policy

Stoner, etal (2002:296) describes a policy as a standing plan that sets out general guidelines for decision taking. The policy determines boundaries around choices, guiding managers on decisions which can be made and which cannot. The thinking of organization members is channeled in a manner consistent with organizational pre-set objectives. Likewise funding operations are therefore based on particular policies.

Government departments are ordinarily funded by normal operation of the national budget cycle where resources are mobilized mainly from domestic resources. Manungo (2012) says Ministry of Finance requires line Ministries to craft/review their strategic plans and objectives and align them to the national and sectoral priorities and objectives, casting them within a three year perspective. Aid resources (both grants and loans) earmarked for specific programmes/projects are taken into account in the process. This will be followed by submission of Estimates of expenditure by Accounting Officers. Despite Ministries' objective financial planning, the Ministry of Finance reserves the right to generate aggregate spending ceilings justified as an attempt to build a credible Macro Fiscal Framework (MFF). The consolidation of line Ministries' priorities will culminate in the formulation of a Budget Strategy Paper (BSP) which sets out the policy context and strategic choices guiding the forthcoming year's budget. According to Public Finance Management Act (Chapter 22:19) Section 28, the Minister of Finance shall lay before the Parliament the annual budget for the forthcoming financial year, not earlier than 30 days or not later than 30 days after the start of the forthcoming financial year, stating:—

a) estimates of the revenues, expenditure and financing requirements for the Government of Zimbabwe for that year;

b) For each vote of expenditure a statement of the classes of outputs expected to be provided from that vote during the year and the performance criteria to be met in providing those outputs.

Having been approved by Parliament and assented to by the President, Treasury will, under normal economic conditions, distribute expenditure envelopes to line Ministries and Departments. This therefore means the funding policy is embodied in the traditional Government budget policy. Das (2013) suggested that various stakeholders who are the long-term beneficiaries

of the Geological Survey of India (GSI) should be approached to participate financially, to garner additional funds to enable GSI to ramp up and expand its exploratory activities. Das further proposed that participating companies would also be expected to fund critical hardware the GSI required to expand its technological capacities, including aircraft to explore deeper earth structures.

Brown (2014) also argued that more recently; Lake County government has provided additional funding through the Central Great Lakes Geologic Mapping Coalition and the STATEMAP component of the National Cooperative Geologic Mapping Program to help expedite the project's completion. He pointed out the Illinois State Geological Survey has been conducting detailed geologic mapping throughout Lake County in north-eastern Illinois for the past several years and the work has been funded by the State of Illinois and the U.S. Geological Survey but the funding was not adequate for the purpose.

According to http://www.apa.virginia.gov/reports/DMME20092011.pdf, the Auditor of Public Accounts (APA), Commonwealth of Virginia (2011) confirmed that the Division of Geology and Mineral Resources' primary funding sources are General Fund appropriations and federal grants. This reflects that sole dependence on Treasury allocations alone is not sufficient, hence the need to consider alternative funding.

2.2 Implementation guidelines for the funding policy

Government departments are ordinarily funded by normal operation of the budget cycle, thus the funding policy is implemented the same way.

2.2.1 Effective and Efficient Budgeting Process

Manungo (2012) says “A diagnosis of the 2011 National Budget formulation identified a number of following shortcomings in the current budget preparation process. The budget process starts late in the year with budget activities concentrated during the last quarter of the year thereby overloading work on a thin human capital base. Time allocated to line Ministries to consult stakeholders and come up with realistic expenditure proposals is too short thereby compromising the quality of the submissions. Central agencies also have very little time to engage stakeholders. This neither enhances transparency in budget formulation nor engenders a participatory and inclusive framework critical for consensus building. This compromises ownership of the budget outcomes thereof. The lack of strategic engagement within line Ministries in the current budget process mean that the budget framework is not grounded on plans and priorities of line Ministries. Consequently the expenditure envelopes given to line Ministries do not address allocative efficiency issues.

2.2.2 Effective Management of Property Plant and Equipment

In the absence of adequate funding by Treasury any inefficient institution is bound to be exposed to risk of inefficiency. One major weakness is that the acquisition costs of assets purchased by Government are expensed in the year of purchase rather than being capitalised. It then becomes difficult to determine proper timing for replacement of assets that would have outlived their economic lifespan. As a result higher maintenance costs associated with aged PPE would not be avoided.

Osborn (2009) argues holding on to obsolete assets results in incurrence of costs. Drake (2010) agrees with Osborn arguing that continuous ownership of obsolete assets results in costs ranging between 3 and 5 percent of the total asset's total life cycle cost. In view of this there is need to take cognizance of the end of life of the firm's assets. Biruk (2008) describes an obsolete asset as an asset which the firm is no longer using, old-fashioned in or design and/or technologically out-of-date because of continual technological advancements. Osborn further says that obsolescence is caused byequipment loss in value of an asset due to loss of usefulness or technological factors, physical usefulness or workings of the asset.

According to Anon (2010) obsolete include assets that are no longer wanted in business by an organisation. It can be in the short term or in the long-term or both. Assets that have become expensive to maintain or that are no longer compatible with the an organisation's current methods of operation, or those that have become uneconomical to continue maintaining due to limited availability of spares or the replacement cost of spare parts outweigh the reasonable value of the assets where the assets have become outmoded and are no longer useful for their intended purposes.

Hooper (2009) describes an obsolete asset as an asset left with nominal value due to depreciation or wear and tear or redundancy of the asset.

2.2.3 Increasing sales and revenue

Bolas (2010) postulates that an increase in revenue estimates constitutes additional sales units and revenue value collected between two comparable accounting periods.Due to high levels of completion in the markets, companies are always looking for ways to grow market share. (Newton 2009) suggests that companies can increase market share through introducing discounts, increasing prices, complementary services, co-operative sales agreements, advertising, promotions. These strategies help in improving revenue levels and gaining of better competitive edge over existing competitors and new entrants.

On the contrary, Hagigie et al (2012) suggested that independent goods and services should be paid for independently as this promotes increase in the entity's financial base. Haggie further argues that introduction of a new system carries a risk that it might take too long before a firm gets returns.

2.3 Personnel Capacity

It is imperative to ensure sufficient personnel capacity exist at an organisation to guarantee effective and efficient formulation, implementation, control and review of policies. Personnel capacity is mainly influenced by how organisations handle their staff appointments, performance advancement, transfers, promotions and training procedures

2.3.1 Appointments/Recruitment

Stoner etal (2002:376) states that recruitment is concerned with developing a pool of job candidates in line with a company's human resource plan.

Public Service Commission (PSC) (2004) states that all appointments to entry level posts throughout the Zimbabwe Government service shall be made by the respective Head of Ministry and the Public Service Commission approves with Treasury concurrence all appointments, Performance advancement, transfers, promotions and training procedures for the public service. The Circular further stipulates that all appointments shall have regard to the merit principle that that is, the principle that preference should be given to the person who is the most suitable and appropriately qualified for appointment to the office, post or grade concerned.

2.3.2 Training and Development

Stoner etal (2002:377) say that Training and Development both aim to increase employees' abilities to contribute to organisational effectiveness and are designed to improve skills in the present job. Development programmes are designed to prepare employees for promotion. The authors argue that Management development programs have become more prevalent in recent years because of the increasingly complex demands on managers and because training managers through experience alone is time consuming and unreliable process.

In the case of Government, Heads of Ministries have powers to set guidelines for training and development in ministries to ensure their departments have adequate personnel capacity in order to achieve set objectives. In 2012 Mupazviriho, the then Permanent Secretary for Ministry of

Mines and Mining Development issued Secretary's Circular No.1 of 2012 setting out guidelines over the implementation of the Ministry's training and development. These guidelines are meant to provide guidance to the operationalization of the varied training interventions in the Ministry as a way of assuring sufficient personnel capacity. This is done with PSC concurrence.

2.3.3 Performance Appraisals

Stoner etal (2002:377) says the Performance appraisal compares an individual's job performance to standards or objectives developed for the individuals' position. Low performance may call for corrective action like training, or separation, while high performance may merit a reward. It is the responsibility of the Human Resources Management department to work with top management in the formulation of policies that will provide guidance for all performance appraisals.

2.4 Funding Challenges

Allesi (2009) describes funding challenges as shortage of financial resources within business operations in light of the need to improve revenue inflows. Allesi advocates that anentity cannot prosper if money is the limiting factor for marketing purposes. Milton (2010) also argues companies should prioritise scarce resources to production as it is critical to keep keeping the company rolling.

According to Mathews (2007:02) also experiencing funding challenges had to take measures essential to increase efficiency, to streamline the operations of Colorado Geological Survey (CGS), and to make better use of existing State resources." Mathews further argues that had had

to lay off a 10% of authorized full-time employees in an attempt to arrest the funding challenges within the organization.

According to (http://arizonageology.blogspot.com) 13.09.14 12:23, there are serious challenges facing many state geological surveys. This is evidenced by the 103rd AASG annual meeting that was convened by 38 states on the banks of the Mississippi River in Dubuque, Iowa, on 13 June 2011 to discuss funding challenges. The meeting was necessitated by the most dramatic changes where Colorado survey was predicted to close down in a year's time, planning to convert into a university. The Louisiana survey has also proposed to roll into the University of Nevada, Department of Geosciences. State surveys continue contemplating plans of self-funding with grants, contracts, and entrepreneurial funding sources.

According to <http://www.epsu.org/a/8449 (13.09.14> 13:03) says the governments in EU community are also experiencing funding challenges as are currently operating under very difficult economic and financial context. It is said every government in the EU and these were believed to be consequences of financial crisis experienced in 2008 and the related subsequent recession.

<http://www.acwa.org.au/member/funding-challenges-and-grants (12.09.14> 19:34) indicates that Sector surveys, member surveys and individual feedback from members show that funding is firmly at the top of the list of concerns welfare groups are facing. The recent ACOSS Community Sector Survey saw community sector organisations identify underfunding of services by government, funding uncertainty and challenges for small organisations to remain

viable, as the top three most significant sector issues. Similarly, our recent member survey saw members report funding as the biggest issue affecting them and their workplaces.

http://www.biomedcentral.com (13.09.14 08:53) reflects that Decentralised health systems in Tanzania depend largely on funding from the central government to run health services. Experience has shown that central funding in a decentralised system is not an appropriate approach to ensure the effective and efficient performance of local authorities due to several limitations. One of the limitations is that funds from the central government are not disbursed on a timely basis, which in turn, leads to the serious problem of shortage of financial resources for Council Health Management Teams (CHMT). This paper examines how dependency on central government funding in Tanzania affects health activities in Konawa district council and the strategies used by the CHMT cope with the situation.

2.5 Controls over policy implementation

2.5.1 Budgetary Control

Randall (1996:395) postulates that the use of budgets allows for the continuous comparison of actual with budgeted results at frequent intervals so that corrective action may be taken when necessary.

Effective formulation and implementation of policies is heavily dependent on the nature and size of organisational structure/chart or chain of command that specifies hierarchy. According to Stoner etal (2002: 318) describes a chain of command as the plan that specifies who reports who

reports to whom in an entity and such reporting lines are prominent features any organogram called a hierarchy.

2.5.2 Overhead Cost Control

Villosa (2011) argues that control over overhead costs facilitates planning, allocation, controlling and monitoring of overhead costs. Vaal (2011) further says the scarce resources must be properly expended to enhance the company's performance and capacity.

2.5.3 Labour Cost Control

Villosa (2011) describes labour cost as the reward for remuneration for a task performed or service provided. However labour costs cannot be controlled the same way as costs such as material. He argues that decreasing the number of labourers may result in an increased labour cost due to inefficiency while on the contrary an increase in the number of workers may increase production efficiency, thus a decrease in labour cost.

2.5.4 Control over idle time and overtime

Raghunandan (2010) defined "Idle Time as the difference between the time for which payment is made and the actual time worked. It is the time for a worker is paid without corresponding productivity. Idle time results in increased labour costs. Continuous supply of raw materials and electricity ensures continuous production thereby resulting in lower labour costs. Raghunandan however argues that some time, these factors may be beyond the entity's control.

2.6 Best practice in funding operations within the department

2.6.1 Alternative funding

Coffman (2006:27) suggested if public libraries heavily depend on tax based funding they will face serious challenges arising from the economic and political environments. He argues it is important companies start to seriously consider alternative sources of funding. He added that almost every other institution in the educational sector has moved to the practice of plural funding. Very few institutions continue to depend on tax funding.

Agosto (2008) maintains that iin response to recent public library funding challenges several entities proposed rely less on traditional disbursements from central government. Many US public entities have adopted non-tax funding sources, to resource their programmes. Coffman further argues that little research has been carried with regards merits and demerits of alternative funding for public libraries.

Akporhonor (2005) concurs with Agosto (2008) saying funding for Nigerian library and information services has been over a long period of time dependent on the parent institution. The disbursements take various forms such as fixed percentage of overall budget, ad hoc considerations and so on. He noted that a significant number of libraries get far less funding than their approved allocations. She further says that upcoming expenditure trends and pressure from societies compel libraries to adopt new funding initiatives that facilitate generation of funds from internal sources. Less risky alternatives were suggested and these include consulting, soliciting donations and pricing information services.

2.6.2 Bilateral Agreements/Contracts

According to Blank (2014) Bilateral agreements are formed between two entities that may be persons, companies or sovereign countries on varying matters but usually in the form of trade agreements. These agreements are legal binding contract that the two parties must adhere to its mutual terms and conditions.

Boyer (2009) argues that a bilateral contract should be differentiated from a unilateral contract because of its reciprocal nature in which one's performance is based on rights and obligations from and to each other respectively. In a bilateral contract both parties are bound by their exchange of promises.

According to **http://www.usgs.gov/usgs-manual/im/oa-2014-09.html.(10.09.14 10.08)** the India's Mines Ministry was aiming to conclude agreements with Australian institutes involved in geosciences. Australia would assist in providing training for both the Geological Survey of India and companies in the mining industry. The applicability of the above is currently very difficult in Zimbabwe. In a magazine 'ZGS Celebrating 100 years', Mukandi (2010) says ZGS' Data Management Section (DMS) was established in 1994 as a bilateral project between the Canadian Government Agency (CIDA) and the Ministry Of Mines. At the onset of the project CIDA acquired scanners, servers and computers for use by the Department. Unfortunately, the project ended prematurely in 2000 owing to political differences between the two countries. This affected the project as the department faced challenges in replenishing and upgrading the hardware and software for data management.

2.6.3 Review of Policies

According to University of Minnesota (2012), the purpose of reviewing policies is to determine whether the policy is still the serving the purpose as originally intended, to establish whether the objectives of the policy are being met, determine the necessity for changes and to make sure awareness, monitoring and regular review is taking place.

2.6.4 Complementary services

According to Nath (2011), these are services that may be provided by the company as ancillary to the main products or services and these may include advising, maintenance, installation, after sale support to mention a few.

2.6.5 Cost reduction

Mappel (2011) defines cost reduction as a systematic process of identifying and eliminating needless expenses from business operations in order to improve on profitability without compromising on product or service quality. Managers embark on regular cost control strategies in order to enhance efficiency and increase profits.

According to Barfield et al (1991) defines cost as "the cash or cash equivalent sacrificed to acquire goods and/or services required to produce and distribute goods, carrying out an activity or to comply with contract or legal requirements.

According to www.deloitte.com (03.09.14 10:46) argue that are mainly using traditional cost reduction strategies, like cutting on staff or streamlining programs. Deloitte further argues that

traditional cost reduction methods may not be sufficient for example the 2009 American Recovery and Reinvestment Act stimulus package provides temporary relief, but does not solve the long-term, fundamental challenges with government service delivery exposed by the economic crisis. Cost reduction starts with the basics and then usually goes deep and often becomes very painful. When faced with an immediate need to cut costs and balance a budget, begin with the fundamentals

2.6.6 Increase or reduce Prices

Menger (2004) opined that the decision to increase or decrease price is dependent on price elasticity of demand for a product or service. It is difficult to increase prices for products that price-elastic. Conversely the price may be reduced to boost demand. In opposition, if the product is price-inelastic in demand a price increase will not cause substantial shift in demand

Dever (2009) also argued that policy formulation in government policy is compromised by bureaucracy, in that final approvals are obtained when probably the policy is no longer applicable to the problem at hand. Fall (2009) argued that bureaucracy results in inefficiency within the bureaucratic organization, at first chronic, then unsustainable, then ruinous. Conversely, , Webber (2010) argues is of a varying opinion that bureaucracy results in greater efficiency and is equally important because of its leveling impact or effects on the society and it establishes a new class of public or private officials who use inordinate power and force over their subjects within their respective administrative cycles

2.6.7 Sales discounts

According to Menger (2004) sales discount is reduction in price of a good usually expressed as a percentage proportion of the original price.

2.6.8 Leasing

Warren *et al* (2008) describes t leasing as a popular strategy employed used by several entities without tying huge sums of cash or cash equivalents through purchase the assets. A company avoids the risk associated with owning obsolete assets. Osborn (2010:80) says Columbia University uses the same strategy for computer equipment, further saying it is sometimes argued that the leasing of assets has numerous advantageous than ownership in that in a lease the risk of obsolescence remains with the lessor.

Kernan (2011) however says leasing any given piece of equipment is more expensive than buying the equipment outright. Despite this cost difference, there are many good reasons to lease. If the items the institution is considering to purchase run the risk of becoming obsolete before the end of their useful life, leasing would be a good option. This is true for assets such as computers and other electronics that rapidly become out-dated. The institution will avoid carrying costs associated with obsolete assets such as breakdown or repair. All equipment that is planned to be used for five years or less and there is a good chance of obsolescence is leased (Macquire University).

According to Jerry (2010) at Ulster university obsolete assets should, after due authorisation by Head of Department be recorded as obsolete on the Asset Register. A copy of the memorandum

confirming obsolescence should be sent to the finance department. A quarterly report of obsolete items will be forwarded to the procurement manager who has the sole authority to arrange disposal. A regular review of all items on asset management is undertaken and all items with a carrying amount of zero (fully depreciated) and the status confirmed as obsolete is sent to faculties or administrative departments who will verify whether asset is obsolete. This is then returned to the non-current asset section who then updates the asset management register. A review of obsolete assets by faculties or departments should take place at least annually. A preference is given to dispose or replace obsolete assets rather than retaining them.

According to Michaud (2011) the best way to lower IT disposal costs is through a well-managed IT asset lifecycle program. Asset management firms can work with an institution to resell working and valuable equipment to offset any of the processing and recycling costs for damaged and obsolete items.

According to Kieso (2007)the most appropriate way of managing obsolete assets for the university (Macquire) is to maintain a register that accounts for the assets from when they become obsolete until they are disposed of by auction, tender process or direct sale. No assets should spend more than a year before disposal when they are identified as obsolete. This strategy helps the university to reduce the costs of continued ownership.

Using historical asset data, University of New Castle performs a rigorous analysis of obsolete assets and develops a methodology to analyse historical asset failure, create a library of predictive asset failure curves and build a web based and analytically rigorous simulation model

that allows users to evaluate the implications of strategic decisions for managing obsolete assets. Non-performing assets are disposed of assets to reputable asset management and investment companies (Nicol *et al*, 2009).

Jerry (2010) suggested that preventive maintenance is the other strategy used to manage obsolete assets at Ulster University. The institution prevents the failure of different assets before it actually occurs. Assets are preserved and enhanced reliably by replacing worn components before they fail and this has helped the institution to prevent all asset failures before they occur. The number of obsolete assets which result from continued use is reduced because the assets are prevented from failure in advance. Roberts *et al* (2009) supports planned maintenance when he says that planned maintenance help reduce the number of obsolete assets .The strategy consists of many check point activities on assets that if disabled may interfere with an asset , the institution says it is not very successful on its own.

Lalitha (2002) says that assets found to be obsolete are only to be disposed of if no further economical use for such assets exists. It therefore stands to reason that a proper phasing out phasing in (renewal) plan should be constructed for assets which have served their purpose and need to be replaced by new generation equipment. In this respect, unacceptable financial losses to the institution can occur in the absence of a proper replacement renewal plan for obsolete assets.

2.6.9 Co-operative sales agreements.

Ellis (2011) defined co-operative sales agreements as agreements that are entered between two parties for one part to sell products of another party as a complementary product to their products. ZGS can enter into agreement for co-operative sales agreements with private oriented

companies as well as related Government departments such as the Department of Surveyor General under the Ministry of Lands.

2.6.10 Proper Management of Obsolete PPE

According to Anon (2009) there are many costs associated with continued use of obsolete assets and these include insurance, maintenance, storage costs, operating costs and staffing costs.

Retaining obsolete assets in service when they no longer effectively support service delivery will expend resources that could be used elsewhere and could effectively constrain investment in more suitable economic assets.

Osborn (2009) says that there is a cost for keeping equipment that is technologically, if not physically obsolete. According to Drake (2010) costs of owning obsolete assets are up to between 3% and 5% of the total asset's total life cycle cost therefore there is need to pay attention to end of life.

Peterson (2011) agrees that on average an institution should expect to pay 3% of the purchase price per year to repair and maintain its car (less in early years, more in later years). If the repairs and maintenance is done personally, the cost would be what the institution's time is worth if it used that time to earn an income. This shows that maintenance and repair costs will always increase during the later stages of an asset's life. This is evidenced by ZGS' increasing costs over the period under study.

Terborgh (2002) says that the firm which refuses or takes time to replace an obsolete asset on the basis that it has not yet been fully depreciated will likely suffer from artificially high annual operating costs. Duft (2009) is of the same mind that, as an asset ages the cost of keeping it in an

operable condition increases. He further says that a firm which becomes so enamored to replace assets prematurely must also suffer the high cost consequences.

Donald *et al* (2000) also argued that the lifetime of assets has substantially changed in recent decades because of technology advancement. The authors indicated a controversy that accommodating these changes has been a costly process while failing to accommodate the change is costly as well as the assets can impose heavy burdens on their owners and users. Lalitha (2002) also says that assets always reach a point when it is more costly to operate and maintain them than to replace.

Donald (2000) asserts that a problem arise during the latter stages of an asset lifecycle, when both spares and expertise are no longer available, then the costs of redesign and identification of suitable replacements may induce considerable costs. Retaining non performing obsolete assets only takes up space and deprives organisations of income without any offsetting benefit.

According to Duft (2009) when an asset has reached its end of life phase, there are increased frequencies of failures and the maintenance will be more expensive than replacement. Service possibilities are not possible anymore which often leads to unplanned replacements with long periods of production stand still with all costs related to that. The value added by an asset decreases with age if for no other reason than increased downtime due to mechanical failures. As an asset ages, the cost of keeping it in an operable condition increases. As an asset ages, it is moved to less and less productive functions.

Peterson (2012) says if a car is parked in a garage, any utilities attributable to the garage along with the depreciation of the garage structure and fixtures are all part of the cost of owning the vehicle. This shows that keeping obsolete assets can result in holding or storage costs.

Bullen *et al*, (2011) says that anticipating and solving obsolescence problems is considerably cheaper than waiting until later when major asset redesign is called for and the asset availability is threatened. Requiring higher shorter term costs, a policy of spend to save needs therefore to be adopted. A proactive approach to the identification of potential obsolescence problems is therefore recommended, using a combination of risk assessment and supplier notification.

Biruk (2008) suggests that entities must determine which of its assets need to be maintained (that is it must assess the materiality of its assets). By recognizing the decline in asset values through use or obsolescence, managers are encouraged to consider the costs of holding and using assets. Managers are then able to manage those costs, and to make an informed decision such as lease, buy or dispose.

Hooper *et al* (2009) suggests that by recognising the decline in asset values through use and obsolescence, managers are encouraged to consider the costs of holding and using assets. Managers are then able to manage those costs, and to make informed decision such as retain or replace decisions.

Borsch (2009) argues that if elderly people save less than young people, then an obsolete asset saves less. There is need for more capital for obsolete assets since capital must increasingly substitute for labour.

Christine (2011) states that, at Sydney University all machines are upgraded to the latest technology after two years. Old computers are sold to 'used equipment' dealers. This has resulted in some decent cost recovery. Stone (2003) supports this strategy saying it is usually much easier to get funding to meet new operational demand or to upgrade technology than it is to justify the timely like for like replacement of an existing, deteriorating asset. According to statistics shown

for Sydney University the number of obsolete assets reduced by 35% and the university recovered reasonable costs from the sale of used equipment to used equipment dealers. This indicates that the strategy of upgrading can be successful if properly managed.

According to Anon (2010) at the University of New England the strategy which is used for obsolete computers is computer recycling. The institution find another use for materials (such as donating to charity) and having systems dismantled in a manner that allows for the safe extraction of the constituent materials for reuse in other products. The utilisation of assets was increased by adapting obsolete assets to another function or using it in another programme and the reuse decision reduced the carrying costs of obsolete assets.

Bullen (2011) agrees that the reuse decision model is the other strategy used by many institutions. Adaptive reuse is an effective strategy for optimizing the operational and commercial performance of assets. While the benefits of adaptive reuse have been widely espoused, it would appear that asset owners lack a point of reference to justify and evaluate their decision making with regard to reusing existing assets. At New England University the strategy of adaptive reuse positively contributed to the reduction of obsolete assets. Donald (2000) says when obsolescence does occur, acknowledge it and retrofit or reuse facilities to minimize the costs of obsolescence.

Lalitha (2002) asserts that some assets become obsolete for a particular institution although the assets may be perfectly serviceable for other institutions. When an asset is no longer valuable to an institution’s portfolio or no longer contributes to the institution’s mission, a simple and direct

process of transferring title and disposing of the asset would free maintenance and repair resources. Transferring assets maximize the public's investment by reusing existing resources and this had reduced operations and maintenance costs. The transferring strategy is successful because the institution can save operations and maintenance funds that are directed towards the maintenance and repair of other assets. At Bowie state University assets that are obsolete for the institution are transferred to other institutions.

Duft (2009) says from a practical standpoint, a firm's assets are not everlasting. Because of physical deterioration or obsolescence, assets must be replaced. Moreover, the replacement decision is critically important to the success of an institution. Anon (2008) argues that either belated or premature replacement will have an adverse effect on the firm's operating costs. An asset's expected useful life and the purchase price of an asset in current use are not critical to the replacement decision.

Ohno (1998) says that sixty percent (60%) of the assets owned by Japanese institutions are now obsolete and some departments are unable to fulfil their functions such as production. While departments suffer from obsolete assets the replacement strategy does not reduce the costs to an accepted level because the institutions have insufficient resources to make necessary replacements. This shows that the replacement strategy is not very successful because of limited financial resources.

The strategy to manage obsolete assets

Conceptual Framework

According to Brady (2003) the effective implementation of asset management principles can only be achieved within a framework of appropriate control and monitoring by management. The management of assets requires sufficient records to identify the existence of assets and the costs of holding and operating these assets. For effective management of obsolete assets there is need to come up with planned strategies and this is illustrated by Roberts in the following table:

Table 2.1 Asset management strategies by Roberts

According to Roberts et al (2004) the following is the asset management solution to obsolete assets

Strategy	**Asset management solutions**
Do nothing	Assets are operated until they fail or can no longer deliver the required performance and then closed
Examine operational procedures	Operational management is changed to manage stress on the assets such as modifying the supply or rerouting at peak times
Consider routine maintenance	Carried out to keep assets in serviceable conditions at existing performance levels. Carried out at reduced cost levels to maintain the asset in a serviceable condition once a backlog has been addressed ,following a reduction in performance demands, when renewal or replacement is expected shortly or because of new

	technology
Renew or replace	Replacing part of an existing asset where routine maintenance is insufficient to keep the asset serviceable Replacement with a similar asset providing the same service or with a different asset providing the same service
Upgrade	Improvement of existing assets to meet future performance needs
Dispose	Decommissioning or demolishing and recycling obsolete assets. Selling of an asset
Operate and maintain	Service delivery Planned maintenance Unplanned repairs

Critiques of the asset management solutions by Roberts

According to Woodhouse (2011) decision making methods in the management of obsolete assets are currently fairly inconsistent and sub optimal. Questions such as when should to replace equipment, or should an institution refurbish its' assets to extend the asset's life, and by how much are difficult to answer. The suggested asset management solutions are silent about the timing of applying different strategies and the strategy which minimizes costs is not indicated.

The asset management solution does not show the period at which obsolete assets should be replaced or renewed and this makes it difficult for an institution like ZGS to tell when exactly to do the maintenance or to renew the assets.

The asset management solution does not indicate the most effective strategy to do away with obsolete assets and some of the methods cannot work for ZGS because of limited resources at the institution for example replacement on its own is expensive.

2.6.11 Disposal of assets

According Stephen (2003) disposal means a process of negotiating and concluding a written contract where necessary which involve the alienation of an asset no longer needed by the organization by means of a sale, a lease or a donation.

Once a decision has been made that an asset has come to the end of its serviceable life it is important to arrange for its elimination as soon as possible, in order to maximize returns and avoid unnecessary storage costs. For example, photocopiers and computers rapidly lose market value due to continuing advances in technology.

The disposal should also be done to raise money to start new investment projects. All assets should be disposed of within the first six months after their useful life. The proceeds from the disposal should be used to replace assets and the money can also be redirected towards the maintenance and repair of other assets. The obsolete assets can be sold at lower value and the money can be used to start an investment project. For example from the amount raised ZGS can automate or digitalise its library to raise more money that can later be used to acquire new assets. Since the Department has inadequate resources to replace all obsolete assets, the best way will be to invest and then replace near obsolete assets six months before the end of their useful life. This

method thus reduces the costs of continued maintenance of obsolete assets since the assets will be passed on to different people after replacement. Maintenance costs, storage costs and staffing costs will be eliminated.

2.6.12 Replacement of assets

Notwithstanding the age of the assertion, Perrin (1972) argues that "The basic marginal principle of asset replacement, clearly enough , is to compare gains from keeping the current asset for another time interval with the opportunity gains which could be realized from replacement asset during the same period. Thus a forest should be left to grow another year if the additional net returns are greater than the average annual returns from a new stand. A machine should be kept another period if the marginal costs of retaining it are less than the average periodic costs of a replacement machine."

Currently, the acquisition costs of assets purchased by Government are expensed in the year of purchase rather than capitalisation. It then becomes difficult to determine proper timing for replacement of assets that would have outlived their economic lifespan

2.7 Summary

The study extensively and intensively used a lot of internet search engines, journals and books related to the topic under study to provide information on how other institutions operate.

The chapter presented literature review on the funding operations policy and its definition. The literature covered funding policies for Zimbabwe, India, Illinois and Commonwealth of Virginia. Literature about implementation guidelines covered budgetary process, management of PPE and

revenue. Personnel capacity looked at staff appointments, performance appraisals as well as human capital development. Literature review indicated that funding challenges are also common in Tanzania, ACOSS community and EU community as well. Controls over policy implementation budget issues, overhead and labour costs. The best practice about funding operations extensively revolved around management of PPE as well as alternative sources of financing operations. Chapter 3 looks at research design and methodology that was used in the research.

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter presents the research methodologies applied in collecting data for the study. Kumar (2010:63) describes Research Methodology as the tools and techniques that are used to gather and analyse the data. This chapter outlines in detail the research design, research population, research plan, data collection methods and the instruments used in the research. This chapter will begin by covering the research design used in the investigation of the funding operations of Geological Survey Department. The chapter will be concluded by a summary.

3.1. Research Design

Flick (2009:128) defines a Research design is a plan for collecting and analysing data that will make it possible for the investigator to answer questions that he/she has posed.

Research designs were grouped according to the purpose of the research that is descriptive or explanatory. For the purpose of this study the descriptive research design was used as it allowed both qualitative and quantitative information which was considered to be appropriate to find out the problem under investigation. Malhotra (2010) argues that it is not always possible to use fully structured formal methods to get reliable information from respondents. Some respondents may

feel that their privacy is being invaded or try to avoid embarrassment by answering wrongly on the questionnaires.

The research design involves the collection of primary data and the review of secondary data. The primary data was collected through the use of questionnaires and interviews were conducted with intention of investigation of the funding operations of Geological Survey Department. The data assembled was systematically analysed and presented.

3.1.1 Descriptive research design

According to Seema (2010) Descriptive research involves gathering data that describe events and then organises, tabulates, depicts and describes the data collection. It involves the use of visual aids like graphs and charts that will assist the audience or the readers in understanding the data distribution. The primary purpose of descriptive research is to provide an accurate description or picture of the status or characteristics of a situation or phenomenon (Kumar 2010). Qualitative and Quantitative research methods were used in the research.

Merits of the Descriptive Survey

The Descriptive Survey survey technique is appropriate because respondents describe in detail about funding operations. Data obtained from different levels of employees is described differently according to how the respondents view the day to day operations of department. The survey also helps the researcher to obtain opinions, attitudes as well as descriptions on the subject being studied.

Demerits of Descriptive Survey

The descriptive survey technique is broad, as such the respondents reply in the way how they understand the situation hence the observer's views may be flared by bias in various ways.

Organizing data or the observations into an acceptable manner is cumbersome and consumes a lot of time.

In the case of interviews respondents are popular with a tendency of withholding information that they feel is confidential yet the information could be highly useful to the outcome of the research.

3.1.2 Case Study

Feagin (2010:2) describes case study as an in depth investigation using a qualitative research methods of a single phenomenon. University of Thomas (2010) defines a case study as an analysis of institutions, projects, or other systems that are studied holistically by one or more methods.

The researcher used descriptive research design because the survey technique because respondents describe in detail about funding operations. Data obtained from different levels of employees is described differently according to how the respondents view the day to day operations of department. The survey also helps the researcher to obtain opinions, attitudes as well as descriptions on the subject being studied.

Merits of Case Study

The researcher takes into consideration the fact that a case study involves data drawn based on peoples' experiences and practises therefore making it so strong in reality. It also provides a data source from which further analysis can be made for further research work.

Demerits of Case Study

A case study is synonymous with limited sample size and therefore data collected might not be fully representative of the entire population. The researcher therefore has to cautiously select the sample of respondents.

3.2 Research Population

According to Kumar (2010:55) research population refers to the total members of a defined class of people selected for their relevance to the research. It is the source from which the required information and answers are obtained. Wegner (2001) defined target population as the entire group of people, events or items which the researcher intends to collect information from during the study. Accordingly, the target research population for this particular study comprises members of staff from operational Sections of Zimbabwe Geological Survey as shown in Table 3.1.

Table 3.1 Population

Section	**Population**
Directorate	3
Finance and Administration	6
Library	3
Human Resources	2
Regional Geology	21
Geophysics	3
Economic Geology	2
Cartography	6
Total	**46**

3.3 Sample

According to Churchill (2002) a sample is the actual group of people who participate in the study, and from whom the data is gathered.

3.3.1 Sample size

Kothari (2008:56) defined a sample size as one that refers to the number of items to be selected from a set of objects to constitute a sample. Size of sample should be optimal.

Sekaran and Bougie (2010:268) argue that there are factors that affect the decision about a sample size as research objective, extent of precision required, acceptable risk in predicting that

level of precision, amount of variability in the population itself, cost and time constraints as well as size of population.

Sampling saves time as well as financial and other resources. The researcher will not collect data from the whole population but from a selection of 28 who are representative of the entire population as shown in Table 3.2.

Table 3.2 Sample size

Section	**Population**	**Sample**	**% Representation**
Directorate	3	2	67
Finance and Administration	6	2	57
Library	3	2	67
Human Resources	2	1	50
Regional Geology	21	13	52
Geophysics	3	2	67
Economic Geology	2	1	50
Cartography	6	3	67
Total	**46**	**26**	**57 %**

Castillo (2009:34) postulated that a larger population sample size generally results in enhanced precision when estimating unknown parameters, hence a sample target of 57 % in this research.

3.4 Sampling Techniques

Sampling methods are techniques that are used to select representative samples. There are various methods but for the purpose of this research the judgmental method was employed.

3.4.1 Judgmental Sampling

Saunders et al (2003) argue that judgemental sampling is a judgmental technique where the sample is strictly chosen by the researcher to meet a pre-set criterion on the basis that the selected sample members will provide the information required by the researcher. Judgemental sampling method is a form of non-probability sampling used in selecting individuals with the knowledge about funding operations

Merits of Judgemental Sampling

The advantage of using judgemental sampling is the reduced cost and less time is required.

Demerits of Judgemental Sampling

Individuals are selected on the basis of expert judgement that they are representative of the population of interest and therefore assumed to serve the research purpose. According to Burns (2008), this type of sampling is used when the researcher needs a population with a specific set of characteristics. Judgement samples are recommended when there is absolute confidence in the expert opinion.

3.4.2 Non-Probability sampling

The researcher will use non-probability sampling where necessary. Cassel (2009: 13) suggests that this sampling technique is convenient sampling where the researcher selects individuals on

the basis of their willingness or availability to respond. This method was incorporated by the researcher in choosing technical staff and field officers such as Cartographers, Geologists, and Geological Technicians. This is a strategic technique applied to select those individuals charged with governance of the ZGS Department.

Merits of Non- probability sampling

This technique is more accurate because it targets a specific group and therefore the responses will be similar to what the rest of the population will answer.

Justification of Sampling Techniques

According to www.emathzone.com 15.09.14 18.1 (14.09.14 22:08) the sampling methods applied are cheaper and time saving taking cognizance of financial and time constraints respectively. There is enhanced reliability of data since the inference about the population is possible only when the data is collected from the selected sample. However, the methods are not representative of the whole population. Efforts were therefore be made to minimize the problem of representation by choosing people with sound knowledge of funding operations.

3.5 Types of Data

According to Cooper and Schindler (2008:18) data are the facts obtainable or presented to the researcher from the study environment. The researcher will gather both primary and secondary data.

3.5.1 Primary Data

Stevens (2009:90) postulates that primary data are those data that are collected for the first time by the researcher for the specific research at hand. Similarly according to Gratton and Jones (2010:8) primary data generally refers to research that has drawn been in the collection of original data specific to that particular research topic. Primary data refers to data structures of variables that have been specifically collected and assembled for the current research problem. Cooper et al (2003) asserts that primary data is data collected from the field, that is, from the target population. The data was collected through on-site research of targeted population, through personal interviews and self-administered questionnaires

According to Collins (2010:124) Primary data is unique and exclusive until the researcher publishes it. The main methods of primary data collection for this research are questionnaires and interviews.

Merits of Primary Data

Data gathered tends to be most up-to-date in that data is gathered for the problem at hand. Information is free from bias that arises from the initial researcher's influence. Primary data gives reliable picture since it is original and direct from parties involved.

Demerits of Primary Data

Primary data is raw and thus expensive to extract. Gathering Primary data is time-consuming and therefore requires proper planning and efficient use of time.

3.5.2 Secondary Data

Frazer et al (2000) defines secondary data as information that already exists which has been collected for another purpose. Secondary data was collected mainly from existing sources such as the minutes and policies of the organisation. The researcher will make use of secondary data because it provides the starting point for further investigation into the funding operations of Geological Survey Department

Merits of Secondary Data

Secondary data is readily available, thus a quicker source. It is less time-consuming and cheaper to collect as compared to Primary data. The data provides an alternative and wider source of information on the topic that can also be studied with other methodologies. It also allows the use of more different types of evidence than most methods. The information is less subjective.

Demerits of Secondary Data

There is risk of placing reliance on secondary data that are out-dated. This may happen because Secondary data is historical thus the data might not be relevant to current and future developments so there is need for extra caution when using secondary data. There is a possibility of bias due to research characteristics in data collection and analysis was always present.

3.6 Research instruments

According to Sunders et al (2003) data collection instruments are techniques used by the researcher to collect standard data from sample respondents. The research makes use of self-administered questionnaires, internal documents, interviews and observation method.

3.6.1 Questionnaires

According to Sunders et al (2003) defines a questionnaire is a list of structured questions which are marked or given to a selected sample of individuals who record their responses and send back the questionnaire. Chisaka (2000:53**)** concurs that a questionnaire is research instrument used in a research to gather data through carefully laid down questions, chosen with a view of eliciting reliable responses from an established sample. McNabb 2010:109 argues that questionnaires are an instrument of primary data research that is used to generate responses to specific questions.

In this research closed questions are used where the respondents give answers in accordance with the parameters given.

Merits of Questionnaires

The use of Questionnaires is resource saving in terms of time and money. Questionnaires promote a sense of anonymity and cconfidentiality is also exercised since no names are revealed. Self-administered questionnaires place less emphasis on immediate responses and therefore the respondents complete the questionnaires with convenience and flexibility. Questionnaires reduce bias. A uniform question presentation reduces data manipulation or submission of corrupted responses since respondents give personal opinions without bias or influence from third parties. In addition, a greater amount of data can be collected over a broad range of topics covered by the research.

Demerits of Questionnaires

The researcher's absence at the time of filling the questionnaires limits opportunity for the researcher to probe deeply into the respondents' opinions or feelings, thus there is no control over the respondent's non-verbal expressions. The researcher would not be present to assist the

respondents in sections where further elaboration is required. This would possibly lead to misinterpretations of the questions by the respondents since no clarity could be sought. The production of questionnaires can be costly if the sample is large and also some questionnaires will not be returned thereby adding no value to the research underway. Where respondents doubt their anonymity and confidentiality, some respondents tend to give misguided or biased answers.

3.6.2 Interviews

An interview is any planned conversation between two or more people with a view to explore the unknown information from the interviewee. According to Cassell (2009:11) the goal is therefore to see the research topic from the perspective of the interviewee or subject. The researcher will use face-to-face interviews as another main research instrument in soliciting data from respondents. The interviews are employed so as to thoroughly conduct an investigation of the funding operations of Geological Survey Department. Yin (2003) asserted that interviews are a face to face situations or telephone contacts in which the researcher orally solicits responses.

Face to Face Interviews

Meritsof face to face interviews

During a face to face interview the researcher is able to use non-verbal communication during the interview in order to read facial gestures of respondents on sensitive topics. Non-verbal communication allowed the true picture to be deduced. This type of interview focuses directly on the study topic and interviews are insightful in that they provide perceived casual inferences. The interviewer probes deeper into the responses given by interviewees thereby minimizing the risk of misunderstandings because clarifications are sought immediately.

Demerits of face to face interviews

The interviews require sufficient, careful preparation including planning of visits, fixing and confirming appointments. Interviews are highly time-consuming in that sometimes they need the interpretation of the response. Respondents may feel uneasy and intimidated by the in-depth interview this can lead to the collection of biased data. Respondents might hold back some important information if they feel the interview would not be in their best interest should it become known that they were responsible for the disseminating the information.

Telephone Interviews

These are interviews conducted between the researcher and the respondent through use of telephone or cellular phone. The interviewer uses a pre-designed paper questionnaire to ask questions and to capture the interviewee's responses.

Merits of telephone interviews

The interviewer has a chance of reaching out to many interviewees in remotely distant areas thereby saving time and money. Similar to face to face interviews, this approach allows instant responses, thus saving time. The interviewee has an opportunity to seek clarification on difficult questions. Likewise the interviewer enjoys the advantage of soliciting further elaborations from the respondent. The voice pitch used by interviewee assists the researcher to interpret the interviewee's feeling towards the questions and the study as a whole.

Demerits of telephone interviews

There is an inherent requirement of existence of the telecommunication equipment, thus a cost is unavoidable. The interviewee does not have assurance that his/her responses will be recorded as given and as such may only give answers that please the interviewer. Responses received over

the phone are subject to bias since the respondent is likely to give answers that will not disappoint the researcher. The researcher is unable to read the body language of the respondent.

3.7 Types of Questions

Survey questions are classified into two distinct categories, that is closed questions and open-ended questions.

3.7.1 Open-ended questions

Under this approach the respondent is not restricted with regards the expression of his/her answer.

Merits of open ended questions

Respondents are not confined to pre-determined answer guides thereby allowing them to fully express their views. At the same time, this allows the researcher to obtain more information some of which could possibly had been omitted from the questionnaire.

Demerits of open ended questions

Van Dalen (2009) argues that there is risk that all respondents may give totally different responses, thus making it difficult for the researcher to objectively reach an objective conclusion. Normally, the responses to open-ended questions are too long posing a risk of misinterpretation.

3.7.2 Closed ended questions

Jackson (2011) says respondent is requested to choose from a limited number of options. Respondents are asked to make one choice that best suits his/her opinion. The alternatives provided include all possible answers from extreme positive side to the extreme negative side of

the alternative answers. This ensures reliability and validity of the data collected is not compromised.

All the respondents from a chosen sample have the same frame of reference in responding and many also make it easier for subjects to respond to questions on sensitive or private topics. A Lickert Scale is used to provide answers to closed questions so that they can be answered more easily and quickly by respondents. For the purpose of this study, the researcher will use closed ended questions.

Likert Scale

According to Rattray and Jones (2007), a Likert scale is one of the scale types that researchers can use to provide answers to the research questions by making a choice from a given range of answers. Answers are presented in a multiple choice format with structured answers as alternatives. There is greater ease of preparation than other scaling techniques. The method is based totally on experimental data regarding subject's responses rather than subjective opinions of judges. The method produces more homogenous responses per scale and increases the probability that a unitary attitude is being measured, increasing validity and reliability.

The research instrument to be used is in the form of a questionnaire uses a five (5) point Likert scale. According to Bucci, (2003:73) questions using Likert scale present a statement and respondents are asked to express agreement or disagreement on a scale. The scale is illustrated in Table 3.3

Table 3.3 Likert Scale

Item	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree
Points	5	4	3	2	1

Source: Burns (2008:474)

Interview method was also used on two members, one from the Directorate and one other long serving member of Zimbabwe Geological Survey department. The questionnaire and interview questions reflect on the opinions of the selected sample, with regard to each question.

Merits of the Likert Scale

The scale is simple to construct, easy to read and complete for participants, thus likely to produce a highly reliable scale.

Demerits of the Likert Scale

Generally respondents avoid extreme response categories resulting in central tendency bias. Participants may agree with statements as presented in order to please the researcher

3.8 Data Triangulation

3.8.1 Reliability

Seamen et al (2000) describe reliability as the extent to which an identified measurement procedure produces consistent results of the same facts from one to the other. Reliability therefore refers to stability, consistency, accuracy and dependability of the research instrument. To ensure that the research instruments are reliable, the study questions are structured to cover the content on the basis of sub-research questions. Use of easy questions helps in eliminating

misunderstanding and ambiguity. The researcher distributed questionnaires personally and respondents were given enough time to complete the questionnaires.

3.8.2 Validity

Sunders (2003) argues that validity of data is the extent to which a test measure is supposed to measure, and also the appropriateness with which inferences can be made on the basis of the test results. It is clear that the definition of validity has two parts. Firstly, that the measuring instrument actually measures the concept in question. Secondly, that the concept is being measured accurately. Unless the test is valid for the particular purpose for which it is being used the results cannot be used with any degree of confidence. In order to incorporate validity in the study the research ensured that each question was related to the problem and objective of the study.

3.9 Data presentation

According Sunders (2003) data collected should be presented in a manner that is visually appealing without compromising quality of the data. The reason for presenting the findings by use of visual aids, that is, graphs, charts and tables is improve the understanding of users as well as to simplify interpretations. The researcher will use bar graphs and tables for data presentation.

The responses from the questionnaires will be presented in a unique and systematic manner or order. Statistical presentation will be adopted in that raw data in absolute figures will be tabulated and expressed in percentage terms. The modal behaviour of the raw data classified per Likert scale will be taken in to account. Relevant visual aids in the form of tables, graphs and pie charts will be used to enhance the readers' better understanding of the findings.

3.10. Data Analysis

The researcher applied both quantitative and qualitative analysis approach. The approach was propounded by Lillis (2009) who indicated that reliability and authenticity on paying attention to complete, unbiased and thorough analysis of the data being analysed. The data was analysed using mode.

3.11 Summary

This chapter gave an outline of the research design, population, sample, sampling techniques, types of data, research instruments, data triangulation as well as presentation and analysis of the research data. Chapter Four focuses on presenting major findings of the research.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.0 Introduction

This chapter presents, analyses and discusses the findings of the research in line with the funding operations of Zimbabwe Geological Survey Department. The presentation of results is done with the aid of tables, graphs and pie charts as well as brief explanations. The findings are based on the results from self-administered questionnaires and face to face interviews.

4.1 Response rate.

Babbie (2009:118) describes response rate, expressed percentage terms as the total number of people participating in the research divided by the number of people who are requested to participate. The reliability of the results of the data determines the level of reliance to be placed on the results of the study. The higher the response rate the lower the rate of bias.

4.1.1 Questionnaire response rate

The researcher used questionnaire as the main research instrument to gather data. A total of 26 questionnaires were distributed, 24 were completed and returned as shown in Table 4.1, and the response rate was 92.86%.

Table 4.1: Questionnaire response rate

Respondents	Questionnaires distributed	Questionnaires returned	Response rate %
Finance and Administration	2	1	50.00%
Library	2	2	100.00%
Human Resources	2	2	100.00%
Regional Geology	14	13	91.67%
Geophysics	2	2	100.00%
Economic Geology	1	1	100.00%
Cartography	3	3	100.00%
Total	**26**	**24**	**92.86%**

According to Babbie (2009:118), a response rate of 60% is good while a response rate of 70% upwards is very good. The researcher's questionnaire response rate was 92.86% therefore guaranteeing reliability and validity of the findings. A high response was achieved through extensive follow-ups.

The researcher also conducted the interviews with two long-serving members of staff who play pivotal role in the funding operations of Zimbabwe Geological Survey Department. Analysis of the responses from the questionnaires and interviews are presented as follows:

4.2 Questionnaire responses

The responses are presented in a systematic manner or order. Raw data is tabulated first, followed by statistical analysis, relevant visual aids, followed by related literature and finally backed by the applicable conclusive remarks.

Question 1. Age Groups

The objective was to assess the respondents' ranges of age a view to determine their level of maturity and to some extent the scope of exposure to business environment and economic situations.

Table 4.2. Age groups

Response :	Below 25 years	25 to 29 years	30 to 34 years	35 and above	Total
Frequency :	4	6	10	4	24
Response Rate	16.67%	25.00%	41.67%	16.67%	100.00%

4/24 (16.67%) of the respondents below 25 years, 6/24 (25%) between 25 and 29 years, 10/24(41.67%)between 30 and 34 while 4/24had more than 35 years of age.

On the whole 10/24 (41.67%) were below 30 years of age whilst 14/24 (58.33%) were at least 30 years of age. 2/2 (100%) interview respondents were above 30 years of age. The mode shows the majority are above 30 years of age.

The mode shows the data was gathered from mature respondents.

The conclusion is that the data can be relied upon.

Question 2. Employee Grade/ Position

The objective was to assess the respondents' level of seniority within the organisation with a view to determine their extent of exposure with regards involvement in the ZGS funding operations as this might have a bearing on the reliability of data. Grade A is the lowest level while Grade E is the highest level.

Table 4.3 Employee Grade

Response :	A	B	C	D	E	Total
Frequency :	0	2	4	12	6	24
Rate	0.00%	8.33%	16.67%	50.00%	25.00%	100.00%

0/24 (0%)were in Grade A, 2/24 (8.33%) were in Grade B, 4/24 were in Grade C, 12/24 (50%), and 6/24 were in Grade E.

In total 6/24 (25%) were low level staff while 18 (75%) were seniors officers.

2/2 (100%) interview respondents senior officers

The mode shows the data was collected from senior members of staff.

The conclusion is that the data is reliable since the responses were obtained from senior officers of the organisation.

Question 3. Areas of responsibility within ZGS department.

The objective of this question was to assess the respondents' working environment with a view to determine their extent of exposure with regards ZGS funding operations that have a bearing on the reliability of data.

Table 4.4 Section

Response :	Human Resources	Finance & Administration	Geology	Data Management	Geophysics	Total
Frequency :	2	1	14	5	2	24
Rate	8.33%	4.17%	58.33%	20.83%	8.33%	100.00%

2/24 (8.33%) were from HR, 1/24 (4.17) Finance& Administration, 14/24 (58.33%), 5/24 (20.83%)AND 2/24 (8.33%) were from Geophysics section.

On the whole 3/24 (12.50%) were from Support service sections while 21 (87.50%) were from Technical sections.

1/2 (50%) interview respondents were from Technical sections while 1/2 (50%) were from support service sections. The mode shows the majority are from Technical sections.

The mode shows that data was obtained mostly from technical staff.

The conclusion is that the data obtained is adequately represented.

Question 4. Level of Education

The objective of this question was to assess the respondents' highest level of education with a view to determine their level of knowledge about ZGS operations that would in turn influence the reliability of data.

Table 4.5 Highest level of education

Response :	Secondary	Certificate	Diploma	Degree	OTHER	Total
Frequency :	0	2	8	14	0	24
Rate	0.00%	8.33%	33.33%	58.33%	0%	100.00%

0/24 (0%)had secondary education, 2/24 (8.33) Certificate, 8/24 (33.33%%) had Diplomas while 14/24 (58.33%)had Degrees as their highest level of education.

Collectively 2/24 (8.33%) were educated up to certificate level while 22/24 (91.67%) had at least a Diploma.

The mode shows that the majority have at least a diploma.

The conclusion is reached that the data was collected from knowledgeable respondents with adequate level of education.

Question 5. Respondents' working experience

The objective of this question was to assess the respondents' working experience with a view to determine their level of knowledge about ZGS operations that would in turn influence reliability of data.

Table 4.6 Working experience

Response	Below 5	5 to 10	11 to 15	16 to 20	Above 20	Total
Frequency :	2	2	8	7	5	24
Rate	8.33%	8.33%	33.33%	29.17%	20.83%	100.00%

2/24 (8.33%) of the respondents below 5 years, 2/24 (8.33) between 5 and 10 years, 8/24/24 (33.33 %%)between 11 and 15 years, 7/24 (29.17%)between 16 and 20 years while 5/24 (20.83 %)had more than 20 years of experience.

On the whole 4/24 (16.67%) had less than 10 years working experience while20/24 (83.33%) had more than 10 years working experience.

2/2 (100%) of the interviewees had more than 10 years of working experience.

The mode shows that research data obtained from employees with reasonable experience.

It can be concluded that the data is reliable since came from employees with relevant experience.

Question 6. Zimbabwe Geological Survey has a funding policy

The objective of this question was to establish whether the respondents are aware of the existence of the funding policy.

Table 4.7 Existence of funding policy

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	1	4	17	2	0	24
Rate	4.17%	16.67%	70.83%	8.33%	0.00%	100.00%

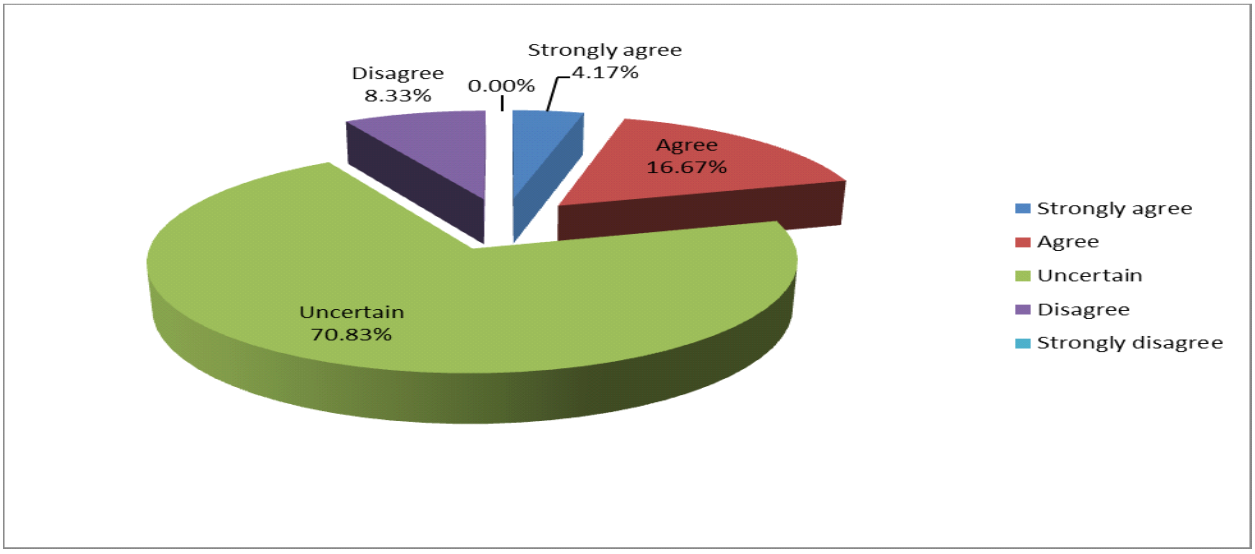

Figure 4.1. Existence of funding policy

1/ (4.17%) of the respondents strongly agreed, 4/24 (16.67%) agreed, 17/24 (70.83%)were not certain, 2/24 (8.33%) disagreed while 0/24 (0 %) strongly disagreed that funding policy exists at Zimbabwe Geological Survey.

On the whole 5/24 (21%) agreed whilst 19/24 (79%) disagreed.

Interview findings showed that 2/2 (100%) agreed that the funding policy exists at Zimbabwe Geological Survey Department.

The mode shows there is disagreement that the policy exists. This position was confirmed by Stoner et al (2002).

A conclusion can be drawn that ZGS does not have an autonomous funding policy.

Question 7. ZGS funding policy is documented.

The research question had the objective of gauging the respondents' knowledge about whether the policy is documented.

Table 4.8 Documentation of funding policy.

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	0	4	18	2	0	24
Rate	0.00%	16.67%	75.00%	8.33%	0.00%	100.00%

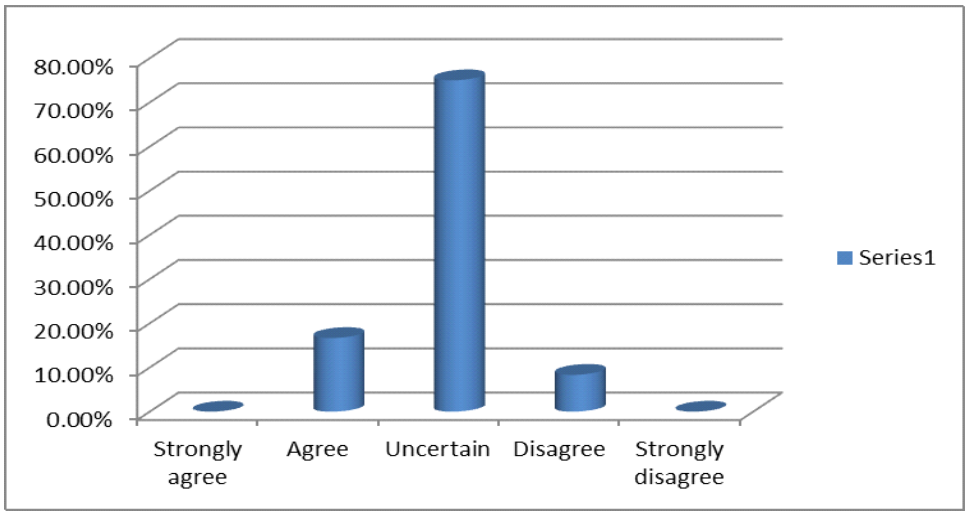

Figure 4.2. ZGS and policy documentation.

Questionnaire responses showed that0/24 (0%) strongly agreed, 4/24 (16.67%) agreed, 18/24 (75%) were uncertain, 2/24 (8.33%) disagreed and 0/24 (0%) strongly disagreed that Zimbabwe Geological Survey has a documented funding policy.

Collectively 4/24 (16.67%) agreed whilst 20/24 disagreed. Figure 4.2 illustrates the findings from questionnaires.

Interview responses showed that ½ (50%) agreed that the department's funding policy is not documented.

The mode showed the funding policy is not documented.

Question 8. The funding policy is communicated to all members of staff

The objective of this question was to tell from respondents' position whether the funding policy is communicated to all members of staff.

Table 4.9. Communication of funding policy.

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	0	4	11	4	5	24
Rate	0.00%	16.67%	45.83%	16.67%	20.83%	100.00%

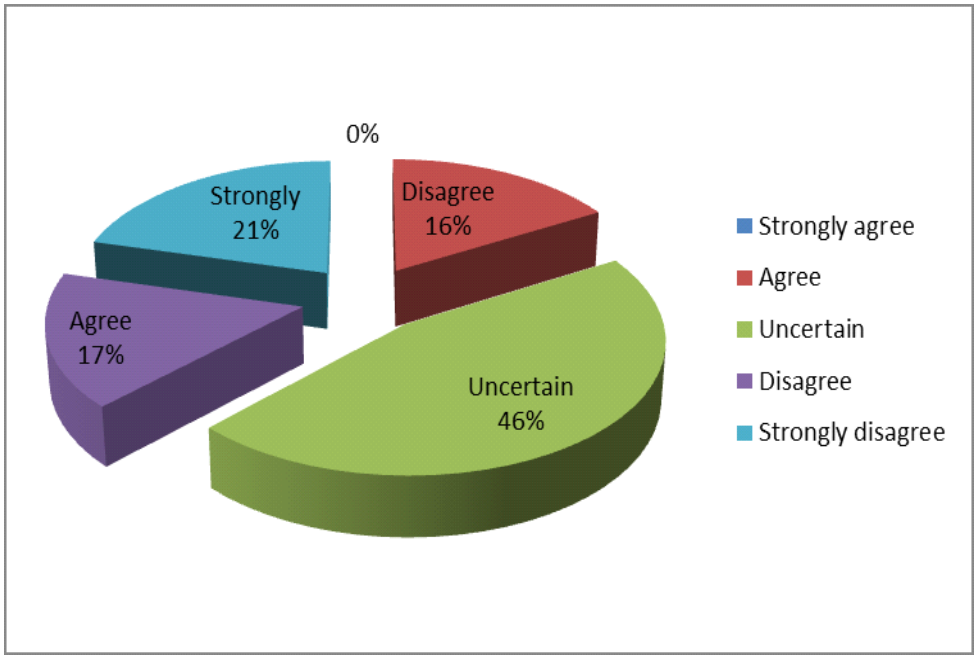

Figure 4.3.Communication of funding policy.

Research findings showed that 0/24 (0%) strongly agreed, 4/24(16.67%) agreed, 11/24 (45.83%) were uncertain, 4/24 (16.67%) disagreed while 5/24 (20.83%) strongly disagreed with the notion that the funding policy is communicated to members of staff.

Comprehensively 4/24 (16.67%) agreed whilst 20/24 (83.33%) disagreed. Figure 4.3 presents findings from the questionnaires.

Interview responses showed that ½ (50%) agreed that the department's funding policy is not communicated.

The mode showed that there is disagreement that ZGS funding policy is communicated to members of staff.

It is therefore concluded that the funding policy is not communicated.

The three questions 6, 7 and 8 were basically used to establish respondents' awareness about ZGS funding policy. This position reflected by the findings in questions 6, 7 and 8 is confirmed by Manungo (2012) who identified a number of shortcomings inherent with the formulation of national budgets.

Questions 9. Zimbabwe Geological Survey has an effective Budgeting system.

The objective of the question was to establish whether Zimbabwe has an effective Budgeting system.

Table 4.10. Effectiveness of Budgeting system

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	0	7	12	3	2	24
Rate	0.00%	29.17%	50.00%	12.50%	8.33%	100.00%

0/24 (0%) strongly agreed; 7/24 (29.17%) agreed; 12/24 (50%); 3/24 (12.50%) disagreed and 2/24 (8.33) strongly disagreed that Zimbabwe Geological Survey has effective budgeting system.

In aggregate, 7/24 (29.17%) agreed whilst 17/24 (70.83%) disagreed.

The interview responses showed that 1/2 (50%) disagreed.

The mode showed that there is disagreement that ZGS has an effective budget system.

It is therefore concluded that ZGS does not have an effective budgeting system as confirmed by Manungo (2012).

Questions 10. Management involves all staff members in the Budgeting process.

The aim of the question was to establish whether involves everyone in the budgeting process.

Table 4.11.Staff involvement in budgets

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	0	7	6	5	6	24
Rate	0.00%	29.17%	25%	20.83%	25%	100.00%

The questionnaire responses showed that 0/24 (0%) strongly agreed; 7/24 (29.17%) agree; 6/24 (25%); 5/24 (20.83%) disagreed and 6/24 (25%) strongly disagreed that management involves everyone in developing annual budgets.

In aggregate, 7/24 (29.17%) agreed whilst 17/24 (70.83%) disagreed.

Interview responses showed that 2/2 (100%) disagreed that management involves everyone in the budgeting process.

The mode showed that there is disagreement that management involves everyone in the budgeting process.

The conclusion can be drawn that management does not involve everyone in the budget process.

Question 11. ZGS has adequate assets for use to carry out its activities

The aim of research question was to gather data in respect of whether ZGS has adequate assets that should facilitate attainment of the pre-set goals through fieldwork activities.

Table 4.12 Adequacy of assets.

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	0	2	10	10	2	24
Rate	0.00%	8.33%	41.67%	41.67%	8.33%	100.00%

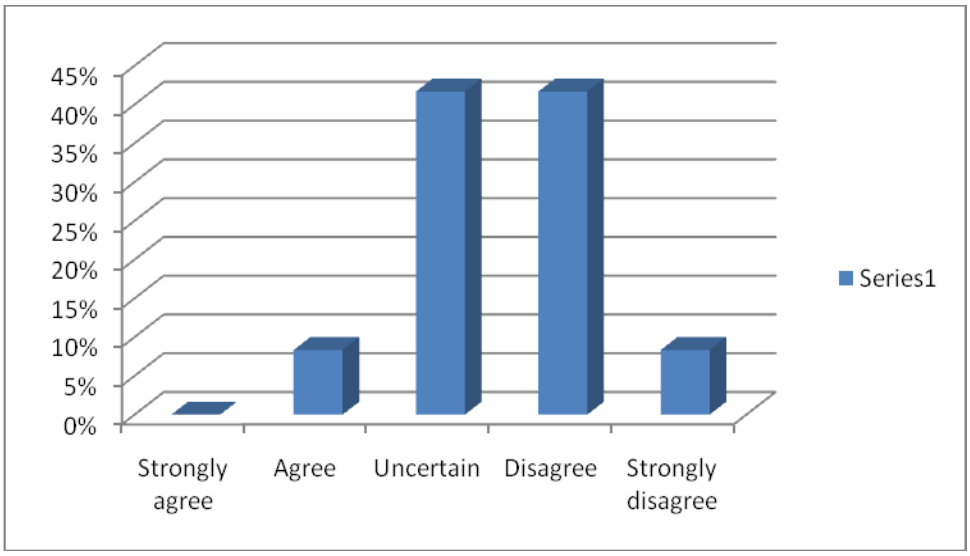

Figure 4.4Adequacy of assets.

The findings showed that 0/24 (0%) strongly agreed; 2/24 (8.33%) agree; 10/24 (41.67) unsure; 10/24 (41.67%) disagreed and 2/24 (8.33%) strongly disagreed that ZGS has adequate assets.

Comprehensively 2/24 (8.33%0 agreed whilst 22/24 (91.67%) disagreed. Fig 4.4 presents the findings.

The interview responses showed that 2/2 (100%) agreed that Zimbabwe Geological Survey has adequate Property, Plant and Equipment for use to achieve planned objectives.

The mode showed that there is disagreement that the department that ZGS has adequate assets. The results concurred with Mugandani (2013); Mukandi (2010) and Ndlovu (2014).

It is concluded that ZGS does not have adequate assets.

Question 12. ZGS has capability generate enough revenue to meet its operational expenses

This question intended to gather data that determines whether the entity has the capability to generate funds to meet its operational expenses.

Table 4.13 Capability to generate enough revenue

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	1	10	8	3	2	24
Rate	4.17%	41.67%	33.33%	12.50%	8.33%	100.00%

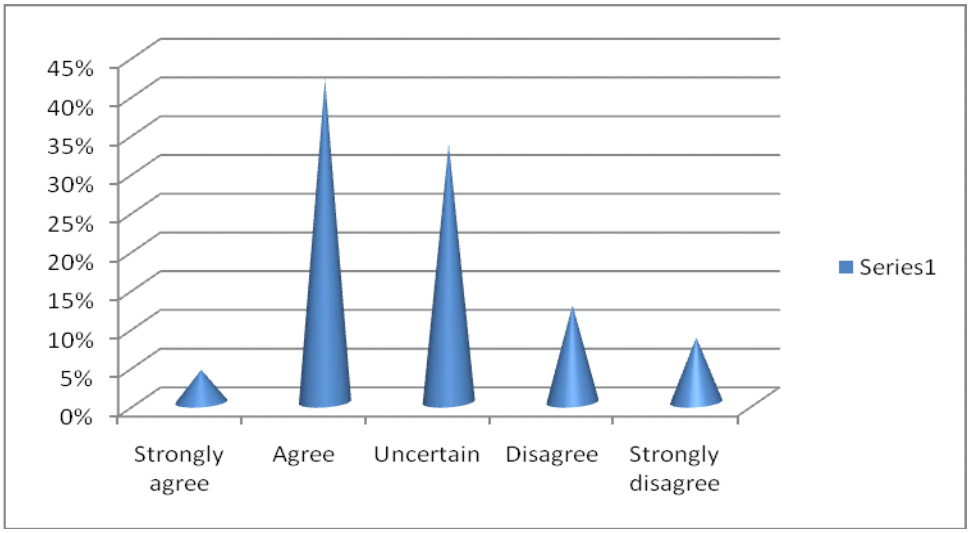

Figure 4.5. Capability to generate enough revenue.

Data obtained illustrate that 1/24 (4.17%) strongly agreed;10/24 (41.67%) agreed; 8/24were not sure; 3/24 (12.50%) and 2/24 (8.33%) strongly disagreed that the department has enough capacity to generate revenue.

On the whole 11/24 (45.84) agreed whilst 13/24 (54.16%) disagreed.

Interview findings indicated that 2/2 (100%) are in disagreement that ZGS has capability to generate revenue enough to meet its operating expenses.

The mode showed that ZGS there is disagreement that ZGS has capability to generate revenue enough to meet its operating expenses.

The position is confirmed records within the department that 42% of the geological publications sold by the department to generate revenue are out of print and 58% of those available in stock are long out-dated.

A conclusion can be drawn that the organization does not have adequate revenue generation capacity.

Question 13. ZGS has sound recruitment system

This question facilitated extraction from the respondents' information relating to the existence of sound staff appointment system.

Table 4.14 Recruitment system

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	1	14	6	0	3	24
Rate	4.17%	58.33%	25.00%	0.00%	12.50%	100.00%

Response rate of 1/24 (4.17%) strongly agreed;14/24 (58.33%) agreed; 6/24(25%) were not sure; 0/24 (0%) disagreed and 3/24 (12.50%) strongly disagreed with the standing that the department has sound recruitment system in place.

In total 15/24 (62.50) agreed whilst 9/24 (37.50%) disagreed

Interview findings indicated that 2/2 (100%) are in agreement with the fact that ZGS has sound recruitment system in place.

The mode showed that there is agreement that ZGS has sound recruitment system in place.
The conclusion is that ZGS has a sound recruitment policy.

Question 14. ZGS has sound Training programmes in place

This question facilitated extraction from the respondents, the information relating to the existence of sound staff development programmes.

Table 4.15Existence of sound training programmes

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	3	11	5	3	2	24
Rate	12.50%	45.83%	20.83%	12.50%	8.33%	100.00%

The findings indicate that 3/24 (12.50%) strongly agreed, 11/24 (45.83%) agreed, 5/24 (20.83%) were uncertain, 3/24 (12.50) disagreed and 2/24 (8.33%) strongly disagreed.

Overally, 14/24 (58.33%) agreed while 10 /24 (41.67) disagreed.

Interview findings indicated that 2/2 (100%) are in agreement that ZGS has sound human resource development programmes in place.

The mode showed that there is agreement that effective staff development programmes do exist at Zimbabwe Geological Survey department.

It is therefore concluded that ZGS has sound Human Resource development programmes in place.

Question 15. **ZGS and implementation of Human Resource Training plans (HRDP)**

A study was carried out to whether ZGS' training is being implemented according HRDPs.

Table 4.16Implementation of HRDPs.

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	5	6	9	1	3	24
Rate	20.83%	25.00%	37.50%	4.17%	12.50%	100.00%

The research findings indicate that 5/24 (20.83%) strongly agreed, 6/24 (25%) agreed, 9/24 (37.50%)were unsure, 1/24 (4.17%) disagreed whilst 3/24 (12.50%) strongly disagreed.

Collectively, 11/24 (45.83%) agreed while14/24 (58.33%)disagreed.

Interview findings indicated that 2/2 (100%) are in agreement that personnel development programmes are being implemented in accordance with approved HRDP.

The mode showed that HRDPs are being implemented in accordance with approved HRDP.

The conclusion is that HRDPs are being implemented in accordance with approved HRDP.

The position was supported by Stoner et al (2002:377).

Question 16. Performance appraisals for all employees are being done on regular basis.

The purpose of the question was to determine whether the performance appraisals are being done on a regular basis, at least quarterly.

Table 4.17 Performance appraisals

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	2	10	7	3	2	24
Rate	8.33%	41.67%	29.17%	12.50%	8.33%	100.00%

The responses obtained demonstrate that 2/24 (8.33%) strongly agreed, 10/24 (41.67%) agreed, 7/24 (29.17%)were uncertain, 3/24 (12.50%) disagreed and 2/24 (8.33%) strongly disagreed.

On the whole 12/24 (50%)agreed while 12/24 (50%) disagreed with the thought that performance appraisals for all staff are being done on regular basis, at least quarterly.

Interview findings indicated that 2/2 (100%) are in agreement that performance appraisals for all staff are being done on regular basis, at least quarterly.

The mode indicated that there is agreementperformance appraisals for all staff are being done on regular basis.

The researcher concluded that performance appraisals for all staff are being done on regular basis.

The position expressed by research findings are confirmed by Mugumbate (2010) and Mugandani (2013) and Stoner et al (2002:377).

QUESTION 17. Zimbabwe Geological Survey is not facing funding challenges

This question aimed at establishing whether Zimbabwe Geological Survey department is facing financial challenges.

Table 4.18 Funding challenges

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	0	1	5	10	8	24
Rate	0.00%	4.17%	20.83%	41.67%	33.33%	100.00%

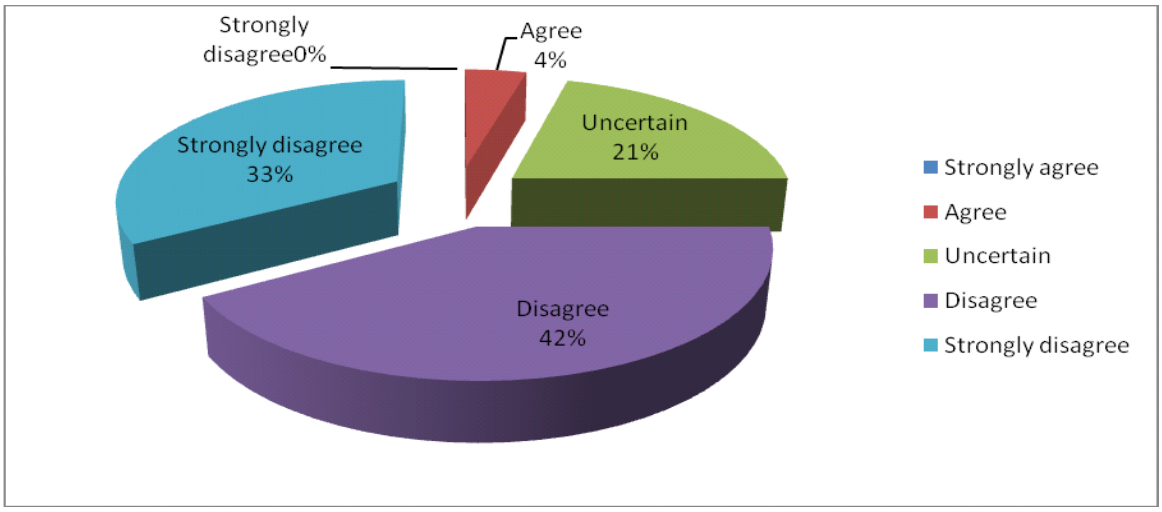

Figure 4.6 ZGS funding challenges.

The findings showed that 0/24 (0%) strongly agreed, 1/24 (4.17%) agreed, 5/24 (20.83%) were unsure, 10/24 (41.67%) disagree and 8/24 (33.33) strongly disagreed with the notion that ZGS is not facing funding challenges.

Comprehensively 1/24 94.17) are in agreement while 23/24 are in disagreement. Fig 4.6 therefore presents findings from this study area.

Interview findings indicated that 2/2 (100%) are in disagreement that the organization has no funding challenges.

The mode reflected that there is disagreement that ZGS is not facing funding difficulties.

A conclusion is therefore reached that ZGS has funding difficulties, a position that was confirmed by Allesi (2009);Mathews (2007)and Milton (2010) as well as http://www.epsu.org/a/8449 (13.09.14 13:03) and (http://arizonageology.blogspot.com) 13.09.14 12:23.

Question 18. ZGS can rely solely on disbursements from the central Government to fund its operations.

The aim of the question was to assess whether ZGS can rely solely on disbursements from the central Government to sustainably fund its operations.

Table 4.19 Treasury disbursements

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
No. of Respondents	3	6	6	8	1	24
Rate	12.50%	25.00%	25.00%	33.33%	4.17%	100.00%

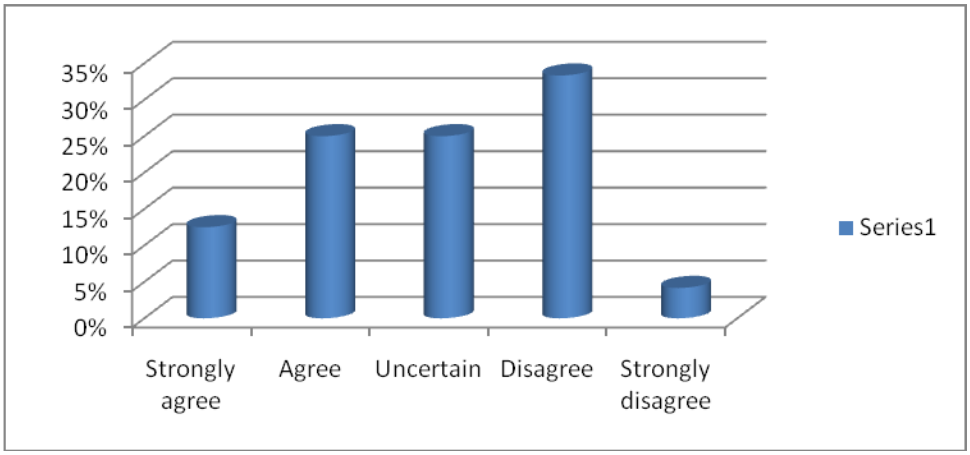

Figure4.7 ZGS and Treasury releases

A response rate of 3/24 (12.50%) strongly agreed, 6/24 (25%) agreed, 6/24 (25%) were not sure, 8/24 (33.33%) disagreed and 1/24 (4.17%) strongly disagreed that Zimbabwe Geological Survey can rely solely on disbursements from the central Government.

In total 9/24 (37.50%) agreed whilst 15/24 (62.50%) disagreed. Fig 4.7 illustrates the results of the research on this area.

Responses from interviews showed that 2/2 (100%) agreed that ZGS can cannot rely on solely from Treasury disbursements.

The mode showed that there is disagreement that ZGS cannot rely on solely from Treasury disbursements.

It can be concluded that ZGS relies solely on funding from the central Government. The position revealed by the study is confirmed by literature from Coffman (2006:27); Akporhonor (2005) and Agosto (2008) as well as http://www.biomedcentral.com (13.09.14 08:53).

Question 19. It is important for ZGS to establish alternative funding methods to improve its funding operations

The question sought to establish the position in respect of whether it is worth establishing alternative funding models or methods to improve funding operations.

Table 4.20 Establishment of alternative funding models

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	11	10	2	0	1	24
Rate	45.83%	41.67%	8.33%	0.00%	4.17%	100.00%

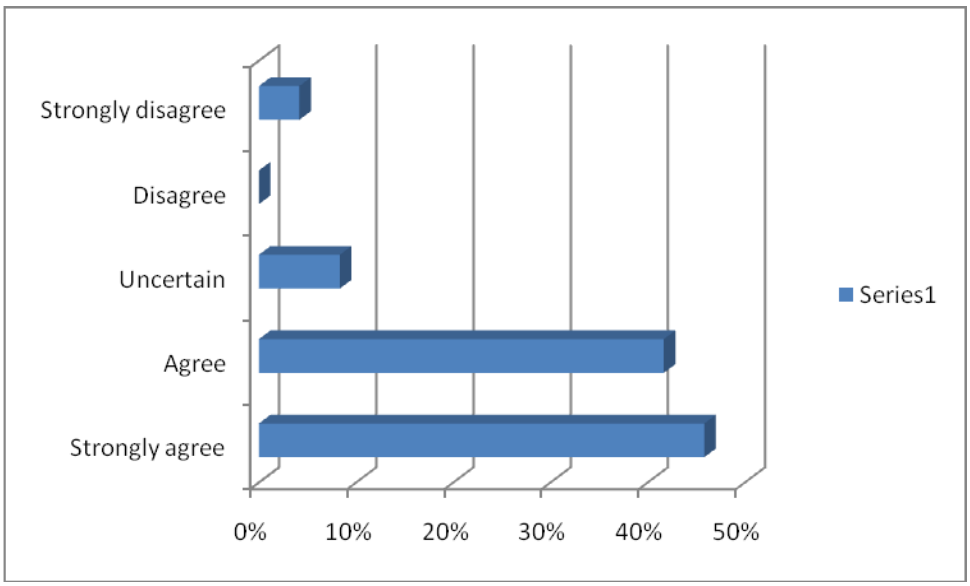

Figure 4.8 Alternative funding

11/24 (45.83%) strongly agreed, 10/24 (41.67%) agreed, 2/24 (8.33%) were unsure; 0/24 (0%) disagreed while 1/24 (4.17%) strongly disagreed with the establishment of alternative funding methods can improve funding operations.Collectively, 21 (87.50%) agreed whilst 3/24 (12.50%) disagreed.

Responses from interviews showed that 1/2 (100%) agreed that the establishment of alternative funding methods can improve funding operations of ZGS.

The mode showed that there is agreement with the idea of establishing alternative funding methods. The position revealed by the study is confirmed by Coffman (2006:27); Das (2013); Agosto (2008) and Brown (2014).

A conclusion is therefore reached that establishment of alternative funding methods can improve funding operations of ZGS.

Question 20. It is important for Zimbabwe Geological Survey to establish bilateral agreements as an alternative funding method to improve funding operations?

The purpose of the question was to assess whether it is important for Zimbabwe Geological Survey to establish bilateral agreements as an alternative funding method to improve funding operations.

Table 4.21 Establishment of bilateral agreements

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	11	10	3	0	0	24
Rate	45.83%	41.67%	12.50%	0.00%	0.00%	100.00%

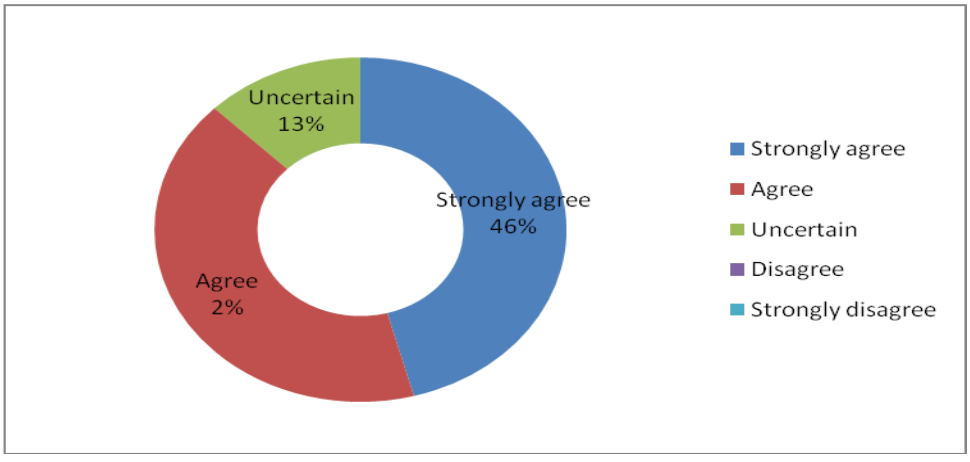

Figure 4.9.Bilateral agreements

11/24 (45.83%) strongly agreed, 10/24 (47.67%) agreed, 3/24(12.50%) were not sure, 0/24 (0%) disagreed and 0/24 (0%) strongly disagreed with the concept that Zimbabwe Geological Survey should establish bilateral agreements as an alternative funding method to improve funding operations.

Comprehensively 21/24 (87.50%) agreed whilst 3/24 (12.50%) disagreed.

Interview findings indicated that ½ (50%) agreed whilst ½ (50%) disagreed.

The mode indicated that there is agreement that establishment of bilateralagreements as an alternative funding method can improve funding operations.The notion was confirmed by http://www.usgs.gov/usgs-manual/im/oa-2014-09.html. (10.09.14 13:07).

The researcher concludes that establishment of bilateral agreements can improve funding operations.

Question 21. ZGS has sound controls over budgetary performance

The objective was to establish whether ZGS has sound controls over budgetary performance.

Table 4.22 Controls over budgetary process

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	0	6	13	2	3	24
Rate	0.00%	25.00%	54.17%	8.33%	12.50%	100.00%

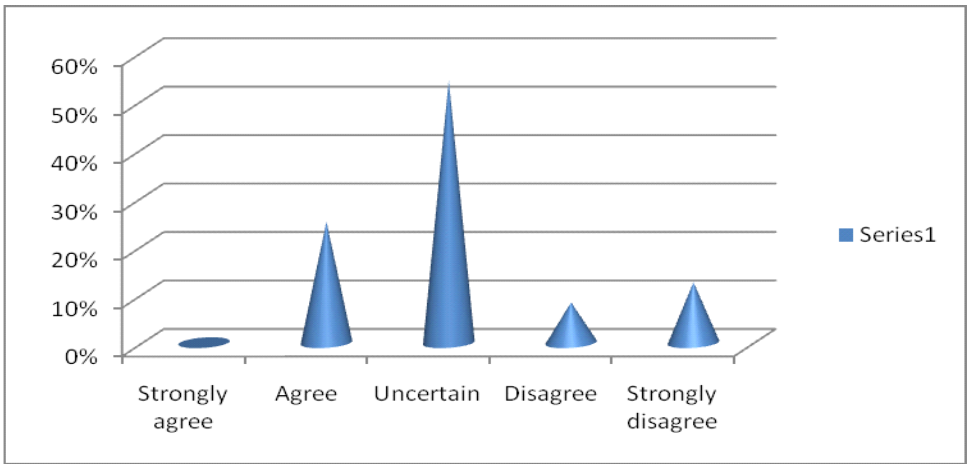

Figure 4.10 Controls over Budgeting process

The response rate of 0/24 (0%) strongly agreed, 6/24 (25%) agreed, 13/24 (54.17%) were unsure, 2/24 (8.33%) disagreed while 3/24 (12.50%) strongly disagreed that ZGS has effective controls over budget performance.

Collectively 6/24 (25%) agreed whilst 18/24 (75%) disagreed.

Interview findings indicated that 0/2 (0%) disagreed with the fact that ZGS has effective controls over budget performance.

The mode showed that there is disagreement that ZGS has effective controls over budget performance. The position was confirmed by Faul (2010:427); Lucey (1993:101). The stance was also confirmed by Manungo (2012).

The researcher concludes that ZGS does not have effective budgetary controls

Question 22. ZGS exercises effective control over overhead costs?

This research question aimed to assess whether ZGS exercises effective control over overhead costs.

Table 4.23Overhead cost controls

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	1	5	14	3	1	24
Rate	4.17%	20.83%	58.33%	12.50%	4.17%	100.00 %

According to research findings 1/24 (4.17%) strongly agreed, 5/24 (20.83%) agreed, 14/24 (58.33%) were unsure, 3/24 (12.50%) disagreed while 1/24 (4.17%) strongly disagreed that ZGS has effective controls over overhead costs.
Collectively 6/24 (25%) agreed whilst 18/24 (75%) disagreed.

Interview findings indicated that 0/2 (0%) disagreed with the idea that ZGS exercises effective control over overhead costs.

The mode showed that there is disagreement with the view that there are effective controls in respect of overheads.

The conclusion is that ZGS does not effective controls over overhead costs.

Question 23. ZGS has effective controls in place over labour costs.

This research question aimed to assess whether ZGS exercises effective control over labour costs.

Table 4.24 Controls over labour costs

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	0	6	12	4	2	24
Rate	0.00%	25.00%	50.00%	16.67%	8.33%	100.00%

0/24 (0%) strongly agreed, 6/24 (25%) agreed, 12/24 (50%) were unsure, 4/24 (16.67%) disagreed while 1/24 (4.17%) strongly disagreed that ZGS has effective controls over labour costs.

On the whole 6/24 (25%) agreed whilst 18/24 (75%) disagreed.

Interview findings indicated that 0/2 (0%) disagreed with the idea that ZGS exercises effective control over overhead costs.

The mode showed that there is disagreement with the view that there are effective controls.

A conclusion is therefore drawn that ZGS does not effective controls over labour costs.

Question 24. ZGS has effective controls in place over idle time and overtime

This research question aimed to assess whether ZGS has effective control over idle time and overtime costs.

Table 4.25 Controls over idle time and overtime

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	1	3	10	8	2	24
Rate	4.17%	12.50%	41.67%	33.33%	8.33%	100.00%

1/24 (4.17%) strongly agreed, 3/24 (12.50%) agreed, 10/24 (41.67%) were unsure, 8/24 (33.33%) disagreed while 2/24 (8.33%) strongly disagreed ZGS has effective control over idle time and overtime costs.

In total 4/24 (16.67%) agreed whilst 20/24 (83.33%) disagreed.

Interview findings indicated that 0/2 (0%) disagreed with the view that ZGS has effective control over idle time and overtime costs.

The mode indicated that there is disagreement with the view that there are effective controls.

The researcher concluded that ZGS does not have effective controls over labour costs.

Question 25. ZGS' funding policy is being reviewed on regular basis

This research area had the objective of determining whether funding policy being reviewed on regular basis.

Table 4.26 Policy review

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	0	4	15	3	2	24
Rate	0.00%	16.67%	62.50%	12.50%	8.33%	100.00%

Findings from the study showed that 0/24 (0%) strongly agreed, 4/24 (16.67%) agreed, 15/24 (62.50%) were unsure, 3/24 (12.50%) disagreed while 2/24 (8.33%) strongly disagreed that funding policy being reviewed on regular basis.

In total 4/24 (16.67%) agreed whilst 20/24 (83.33%) disagreed.

Interview findings indicated that 0/2 (0%) disagreed with the idea that ZGS exercises effective control over overhead costs.

The mode showed that there is disagreement with the view that funding policy is reviewed on regular basis.

A conclusion is therefore reached that the funding policy being reviewed on regular basis.

Question 26. It is important for ZGS to offer complimentary services in order to improve revenue inflows

The research question was aimed to assess the respondents' views whether the offering complimentary services would assist ZGS improve in revenue generation.

Table 4.27 Complimentary services

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	7	12	2	3	0	24
Rate	29.17%	50.00%	8.33%	12.50%	0.00%	100.00%

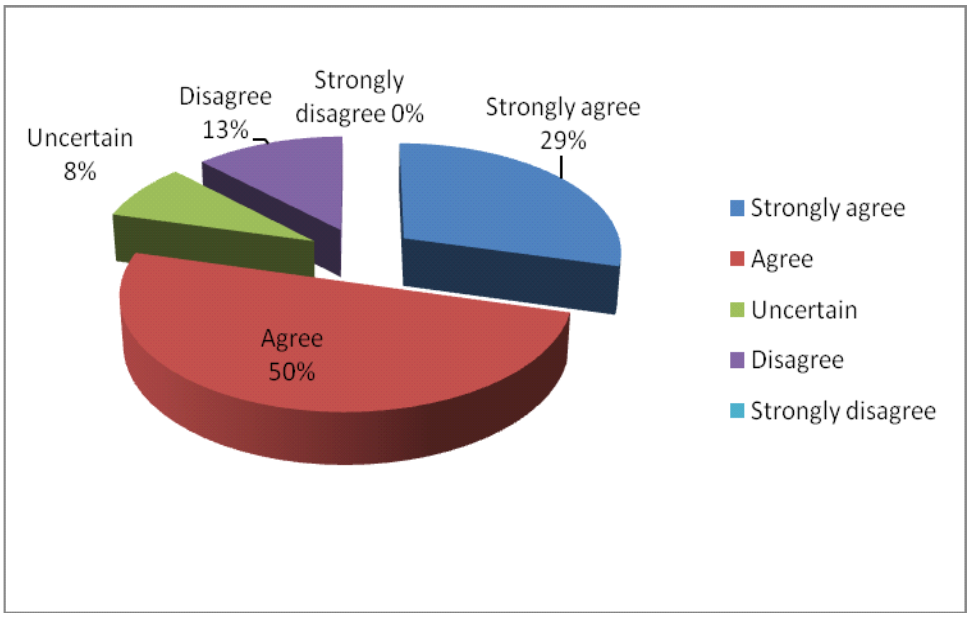

Figure 4.11.Complimentary services

Findings from the study showed that 7/24 (29.17%) strongly agreed, 12/24 (50%) agreed, 2/24 (8.33%) were unsure, 3/24 (12.50%) disagreed while 0/24 (0%) strongly disagreed with the fact that offering complimentary services can result in improved revenue inflows.

In total 19/24 (79.16%) agreed whilst 5/24 (20.84%) disagreed.

Interview findings showed that 1/2 (50%) disagreed with the concept of offering complimentary services in order to improve revenue inflows.

The mode reflected that there is agreement that with the concept of offering complimentary services in order to improve revenue inflows. The position was confirmed by Newton (2009) and Nath (2011).

It is concluded that complimentary services can result in improved revenue inflows.

Question 27. It is important for ZGS to introduce new cost cutting measures to enhance viability

The objective of the question was to find out from respondents whether introduction of cost-cutting measures would be good idea in promoting viability.

Table 4.28 Cost-cutting measures

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	7	8	5	3	1	24
Rate	29.17%	33.33%	20.83%	12.50%	4.17%	100.00%

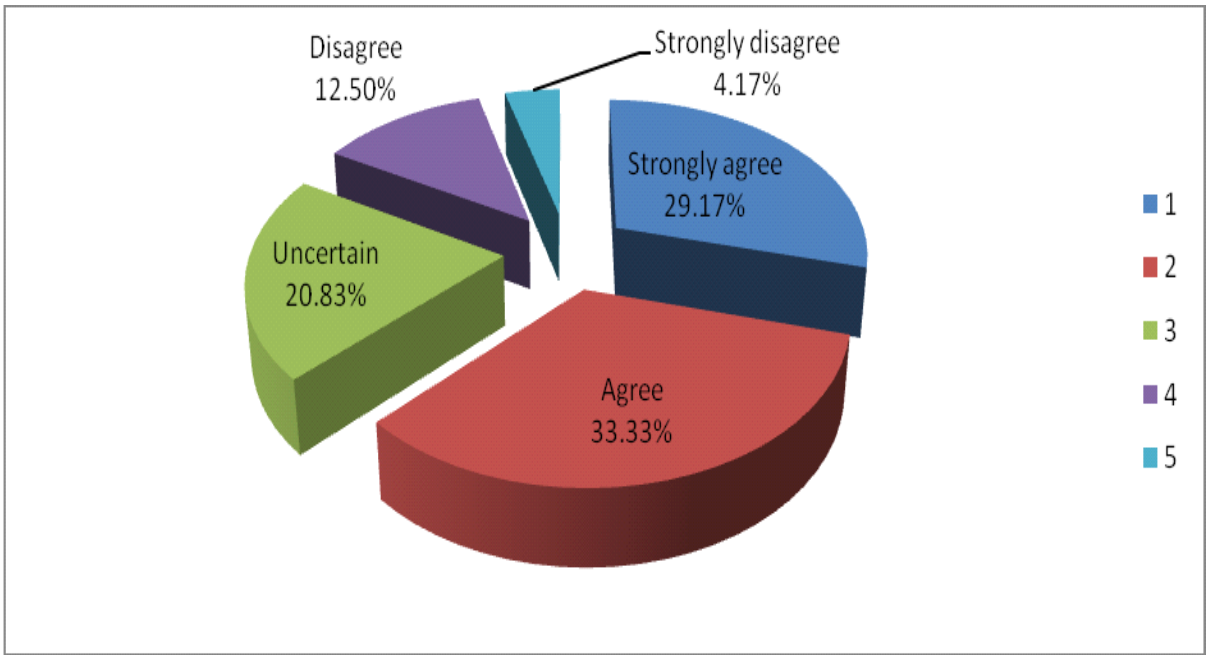

Figure 4.12. Cost reduction

7/24 (29.17 %) strongly agreed, 8/24 (33.33%) agreed, 5/24 (20.83%) were uncertain, 3/24 (12.50%) disagreed while 1/24 (4.17%) strongly disagreed that it is important for ZGS to introduce new cost cutting measures that would enhance viability.

In total 17/24 (62.50%) agreed whilst 7/24 (37.50%) disagreed.

Interview findings showed that 2/2 (100%) agreed with the concept of introducing cost cutting measures to enhance viability**.**

The mode shows that there is agreement that introducing cost cutting measures to enhance viability.

The position was confirmed by Mappel (2001).

It is concluded that introducing cost cutting measures can enhance viability**.**

Question 28. Increasing product prices can assist in boosting revenue inflows.

The question had a view of assessing whether increasing prices can assist in boosting revenue inflows.

Table 4.29 Price increase

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	4	10	2	4	4	24
Rate	16.67%	41.67%	8.33%	16.67%	16.67%	100.00%

Research findings showed that 4/24 (16.67%) strongly agreed, 10/24 (41.67%) agreed, 2/24 (8.33%) were not certain, 4/24 (16.67%) disagreed while 4/24 (16.67%) strongly disagreed that increasing product prices can assist in boosting revenue inflows.

In total 14/24 (58.33) agreed whilst 10/24 (41.67) disagreed.

Interview findings showed that 1/2 (50%) disagreed with the idea of increasing product prices.

The mode shows that there is an agreement to increase product prices.

The researcher concluded that increasing product prices can boost revenue inflows.

Question 29. Reducing product prices can assist in boosting revenue inflows.

The question had a view of assessing whether increasing prices can assist in boosting revenue inflows.

Table 4.30 Price reduction

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	0	9	4	8	3	24
Rate	0.00%	37.50%	16.67%	33.33%	12.50%	100.00%

Research findings showed that 0/24 (0%) strongly agreed, 9/24 (37.50%) agreed, 4/24 (16.67%) were not certain, 8/24 (33.33%) disagreed while 3/24 (12.50%) strongly disagreed that reducing product prices can assist in boosting revenue inflows.
Comprehensively9/24 (37.50%) agreed whilst 15/24 (62.50%) disagreed.

Interview findings showed that 1/2 (50%) disagreed with the concept of offering complimentary services in order to improve revenue inflows.

The mode showed that there is disagreement that reducing product prices can assist in boosting revenue inflows.

Conclusion is drawn that reducing prices will not boost revenue inflows.

Question 30. Offering discounts will encourage more purchases of ZGS products

The question had a view of assessing whether offering discounts will encourage more purchases from customers

Table 4.31 Discounts

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	2	12	3	5	2	24
Rate	8.33%	50.00%	12.50%	20.83%	8.33%	100.00%

2/24 (8.33%) strongly agreed, 12/24 (50%) agree, 3/24 (12.50%) were not certain, 5/24 (20.83%) disagreed while 2/24 (8.33%) strongly disagreed that offering discounts will encourage more purchases of ZGS products.

In total 14/24 (58.33%) agreed whilst 10/24 (41.67) disagreed.

Interview findings showed that 1/2 (50%) disagreed with the concept of offering discounts will encourage more purchases of ZGS products.

The mode showed that there is disagreement that offering discounts will encourage more purchases of ZGS products.

In conclusion offer of discounts can result in more sales.

Question 31. ZGS can save money through hiring/leasing assets for fieldwork

Table 4.32 Lease of assets

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	6	9	3	5	1	24
Rate	25.00%	37.50%	12.50%	20.83%	4.17%	100.00%

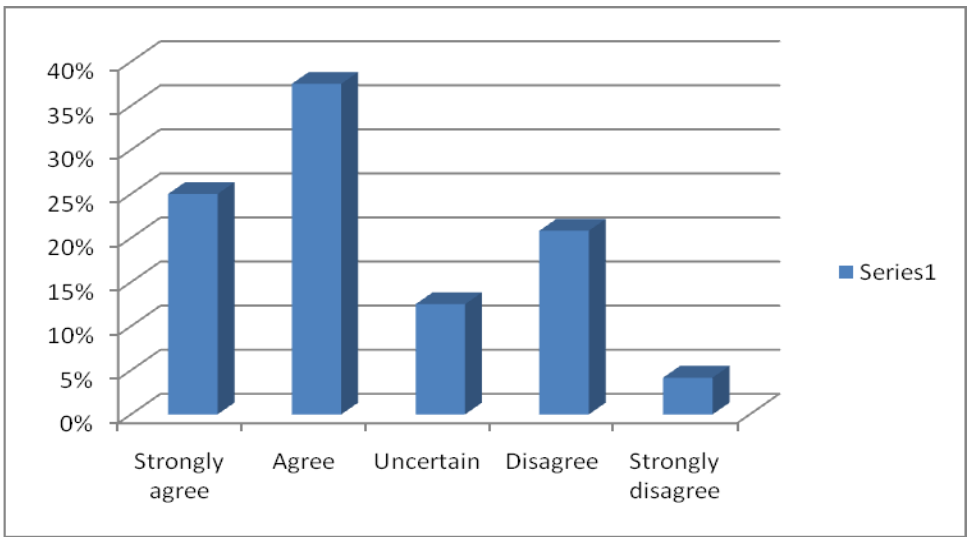

Figure 4.13. Leasing/Hiring assets for fieldwork.

From (the data collected 6/24 (25%) strongly agreed, 9/24 (37.50%) agreed, 3/24 (12.50%) were not sure, 5/24 (20.83%) disagreed while 1/24 (4.17%) strongly disagreed that ZGS can save money by hiring/leasing assets for fieldwork rather than owning the same.

Overally 15/24 (62.50%) agreed whilst 9/ (37.50%) disagreed. The findings are outlined in Fig. 4.13.

Interview findings showed that 2/2 (100%) disagreed with the concept of hiring/leasing assets for fieldwork rather than owning the same.

The mode showed that there is disagreement with the concept of hiring/leasing assets for fieldwork rather than owning the same with the concept of hiring/leasing assets for fieldwork rather than owning the same.

The position was confirmed by Warren *et al* (2008), Kernan (2011) and Macquire University (2011).The mode shows that ZGS can save money by hiring/leasing assets for fieldwork rather than owning the same.

It therefore deduced that ZGS can save through leasing assets rather purchasing own.

Question 32. ZGS can increase revenue through Co-operative sales agreements.

Table 4.33 Co-operative sales agreements

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	5	8	4	5	2	24
Rate	20.83%	33.33%	16.67%	20.83%	8.33%	100.00%

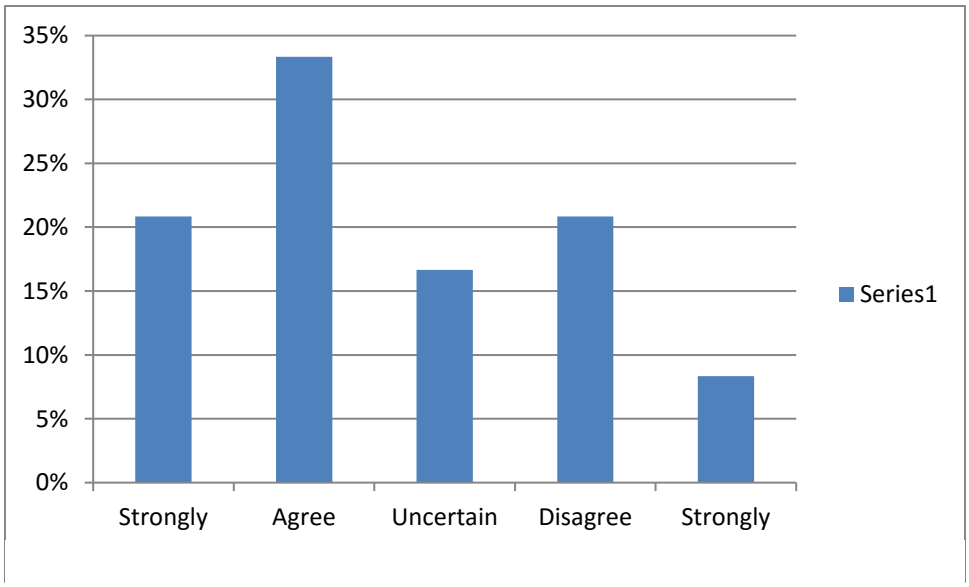

Figure 4.14 Co-operative sales agreements

5/24 (20.83%) strongly agreed, 8/24 (33.33%) agreed, 4/24 (16.67%) were not certain, 5/24

(20.83%) disagreed while 2/24 (8.33%) strongly disagreed that ZGS can increase revenue through Co-operative sales agreements.

In total 13/24 (54.16%) agreed whilst 11/24 (45.84%) disagreed.

Interview findings showed that 2/2 (100%) agreed with the concept that ZGS can increase revenue through Co-operative sales agreements.

The mode showed that there is agreement that co-operative sales agreements can result in more revenue.

The position was confirmed by Menger (2004); and Hyper (2010).

The research conclusion is that co-operative sales agreements can result in more revenue.

Question 33. ZGS can sell some of its old assets to raise money to fund its operations

A study was undertaken to gather data with an aim of establishing whether ZGS should sell some of its old assets to raise money to fund its operations.

Table 4.34 Disposal of old assets

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	5	14	0	2	3	24
Rate	20.83%	58.33%	0.00%	8.33%	12.50%	100.00%

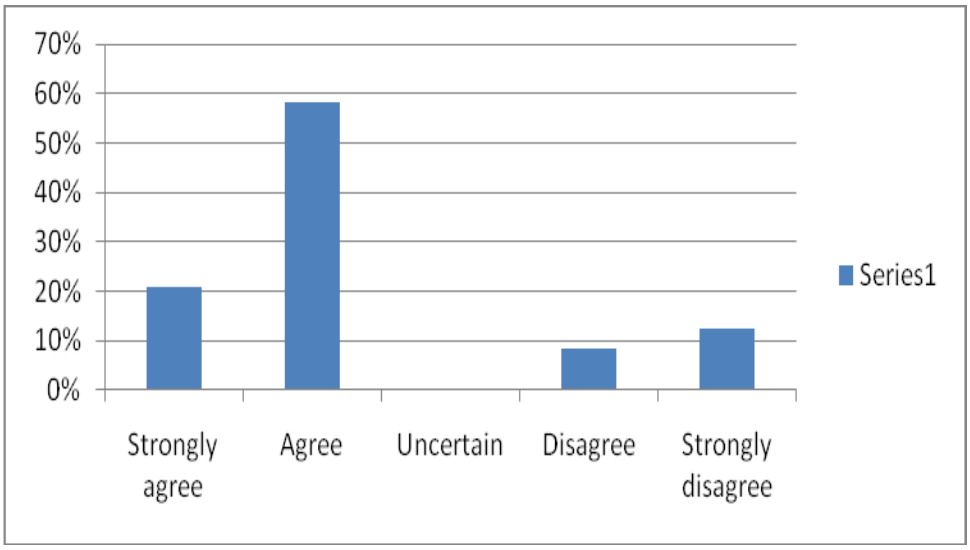

Figure 4.15 - Disposal of old assets

Fromthe data collected 5/24 (20.83%) strongly agreed, 14/24 (58.33%) agreed, 0/24 (0%) were not sure, 2/24 (8.33%) disagreed while 3/24 (12.50%) strongly disagreed that ZGS can raise money to fund its operations through selling some of its old assets.

Overally 19/24 (79.16%) agreed whilst 5/ (20.83%) disagreed.

Interview findings showed that 2/2 (100%) agreed with the concept of offering complimentary services in order to improve revenue inflows.

The mode indicated that there is agreement with the idea of selling old assets to raise money to fund operations.

The position was confirmed by Anon (2012); Kieso (2007) and Macquire University. to reduce the costs of continued ownership.

It can therefore be concluded that complimentary services can assist in increasing revenue inflows.

Question 34. ZGS can replacement some of old assets assist in improving efficiency.

A study was undertaken to gather data with an aim of establishing whether ZGS can be more efficient is old assets are replaced.

Table 4.35 Replacement of old and obsolete assets

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	10	11	2	0	1	24
Rate	41.67%	45.83%	8.33%	0.00%	4.17%	100.00%

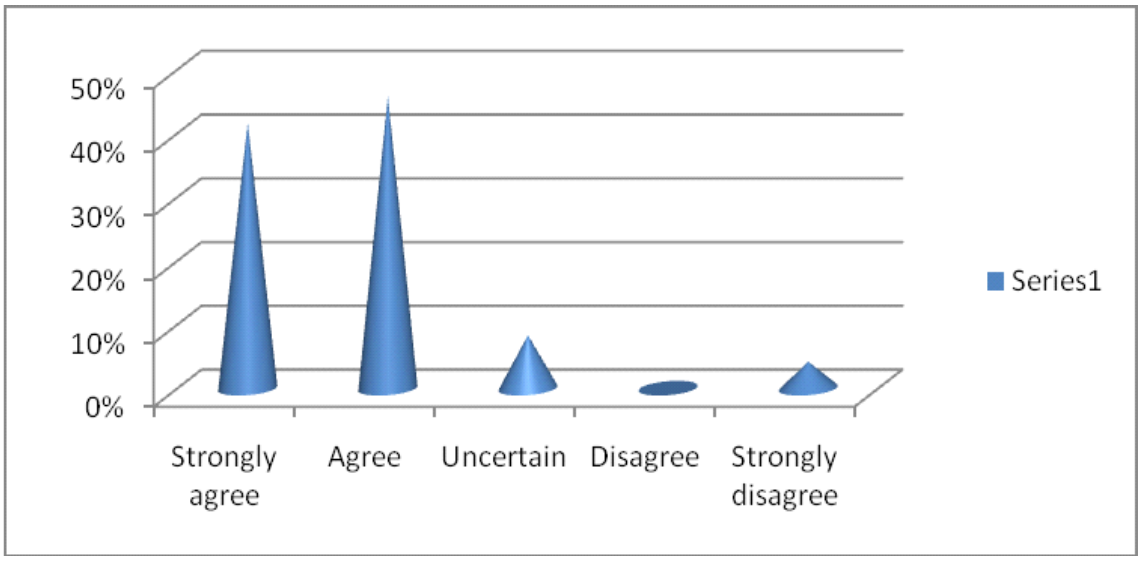

Figure 4.16 Replacement of old assets

Data collected showed that 10/24 (41.67%) strongly agreed, 11/24 (45.83%) agreed, 2/24 (8.33%) were not sure, 0/24 (0%) disagreed while 1/24 (4.17%) strongly disagreed that ZGS can be more efficient is old assets are replaced.

Overally 21/24 (87.50%) agreed whilst 3/ (12.50%) disagreed.

Interview findings showed that 2/2 (100%) agreed with the concept of replacing old assets to improve efficiency.

The mode showed that there is agreement that ZGS can be more efficient if old assets are replaced.

The position was confirmed by Duft (2009); Anon (2008); Ohno (1998) and Lalitha (2002).

The conclusion is that ZGScan be more efficient if old assets are replaced.

Question 35. It is a good idea to upgrade existing assets to meet future performance needs

A study was undertaken to gather data with an aim of establishing whether ZGS should upgrade existing assets to meet future performance needs.

Table 4.36 Upgrading existing assets

Response	Strongly agree	Agree	Uncertain	Disagree	Strongly disagree	Total
Frequency	12	9	1	1	1	24
Rate	50.00%	37.50%	4.17%	4.17%	4.17%	100.00%

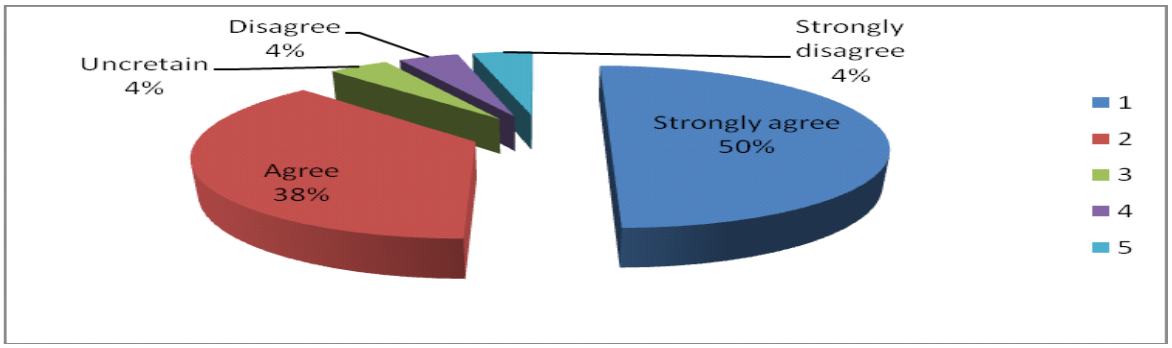

Figure 4.17 Upgrading existing assets.

According to the results of the survey 12/24 (50%) strongly agreed, 9/24 (37.50%) agreed, 1/24 (4.17%) were not sure, 1/24 (4.17%) disagreed while 1/24 (4.17%) strongly disagreed that upgrading existing assets may assist in meeting future performance needs.

On the whole 21/24 (87.50%) agreed whilst 3/24 (12.50%) disagreed.

Interview findings showed that 1/2 (100%) disagreed with the concept of upgrading existing assets to assist in meeting future performance needs of the department.

The mode shows that upgrading existing assets may assist in meeting future performance needs.

The position was confirmed by Raghunandan (2010); Christine (2011); Anon (2010); Bullen (2011), Christine (2011), Stone (2003) and Anon (2010); Donald (2000) and Lalitha (2002.

Conclusion is drawn therefore that upgrading existing assets may assist in meeting future performance needs.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter focuses on the summary of previous chapters, major research findings conclusions and recommendations that are drawn from the research findings of the research carried out on the funding operations of Zimbabwe Geological Survey department. It covers the extent to which the objectives of the study would have been addressed. The objective of this chapter is thus to provide conclusive remarks and recommendations on the way forward in dealing with issues raised in the research. Recommendations will be given, which the institution can adopt to improve their current funding operations.

5.1 Chapter summaries

Chapter one covered the statement of the problem highlighting that Zimbabwe Geological Survey Department is experiencing an increasing deficit evidenced by a trend of perpetual rise in costs coupled with a descending trend in revenue.

The chapter focused on the key research objectives as confirming the existence of the funding policy, establishing implementation guidelines; determining the personnel capacity available to implement the guidelines. It also focused on identifying funding challenges that exist within the department; identifying and evaluating controls that are in place over the policy implementation as well as determination of the best practice in funding operations within the department.

Chapter two presented literature review on funding operations. The literature showed that several state entities are funded by Treasury disbursements and the funds are usually insufficient. The position was confirmed by Manungo (2012) who indicated the shortcomings of the current budgeting process stating that the budget preparation is done within limited time frame. As a result the quality of the budgets and all-stakeholder participation are compromised.

The literature consulted identified implementation guidelines over the funding policy as effective budgeting; effective management of assets and increasing revenue collection.

The literature indicated that personnel capacity is determined by the soundness of the recruitment system; implementation of employee development programmes and implementation thereof as well as how often performance appraisals are done.

Chapter three presented that the researcher used descriptive research design where qualitative and quantitative data analysis methods were used. By way of non-probabilistic sampling the researcher used questionnaires and picked a sample of 26 respondents from a population of 46.Closed-ended questions on Likert scale-based questionnaires were employed to gather primary data from the chosen sample. The researcher also conducted face to face interviews with long-serving members of staff for the purposes of gathering research data. In addition, the researcher also gathered relevant secondary data form all sections that operate under the ZGS Department.

Chapter four dealt with presentation and analysis of the data obtained from questionnaires and face to face interviews. The results were grouped or classified in line with Liker scale in order to

determine the number of responses falling under each class of the Likert scale. Thereafter applicable conclusions were drawn in view of the research objectives. The statistical data was linked to the relevant literature and finally backed by the applicable conclusive remarks.

Data was presented in a manner that is visually appealing by use of tables, graphs, and pie charts in order to enhance the reader's understanding. Raw data in absolute figures were tabulated and expressed in percentage terms. The modal behaviour of the raw data was considered as the basis for drawing conclusions.

5.2 Summary of major findings

- Zimbabwe Geological Survey Department does not have a funding policy. The department is funded through the normal operation of the national budget cycle. Presently Treasury releases are the major sources of funding and there are no alternative funding models.

- The department's budgeting system is ineffective. Budgeting is done within very short space of time giving no opportunity for all-stakeholder participation. ZGS does not have appropriate asset management system in place. The assets have outlived their economic life. The organisation has little to generate enough revenue and relies solely on Treasury releases that are insufficient.
- The department currently has adequate personnel capacity comprised of suitably qualified employees with relevant experience. ZGS has sound recruitment and training systems. Performance appraisals are being done on a regular basis, at least quarterly.

- ZGS has funding challenges arising from low income generating capacity. Assets have outlived their economic life. The department solely relies on Treasury funds with no alternative sources of funding.

- There are no controls over budgetary performance, overhead costs, labour costs as well as idle time and overtime. The funding policy is not being reviewed.

- There are no cost-cutting measures.

5.3 Conclusion

The research was a success. The research design and instruments proved quite appropriate for the study undertaken. The data collected analysed provided significant positive pointers towards the problem at hand.

5.4 Recommendations

The following recommendations arise from the study:-

- Zimbabwe Geological Survey should design; document and communicate own funding policy to all members of staff.

- The Department should establish effective budgeting and asset management systems. The funding department should consider implementing alternative funding models

- The department should establish effective control measures over budget system; overhead costs; labour costs and idle time. The organisation conduct regular policy reviews.

- ZGS can sell some of its old assets to raise money for operations. It can also upgrade existing assets to improve on efficiency.

- The department should establishing bilateral agreements; leasing assets and introducing new cost-cutting measures.

5.5 Suggested areas of further study

The researcher also considers it worthwhile to pursue research on the viability of introducing an automated commercial data processing unit at Zimbabwe Geological Survey Department as an additional source of revenue.

5.6 Summary

This chapter covered summary of chapters, summary of major findings, conclusion, and suggested areas of further study as well as recommendations.

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Appendix I

Cover letter

The Director
Zimbabwe Geological Survey
P.O Box Cy210
Causeway
Harare

22 July 2014

Re: Request for Authority to Carry Out Research

I, Garikai Francis Machengete, a final year student at Midlands State University studying Bachelor of Commerce Accounting Honours Degree kindly seek authority to carry out research on

An investigation of the funding operations of Geological Survey Department.

I declare that all information collected in pursuit of this research will be handled with strict confidentiality and will be used solely for academic purposes.

Your support, in this regard, will be greatly appreciated.

Yours faithfully

Garikai Francis Machengete
(R12289W)

Appendix II

Questionnaire

I am a final year student at Midlands State University studying for a Bachelor of Commerce Accounting Honours Degree and am carrying out a research on the funding operations of Geological Survey Department'. It is my great pleasure to include you in this study and kindly request you to complete the following questionnaire by indicating your opinion on each question. I declare that all information collected in pursuit of this research will be handled with strict confidentiality and will be used solely for academic purposes. You do not need to indicate your name on this questionnaire.

General Information

Kindly provide the following details

1. Age group**:**

Below 25 25-29 years 30-34years 35 years and above

2. Position held within the organization……

3. Section within the organization…….

4. Highest Education Qualification

Secondary education	Certificate	Diploma	Degree	Other (specify)

5. Years in Service

1 to 5	6 to 10	11 to 15	16 to 20	Above 20

6. Zimbabwe Geological Survey (ZGS) has funding policy.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

7. The funding policy is documented.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

8. The funding policy document is communicated to all members of staff.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

9. ZGS has an effective Budgeting system.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

10. Management involves everyone in developing annual budgets at my organisation.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

11. ZGS has adequate assets for use to achieve set objectives.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

12. ZGS is capable of generating enough revenue to meet its operational expenses.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

13. ZGS has a sound staff recruitment system.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

14. ZGS has sound human resource training and development programmes.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

15. Human resource development programmes are being implemented in accordance with approved Human Resources Development plan.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

16. Performance appraisals are done for all staff on regular basis.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

17. ZGS is not facing funding challenges for its operations.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

18. ZGS can only rely on funds disbursed by central Government to fund its operations.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

19. It is important for my organisation to establish alternative funding methods to improve its funding operations.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

20. It is important for my organisation to establish bilateral agreements as an alternative funding method to improve its funding operations.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

21. ZGS has sound budgetary control systems.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

22. ZGS exercises effective control over overhead costs.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

23. ZGS has effective controls in place overlabour costs.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

24. ZGS has effective controls in place over idle time and overtime.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

25. ZGS' funding policy is being reviewed on regular basis.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

26. It is important for the organisation to offer complimentary services in order to improve revenue inflows.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

27. It is important for ZGS to introduce new cost cutting measures to enhance viability.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

28. Increasing product prices can assist in boosting revenue inflows.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

29. Reducing product prices can assist in boosting revenue inflows.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

30. Offering discounts will encourage more purchases of our products.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

31. ZGS can save money through hiring/leasing assets for fieldwork.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

32. Engaging other partners to sell ZGS' products can result in improved cash inflows. (Co-operative sales agreements)

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

33. The organisation can sell some of its old assets to raise money to fund its operations.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

34. Replacing old assets can assist in improving efficiency.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

35. It is a good idea to upgrade existing assets to meet future performance needs.

Strongly agree	Agree	Uncertain	Disagree	Strongly disagree

Other comments

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THANK YOU

Official stamp

Appendix 3

Interview Guide

Question 1: What is Zimbabwe Geological Survey's funding policy? , Is the policy documented and communicated to all members of staff?

Question 2: What implementation guidelines exist for the funding policy?

- ✓ Effective administration of the Budgeting system
- ✓ Adequacy of assets for fieldwork and information generation
- ✓ Capability to generate enough revenue to defray operational expenses

Question 3. Does Zimbabwe Geological Survey have adequate personnel capacity over the implementation of the funding policy?

Question 4. In view of ZGS' funding challenges, can the department rely solely on disbursements from the central Government to fund its operations?

Question 5. How best can the department control its costs, in terms of overheads and labour?

- ✓ Question 7: Could there any problems challenges in implementing the following as alternative revenue generation strategies:-
- ✓ Increasing prices
- ✓ Reducing product prices
- ✓ Offering discounts
- ✓ Co-operative sales agreements
- ✓ Offering complementary services

Question 6: In view of ZGS's funding challenges the following can be recommended as best practice, what are your comments?

- ✓ Disposal of old assets to raise money for financing operations
- ✓ Replacing old assets
- ✓ Upgrading existing assets to enhance viability
- ✓ Hiring/Leasing assets for use in fieldwork