

**EXPLORATION OF STRATEGIES USED AND CHALLENGES ENCOUNTERED  
BY ADMINISTRATORS IN THE MAINTENANCE OF CONDITIONS OF  
INFRASTRUCTURE AND EQUIPMENT IN PUBLIC PRIMARY SCHOOLS IN  
LUSAKA DISTRICT, ZAMBIA.**

**By**

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A Dissertation submitted to the University of Zambia in collaboration with Zimbabwe Open University in partial fulfilment of the requirements for the award of the Degree of Master of Education in Educational Administration and Management.

**THE UNIVERSITY OF ZAMBIA**

**LUSAKA**

**2018**

## DECLARATION

I, Juliet Mwila Kabwe do hereby solemnly declare that this dissertation represents my own work, except where otherwise acknowledged, and that it has never been previously submitted for a degree at the University of Zambia or any other university.

Signed \_\_\_\_\_

Date \_\_\_\_\_

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## **CERTIFICATE OF APPROVAL**

This dissertation of Juliet Mwila Kabwe has been submitted with our approval as a partial fulfilment of the requirements for the award of Master of Education in Administration and Management, the University of Zambia in collaboration with Zimbabwe Open University.

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## **DEDICATION**

This dissertation is dedicated to my husband Jim Kasanga and my children Jorry, Gregory, Roy and Emmie for being there for me during the time of study.

My father, Mr Martin Mulenga Kabwe whose encouragement taught me perseverance and hard work.

My late mum Violet Mwashu Tabu Kabwe, she was a role model of hard work and discipline.

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## **LIST OF ACRONYMS**

DEBS	District Educational Board Secretary
DT	Design and Technology
GRZ	Government of the Republic of Zambia
H.E	Home Economics
ICT	Information Communication Technology
MoE	Ministry of Education
MoGE	Ministry of General Education
P.T.A	Parents Teachers Association
PEO	Provincial Educational Officer
SDGs	Sustainable Development Goals
SAP	Structural Adjustment Programme
ZEPIU	Zambia Education Programme Implementation Unit
ZANEC	Zambia National Education Coalition

## **ABSTRACT**

The main purpose of the study was an exploration of strategies used and challenges encountered by School Administrators in the maintenance of the condition of infrastructure and equipment in Public Primary Schools in Lusaka District, Zambia.

The study was guided by three objectives, which include to; establish the condition of school infrastructure and equipment, to determine the challenges encountered in the choice and implementation of strategies used in the maintenance of school infrastructure and equipment and to identify the strategies used by School Administrators in the maintenance of school infrastructure and equipment in selected Public Primary Schools of Mumuni Zone in Lusaka District.

The study employed the interpretivist paradigm and a qualitative method. A purposive sampling method was used to select respondents who included, Deputy Head of Infrastructure at the Ministry of Education, Headquarters in Lusaka, 5 Headteachers, 5 parents, 5 teachers and 9 pupils from 5 different schools. Data was obtained using the semi-structured interviews and observation. The schools were purposively sampled due to their nature of being in existence for twenty or more years since their establishment. Data was analyzed using thematic analysis, a method used in identifying analyzing and reporting information according to emerging themes.

The study revealed that School Administrators had embarked on some fundraising ventures in order to ensure that maintenance of infrastructure is not left unattended to. These included poultry keeping, car wash and careers' day for children, among others. The study also revealed that there was a serious communication breakdown between of the Ministry of Education and School Administrators in as far as maintenance of school infrastructure and equipment is concerned.

The study ended with recommendations which include; creating a post at District level of Standards Officer whose work would involve working closely with Administrators in school maintenance programmes as well as supplying of teaching materials. Secondly, Government to re-introduce workshops on maintenance to be held once every term at zone level, for the purposes of sharing ideas, experiences and knowledge.

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# CHAPTER ONE

## INTRODUCTION TO THE STUDY

### 1.0 Overview

This chapter presents an introduction to the present research and also sets out the context. The chapter includes the following subsections; background to the study the statement of the problem, the aim of the study, objectives and research questions. In addition the chapter shall go on to explain the significance of the study, conceptual framework, and theoretical framework, delimitation of the study and the definition of key terms. The chapter shall end with a summary.

### 1.1 Background

The United Nations 2030 Agenda for Sustainable Development recognizes quality education as goal four of the 17 important areas that would help in promoting life-long learning as a means of eradicating poverty. To this end, the UN has identified lack of quality education as being caused by lack of adequately trained teachers, poor condition of schools among other issues (United Nations, 2018). Indeed, if Zambia is to achieve quality education targets stipulated in the Sustainable Development Goals (SDGs), there is need to assess the current situation and identify strategies that would help in the maintenance of school infrastructure and equipment. This is what this study precisely aims to do- exploring the strategies used and challenges encountered by Administrators in the maintenance of the conditions of infrastructure and equipment in selected Public Primary schools of Mumuni Zone in Lusaka District, Zambia.

From the early years of the Zambian government policy of providing finances for maintaining infrastructure and equipment in schools, stood for as long as the economy permitted. The maintenance of school infrastructure and equipment in schools was sustained by the sound Zambia's economic status which was made possible by the revenue that flowed into the Zambian treasury from the foreign exchange which would have previously gone abroad as copper royalties. These developments coincided with the rise in copper prices which multiplied the inflow of foreign exchange and government revenue. (Kelly, 1999)

For the first ten years after independence, government made head way in as far as the maintenance of school infrastructure and equipment was concerned. Each Ministry, Education included, had a Building department, which was in charge of major maintenance works.

These were reported to the Ministry of Public Works Department which was in charge of carrying out all maintenance works in government institutions. (Alexander, 1997) It is important to mention that the Public Works Department, was responsible for carrying out major maintenance works in Public Primary Schools that had clocked four years and above since the country attained independence while routine maintenance such as, the simple repairs to school buildings, applying of new coats of paint, under taking simple maintenance of equipment and general up keep of school grounds, were a responsibility of individual schools. (Ministry of Education, 1977) Ministry of Education, (1977) further states that Parents would contribute in one form or another through Parent Teachers Association (P.T.A) to the wellbeing of the school in the spirit of self-help. This has been government's policy since the first Republic in 1964. However, the P.T.A. was not active during the time that the country's economic status was sound.

As time went on, funds for maintenance of schools and equipment became unavailable gradually due to the fluctuations in the copper prices on the International market. By the early 1970's the allocation of funds for maintenance had reduced drastically. This made it more and more difficult for the Public Works Department to continue carrying out regular maintenance works. For example the Public Works Department Executive Engineer, revealed that only K1,000.00 was allocated for 52 primary schools, 8 secondary schools and 4 training colleges in 1973 (PWD Engineer, 1973).

In 1974 Zambia faced serious financial challenges due to the drop in copper prices on the international market coupled with the debt servicing. (Kelly, 1991) This contributed a lot to the poor conditions in schools in terms of infrastructure and equipment maintenance. To help save the situation, in 1984, School Administrators across the country gathered in Livingstone for training in Preventive Maintenance, which was planned by government under the Zambia Education Programme Implementation Unit (Z.E.P.I.U). This was followed by the sensitization of teachers in the country in preventive maintenance. The aim was to change the attitudes of the teachers and learners alike towards proper use of school infrastructure and equipment while equipping them with knowledge and skills in preventive maintenance, a sense of responsibility and self-reliance at school and home. School Administrators also had to ensure that the government policy of carrying out routine repairs and maintenance in conjunction with the Parents Teachers Association was carried out. (Ministry of General Education and Culture, 1984:2) However the unfavourable economic conditions hindered the motive of the workshop, hence school infrastructure and equipment continued to deteriorate.

Later in 1991, a new government under the leadership of the Movement for Multiparty Democracy took over the country's ruler ship. Due to the challenges earlier stated, Zambia qualified as a candidate for the Structural Adjustment Programme (SAP). (Lungwangwa, 1993) This means that, Zambia was given a loan by World Bank, however, there were some conditions attached for instance, liberalization and privatization of the economy. It is in this vein that cost sharing measures were introduced which meant that individuals had to pay for school levies which also included meeting the cost of maintenance of infrastructure and equipment. (Ministry of Education, 1996)

At this particular time the Zambian Primary sector was undergoing a transition to accommodate pupils for an additional 2 years to fulfil the nine years Basic Education plan. This meant that the school resources and infrastructure was strained owing to the increase in the learners to be accommodated, while there were no new additional buildings due to the economic situation in the country. Hence the school infrastructure remained vandalized. This was evidenced by worn out or missing chalk boards, classrooms with missing or broken doors and door frames. In other words school infrastructure was dilapidated to very alarming levels.

Although a loan was sort from World Bank, which saw the allocation; (in the current rebased amounts) of K1,500.00 for the maintenance of Public Primary Schools in Lusaka in 1993, 1995 rehabilitation and maintenance of primary schools in the country was allocated K27,025.00 and K20,846.00 was for emergency repairs, these allocations were short lived due to the state of the economy as earlier stated. However it is also recorded that in 1996, the country received K50,636.00 for maintenance of schools from NORAD and K27,886.00 for preventive maintenance (GRZ 1993, GRZ 1995, GRZ 1996).

Having pointed out that the allocations of finances were short lived as the effects of the SAP impacted negatively on the country's economy as well as citizens. Therefore, the P.T.A also faced challenges in as far as the maintaining infrastructure and equipment was concerned. However the maintenance of school infrastructure and equipment has continued to be a responsibility of the Administrators and the P.T.A under the principle of liberalization.

Although another government was ushered into office in 2011 under the leadership of the Patriotic Front, the economic status has continued to hamper the maintenance of school infrastructure and equipment. Hence this activity has continued to be solely a responsibility of the school Administrators and the Parent Teachers Associations. In addition, government has

put in place the Education Act of 2011 which permits educational institutions to engage in Private Partnership to complement any of their resources to maintain and improve learning institutions

Therefore, in view of governments limited financial resources, it is of great importance to explore strategies used and challenges encountered in the maintenance of condition of infrastructure and equipment by School Administrators in Public Primary Schools in Mumuni zone in Lusaka District, in order to curb their deterioration thus, promote quality and equitable education facilitated by sustainable educational infrastructure and equipment.

## **1.2 Statement of the problem**

According to the *Zambian Education Policy (1996)*, -Educating our future- “The Ministry of Education upholds the principle that every individual has an equal right to educational opportunity. This means that, every individual child, regardless of personal circumstances or capacity to learn, has a right of access to, and participation in, the education system” (*Educating Our Future, 1996*).

Provision of equitable education entails having school building infrastructure and equipment that will enable the teachers facilitate the implementation of the policy in the longer term. Without adequate and well-maintained school buildings, as well as strategies for maintaining them- it becomes almost impossible for Zambia to provide equitable and quality education for all.

As shown above, Zambia as a country has limited financial resources. However, School Administrators have undoubtedly a duty to come up with the means to keep their infrastructure and equipment in a healthy good working condition in the absence of government funding. Therefore, this study will explore the strategies used, challenges encountered by Administrators in the maintenance of conditions of infrastructure and equipment in public primary schools in Mumuni zone in Lusaka District in the view of absence or inadequate financial resources of government to ensure sustainable educational infrastructure and equipment in the provision of education in an enabling environment.

## **1.3 Aim of the Study**

The aim of this study is to explore the strategies used and challenges encountered by Administrators in the maintenance of the condition of infrastructure and equipment in Public

Primary Schools.

#### **1.4 Research Objectives.**

The objectives of the study are:

1. To establish the condition of school infrastructure and equipment in selected Public Primary Schools in Mumuni Zone, Lusaka District.
2. To determine the challenges encountered by School Administrators in the maintenance of school infrastructure and equipment in selected Public Primary Schools in Mumuni Zone, Lusaka District.
3. To identify the strategies used by School Administrators in the maintenance of school infrastructure and equipment in selected Public Primary Schools in Mumuni Zone, Lusaka District.

#### **1.5 Research Questions**

1. What is the condition of school infrastructure and equipment in selected Public Primary Schools in Mumuni Zone, Lusaka District?
2. What challenges do School Administrators encounter in the maintenance of school infrastructure and equipment in selected Public Primary Schools in Mumuni Zone, Lusaka District?
3. What are the strategies being used by the School Administrators to maintain infrastructure and equipment in selected Public Primary Schools in Mumuni Zone, Lusaka District?

#### **1.6 Significance of the study**

This study is important because its findings on the strategies used by School Administrators in the maintaining of infrastructure and equipment in selected Public Primary Schools of Mumuni Zone in Lusaka District are likely to bring enlightenment to the researcher concerning the study. It is also likely to add knowledge to the body of Primary School Administrators and further provide a basis for interventions in as far as maintenance of school infrastructure and equipment is concerned. School Administrators are also as likely to adopt some strategies of maintenance that would enhance sustainable infrastructure and equipment in the entire zone and the District at large.

#### **1.7 Conceptual Frame work**

Conceptual framework is a visual or written product that explains graphically or in narrative the main things to be studied such as key factors, concepts or variables and the presumed

relationships, among them (Miles and Huerman, 1994). This study was guided by the conceptual frame work in figure 1 which is in line with the phenomenon, Strategies used and challenges encountered by Administrators in the maintenance of the condition of infrastructure and equipment in Public Primary Schools of Mumuni zone in Lusaka District.

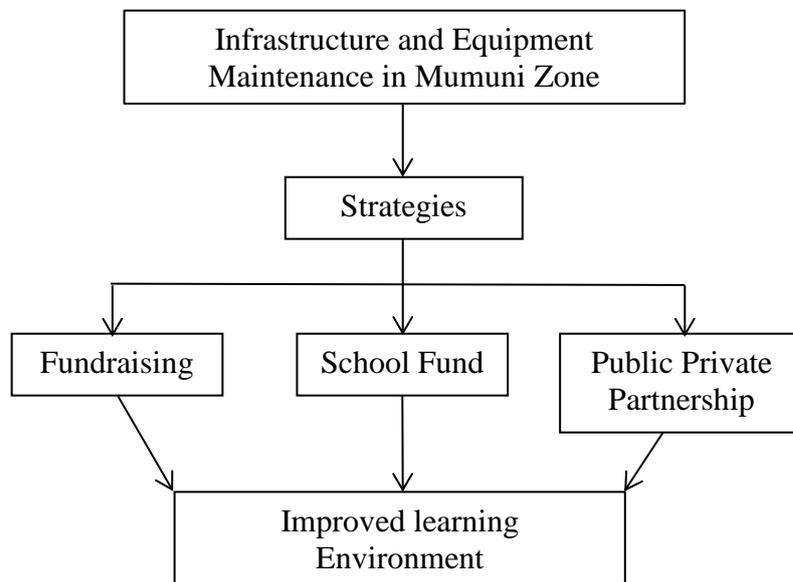


Figure 1: Conceptual Framework

The diagrammatically presented conceptual framework in figure 1 shows the possible strategies (School fund, Fundraising and Public Private Partnership) which may be used in the sourcing of financial and material resources necessary in ensuring that a clean safe and healthy learning school environment is maintained. While it is an established fact that government does not provide maintenance fund for school infrastructure and equipment, the conceptual framework helped the researcher to get an in-depth understanding of how Administrators have fared in as far as securing resources (financial, human and material) for school maintenance programmes is concerned in order to enhance quality education.

It is also important to note that, the success of every maintenance programme depends not only on the Administrator but on the collaboration and input of learners, teachers, parents and the community. (MoE, 2008) The conceptual framework helped the researcher to have focus during the study which aimed at exploring the strategies used and challenges encountered by Administrators in the maintenance of conditions of Public Primary School infrastructure and equipment in Mumuni zone, Lusaka District.

## **1.8 Theoretical Framework**

This section explains and justifies the adoption of the Theoretical Framework that has been employed to conceptualise the maintenance of school infrastructure and equipment. The stakeholder theory is adopted based on the fact that there are many interested parties who benefit from a school, that is, teachers, learners, parents, the community and the public as tax-payers. Educational stakeholders are all direct and indirect participants in an educational system, including policy makers and members of the public, who have a vested interest in its functioning and outcomes. (Adebayo, 2013) Stakeholder Theory therefore provides a suitable framework to evaluate and critically discuss the ethical dimensions and implications of School Administration and maintenance of facilities. Although the Stakeholder Theory was initially started in the field of strategic management (see for example Clarkson, 1995), it's influence has grown and extended to other fields such as organisation theory (e.g. Donaldson & Preston, 1995), business ethics (e.g. Phillips and Reichart, 2000), social issues in management (Wood, 1991) to mention but a few. Stakeholder Theory has also been used in the field of education management, for example Ibrahim et al, (2017) applied Stakeholder Theory in understanding the perceptions of secondary education quality in Sokoto State, Nigeria.

## **1.9 Stakeholder Theory**

Stakeholder Theory was initially developed by Freeman (1984). It is a managerial theory which recognizes the generation of value as a central driver of the enterprise, but it also acknowledges that this value is to be shared by a group of Stakeholders that includes not only Shareholders and Managers but also all actors in society that may have an interest in how the firm operates. (Freeman, 1984) According to Adebayo, (2013) Stakeholders in the provision of education encompass all direct and indirect participants in an educational system, including policy makers and members of the public, who have a vested interest in its functioning and outcomes. In contextualising the Stakeholder Theory, Freeman (2000) asks two questions of considerable importance: (1) What is the purpose of the firm? and (2) What responsibility does management have to Stakeholders? These questions give direction to managers/executives/administrators to think about how they want to engage in business and what kind of relationships as well as what emphasis they want and need to create with interest groups (Stakeholders) in order to achieve their goals. (Freeman, 2000)

In answering these two questions for the present research, it is important to refer to the vision of Ministry of General Education (MoGE) in Zambia. The vision of MoGE as stated in MoE (1996) is; provision of quality lifelong education for all, which is accessible, inclusive and

relevant to individuals, national and global needs and value systems. In this vein, the government of Zambia has shown commitment to allocating more resources to the education sector in order to expand access to primary, secondary, and tertiary education. Therefore, Mumuni Zone schools under MoGE, is mandated with the responsibility of providing quality education which is key in fighting poverty, illiteracy and hunger in Zambia.

The instrumental variation of the Stakeholder Theory purports that managers should attend to Stakeholders as a means to achieving other organizational goals such as profit or shareholder wealth maximization stakeholder. This links to the concept of managers as leaders who are in the position of influencing organisational resources both human and non-human in the achievement of the purpose of providing quality education. The School Administrators hold the responsibility of implementing a school's policies (Godfrey, 2013) as set out by MoGE. The School Administrators can involve stakeholders such as parents through (P.T.A) in the implementation of policies as well as the attainment of positive outcomes from school programmes such as the maintenance of school infrastructure and equipment.

To achieve any influence at all of stakeholders, there is need for Administrators who understand and effectively enact their leadership role. Therefore, a transformational leader supports the development of schools as learning organisations and finds more in common with collaborative approaches in which teachers and other stakeholders are viewed as partners. This allows the leader to develop a shared commitment and gain buy-in from the Stakeholders.

Maintenance of school infrastructure and equipment is not a one-man task, it needs collaborating not only with the teachers but also parents, learners and the community especially in a country such as Zambia where political will is lacking in the maintenance of schools. For instance, while infrastructure development has been emphasized by government, Since 2008 Budget speech to date, (Seventh National Development Plan) 2018, it has only seen the construction of new schools and expansion of some selected existing ones, while the maintenance of already existing schools lags behind.

This study is guided by the Stakeholder Theory that advocates the collaborative efforts of partners in the delivery and achievement of quality education through synergies. The theory creates room for a leader to create a culture in which everyone feels obliged to pitch in for the team and sacrifice his/herself interest. Maintenance of school infrastructure and equipment

cannot be accomplished by an individual leader therefore, the strength created by synergies through involvement of stakeholders is cardinal.

### **1.10 Delimitation of the Study**

Delimitation entails boundaries of the study. The boundaries that are inherent in the study which the researcher should use to address how the study would be narrowed in scope. (Burgess 2003) This study was restricted to the gathering of information on the strategies that Administrators use in the maintenance of infrastructure and equipment in selected Public Primary Schools of Mumuni Zone in Lusaka, Zambia.

### **1.11 Definition of Terms**

**Infrastructure:** entails the basic systems and services that are necessary for an organisation to run smoothly. This study shall focus on school buildings (walls, windows floors and the roof).

**Equipment:** entails things required for the teaching learning process. These shall include desks, Home Economic utensils and stoves, equipment and tools in science laboratories and industrial Arts (Design and Technology) workshops.

**Maintenance:** the activity of repair, servicing replacement and general up keep of school buildings, equipment and school grounds.

**Strategies:** The means to reach the desired end. Plans or ways used to reach a desired end/outcome.

### **Summary**

This chapter describes the subsections which include; the back ground to the study, the statement of the problem, the purpose of the study, objectives and research questions. The significance of the study, Conceptual Framework, Theoretical Framework and the Delimitation of the study have also been explained. The definitions of the study have equally been given.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Overview**

The chapter reviewed related literature on school infrastructure and equipment maintenance. It begins by looking at the concept of maintenance and then goes on to look at its purpose, the role of an Administrator in relation to maintenance, and also tries to partially answer questions 2 and 3 of the study using secondary data. The gap is then stated and the chapter ends with a summary.

Nations globally attach great importance to Formal Education in particular at primary school level. This is because it is the foundation upon which other forms of education related to the economic and national development are based. Education is viewed as a need and one of the fundamental human rights. (UNESCO, 2000) It therefore needs to be upheld by every well-meaning individual, community and country. Nonetheless, for any form of education to be beneficial it must be of good quality. Quality education requires good infrastructure and equipment.

School infrastructure and equipment are materials, resources, buildings, and equipment that facilitate learning and teaching. Adebeyeje (2000) and Emertarom (2004) refer to school infrastructure and equipment as enablers of the teaching and learning which also increases the production of results. Ekpoh et. al (2013) has referred to school infrastructure as school plant and has further stated that, it comprises buildings, ground, facilities and equipment which are essentials in the implementation of educational programmes. Asiyai (2012), sees them as permanent and semi-permanent structures such as machinery, laboratory equipment, the black board, teacher's tools and other equipment, as well as consumables. This work shall refer to them as infrastructure and equipment. These play a vital role in the teaching learning process. Therefore once these are made available, Parents feel secure and confident to take their children to school. However if the condition of infrastructure and equipment is in a deplorable state they fail to provide a good environment to enhance growth and development of the learners. Infrastructure and equipment is essential for the attainment of educational goals.

#### **2.1 The Concept of Maintenance**

It is part of nature for equipment, buildings and materials to lose their value or to depreciate in one way or another due to various factors over time. These include aging, vandalism,

extreme environmental conditions, poor community support, mind set of pupils and staff, lack of security and poor handling. Therefore to avoid disruption of programmes work of infrastructure and equipment maintenance is inevitable of any given organisation especially schools and must be made part and parcel of the school routine.

Nhlapo (2006:42), states that maintenance of school infrastructure and equipment basically relates to the repair, replacement and general up keep of physical features such as in the school buildings, grounds and safety systems. Kpee (2013), describes maintenance as the continuous efforts of checking, improving, repairing, renewing, repainting, remodeling, controlling the use, modifying and ensuring effective and regular use of school infrastructure and equipment in order to make them continuously relevant and useful. Szuba and Young (2003:43) added that, maintenance is concerned with ensuring safe conditions for facility users be they learners, educators, staff, parents or guests and as for learners it is also concerned with creating a physical setting that is appropriate and adequate for learning.

### ***Categories of Maintenance***

The Organization of American states General Secretariat (UCSC) in Nhlapo (2009) describes school maintenance as an organizational activity carried out by the school community in order to prolong the life expectancy of school buildings its furniture and equipment, but effective maintenance is achieved by the checking of infrastructure and equipment from time to time in order to plan adequately for maintenance and be aware of which type of maintenance is required. This will help sustain the intended purpose of an organisation.

There are various types of maintenance. These include Periodic, Emergency, Preventive, Corrective and Predictive Maintenance. It is of great importance to state what each one of these types of maintenance implies.

**Preventive Maintenance:** This is carried out by regular checking of infrastructure and equipment to minimize wear and tear and ensure its usage is prolonged. Kowalski, (2002) defines Preventive Maintenance as a programme for servicing machines systems and structures devised to prevent break down of a system or one of its components. It is usually planned and proactive in nature. It is a less expensive mode of maintenance as it allows for infrastructure and equipment to be worked on before running down completely

For example Zambian schools have had quite a number of experiences of school roofs being blown off during the rainy season and by whirlwind during the hot months of the dry and rainy seasons. This is a common scenario not only in the peri-urban but also in rural areas. This can be reduced by checking the roofs, tightening or replacing the loose screws and also replacing the damaged or worn out roofing sheets as a school and reporting faults to government programme for maintenance or repair programme. A number of schools in Lusaka Zambia were unable to reopen for the 2018 academic year as it came to light during the cholera outbreak that most of the toilets were non-functional due to lack of regular Preventive Maintenance which would have been effected earlier as part of the school routine.

**Corrective Maintenance:** Akpan (2011) defines Corrective Maintenance as spontaneous maintenance service which involves timely reaction of physical items. In most cases it deals with correcting damage made to physical structures by unpredictable events such as whirl winds, storms and those that may happen due to vandalism or flooding. In this case infrastructure and equipment need to be worked on promptly to ensure that school programmes are not be disrupted.

**Deferred Maintenance:** includes scheduled activities that are delayed or postponed for reasons such as lack of funds, personnel or changes in priorities and change of use. (Baltimore County Public Schools, 2007:32) This is quite common in a number of schools in Zambia. Administrators have a tendency of overlooking what seems to be a small problem only to be confronted by a bigger problem that may cost them a fortune to repair. For instance, a leaking roof which has been left unattended to until it gets quite big that the whole roof may require redoing or replacing.

## **2.2 Purposes of the maintenance of school infrastructure and equipment**

The most important aspect about the maintenance of school infrastructure and equipment is to enable the accomplishment of educational aims and objectives. These are enshrined in the national curriculum. Educational Curriculum therefore cannot be sound and well operated with poor and badly managed school infrastructure and equipment. Hence the curriculum would only be meaningful and functional if the required infrastructure and equipment are appropriately provided and properly maintained. (Akainsolu, 2004; Abdulkareem, 2011) For instance in 2014, the Zambian government carried out major education reforms which saw the phasing out of the Basic Education and the introduction of a two tier system that offers

academic and skills education. (Education for all, 2015) With inadequate and nonfunctional poorly maintained equipment that is a reality in some Zambian schools the intended objectives of hands on subjects cannot be achieved, for example, Home Economics and Design and Technology subjects which are skill based.

Furthermore, Strcherz 2000 reported that, when conditions of buildings and equipment deteriorate they do not only bring hurdles for teachers and learners but may also cause the loss of instructional time. For example in Virginia schools in 1998 lost 96 days of schooling due to poor school building conditions complicated by age. Similarly, in New York, School buildings and equipment had reached such a deplorable condition that the legislature stepped in and required the establishment of five year maintenance plans to be submitted by each public school district. (Mcgowen, 2007) In Zambia, at the beginning of the 2018 school academic calendar some primary schools in the capital city Lusaka, lost a maximum of 60 days of school due to dilapidated sanitary facilities which had to be repaired or replaced before schools could start. Therefore, regular maintenance of school infrastructure and equipment must be embarked to avoid the disruption of the academic calendar.

Earthman (2002), also revealed that school buildings in poor condition; design and appearance have a negative impact upon the learning climate. Conversely, buildings in good condition have a positive influence upon the learning climate. The positive and negative influences on teachers and learners affect how they look at education. Fisher, (2006) as cited in Mokaya (2013) in his study on the “Impact of school infrastructure on learner outcomes and behaviour in Georgia”, established that academic achievement improves with good infrastructure. This confirms that there is a relationship between performance on both the teacher and the learner. Good and well maintained infrastructure and equipment motivates both teachers and learners in the teaching learning process.

Additionally, Mokaya, (2013) in a study of factors affecting learner’s performance in schools in Canada maintained that one cannot expect high level of student’s academic performance where school buildings are of substandard. He emphasized that well planned and maintained structures clean, safe, comfortable and healthy environments are important in enhancing successful teaching and learning. These help to boost the morale of teachers and promote a good image of the school. For example in the study by Uko, (2001), it was revealed that parents were compelled to borrow money or collect loans in order to take their children to private schools citing that even though they did not present the best of infrastructure and

equipment, they were relatively better than those of the public schools. This is compatible with what is going on in Zambia. Currently parents are making huge sacrifices for their children's education. They prefer taking them to privately owned schools although in some cases the condition of infrastructure and equipment is not up to date.

Teachers in schools with poor dilapidated infrastructure are often stigmatized and fail to walk with their heads high. Benefits of infrastructure and equipment maintenance for retention were found to be equal to or greater than those from pay increases. Revelations indicated that, out of forty eight percent of teachers who transferred to other schools thirty nine percent cited the need for significant repair of school infrastructure and equipment as a source of dissatisfaction in Kenya. (Buckley, Schneider and Shang 2004; McGowen (2007) Similarly, a study done in Nigeria revealed that maintenance of infrastructure and equipment also enables teachers to enjoy their stay and perform their duties effectively. (Abdulkareem, 2011) In Zambia teachers posted to rural areas find their way back to town due to poor infrastructure in these areas. Achieving quality education is threatened since those who should advance it are leaving areas that require education the most as they are not only short of teachers but also lack well maintained infrastructure and equipment.

Uko (2001), in a study done in Nigeria shows that poorly maintained infrastructure and equipment could lead to health and sanitary condition problems. In addition maintaining infrastructure and equipment ensures safety conditions for the users. For instance in Ghana, Jusoff et al, (2008) reports that the deplorable state of some institutions appear to be 'death traps' and can be described as recipes for disaster. Indeed it is common in Africa and in particular rural areas in Zambia to find dilapidated infrastructure and equipment. Usually the users of such infrastructure have their lives at risk. The teaching and learning process can only thrive in infrastructure that is secure for both health and life. Disasters have been recorded globally with a number in Africa. For example, Ogonor (2001), reported the killing of pupils and teachers of a Primary school in Nigeria when the walls collapsed, and even large amounts of money invested on school facilities are wasted when school infrastructure and equipment are left to deteriorate. In Zambia, on the second of May 2018, the national television reported that six pupils fell in a pit latrine in Kisulusuli, Kenya.

### **2.3 The Role of the Administrator**

These various types of maintenance may be implemented according to the gravity of the maintenance to be carried out. Nevertheless, although School Administrators are regarded as custodians of schools, most of them lack such knowledge and experience; hence they fail to plan for the maintenance of facilities school infrastructure and equipment. This has contributed to the poor state of facilities, buildings and furniture in primary schools. Perhaps this may be the reason why Xhaba (2011) in his study, “A qualitative analysis of facilities maintenance,” argued that school infrastructure and equipment maintenance is a specialist function and should be assigned to professional maintenance staff. While Yusuf et al (2012), added that failure of organisations to make maintenance of infrastructure and equipment one of the top priorities and lack of professionals with technical expertise in this area is the greatest recipe for poor condition of infrastructure and equipment in Africa. However, it has been validated that technical expertise is not the only greatest recipe for poor condition of infrastructure and equipment but also inadequate funding due to budget restrictions on the amount to be expended on infrastructure and equipment maintenance. (Kamarazaly et al 2013; Wuni et al, 2017) For instance, Zambia National Education Coalition (ZANEC) (2018), records that from 2015 funding to Education and skills sector has been on the downward trend as indicated by the following figures; 2015 (20.2%) 2016 (17.2%), 2017 ( 16.5%) and 2018 ( 16.1%). This study does not only reveal the condition of infrastructure, equipment and other learning materials but also the shortage.

Maintenance of school infrastructure and equipment should not therefore be a responsibility that is solely left to the Administrator alone. But Ajayi (2007) emphasizes that they should ensure that they are in the fore front of mobilizing and motivating their staff, pupils, parents and other stakeholders. Yusuf et. al (2012), stressed that Administrators must ensure that above all things the maintenance culture is internalized to the extent that it becomes part of the day to day activity of a school. It is worth commenting here that if this culture is inculcated in the learners at their tender age at primary school level, it will not only extend the life span of the infrastructure but also help cultivate good habits of property maintenance among them.

Nonetheless it is not enough to know the purposes of maintaining school infrastructure and equipment which include to: improve teacher and learner performance, boost teachers’ morale, ensure that the curriculum is effectively implement, enhance the out look and image of the school and promote attendance among the learners and teacher retention. It is important

that School Administrators are well aware of the gravity that rests upon them in ensuring the school infrastructure and equipment is kept in acceptable and operational standard. It is therefore important to ensure that School Administrators are well vest with the scope of maintenance as they are the key to the whole process.

Ebenezer (2004) noted that to save public school infrastructure and equipment in Ghana, School Administrators should cultivate the maintenance culture and couple it with adequate and efficient management. In agreement with this fact, Ajayi (2007) and Yusuf et. al (2012) explained that through close supervision of the staff, learners and members of the community must ensure that, equipment and infrastructure are serviced repaired and overhauled. He/she must adopt some strategies for school maintenance in order to ensure that all school equipment and facilities are in a functional condition throughout the year. When parents, teachers, learners and other stakeholders are involved in the maintenance programmes they are likely to develop a sense of ownership which further leads to valuing and protection of infrastructure.

In the study conducted by Ifeoma, “Assessing school facilities in public schools in Nigeria” According to the Africa Research Review (2012), Fadipe (1998) and Ajayi (2007) suggest fivefold strategies that would make the School Administrator put infrastructure and equipment into functional condition. These include; psychological build-up of staff and pupils, periodic inspection, classification of damaged infrastructure, Committee system approach, Community participation and Financing maintenance cost internally. Ajayi (2007) emphasizes that School Administrators must be in the fore front in mobilizing both human and material resources required for the purpose of maintenance. For example in Zambia school Administrators have been working in collaboration with P.T.As in ensuring that infrastructure is maintained in a desirable condition. This approach has a number of advantages of which one is that it strengthens and promotes good community relationships. (Ministry of Education 2015; Manga et al 2013)

Furthermore, Ikoya and Onoyase (2008), states that it has been observed that Administrators appear to spend much time on instructional planning, curriculum development and community relations claiming that management and maintenance of school facilities is the sole preserve of the government. Akinsolu (2004), asserted that it is such attitudes of some School Administrators and pupils towards infrastructure and equipment that are contributing to their depreciation. Indeed, for example, in Africa particularly Zambia, a number of

workshops and seminars have been held in a bid to sharpen the pedagogical skills of educators, while others have concentrated on making the curriculum more responsive to the needs of the individuals and society, and not on infrastructure and equipment these were last heard of in the late 1980's and early 1990's. (Ministry of Education, 1984) It is worth stressing that Administrators must value maintenance culture as much as the academic aspect of education as they seek to develop the individual holistically who will later contribute positively to society.

In addition Administrators must therefore be equipped with knowledge that will enhance the management of infrastructure and equipment through regular and adequate training. Szuba and Young (2003) clarifies that, maintenance plans must start with auditing or an inventory of buildings and equipment which in turn should provide high quality data upon which maintenance plans should be based. It is planning that will further facilitate the adoption of some strategies for school infrastructure and equipment maintenance that will enable them remain in a functional condition for a whole year.

While government may also use Infrastructure Maintenance Policy as a strategy (Masue, 2004) reports that this may not be sufficient there is need for engaging practical strategies at school level. Policies maybe a guide but do not always get things done as implementation is mostly a great challenge. Therefore, Nhlapo (2009) assert that, the process of planning itself is a strategy. He adds that to be effective it requires the inclusion of short and long term plans, involvement of stakeholders and periodic update.

### **The Gap**

Literature reviewed so far reveals that, most of the studies conducted in relation to school infrastructure and maintenance have bordered on performance, academic achievement, and improved attendance on the part of learners and also on teacher retention among others. Although there may be studies that have been conducted globally, in Africa and Zambia included on strategies of maintenance by school Administrators, this study shall endeavor to focus on strategies that are able to bring to life the physical learning environment based on School Administrators lived experiences which are currently helping to make a difference in as far as maintenance of school infrastructure and equipment is concerned. While other aspects pertaining to education are equally important, the physical learning environment that is the state of infrastructure and equipment is equally important as it is the basis of fruitful, efficient and effective and quality education programs. Therefore the study shall focus on

exploring the strategies used and challenges encountered in the maintenance of condition of infrastructure and equipment in Public Primary Schools Mumuni Zone in Lusaka District.

### **Summary**

The chapter reviewed related literature which focused on the concept of maintenance, the condition of school infrastructure and equipment challenges and strategies. The next chapter deals with the Methodology.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.0 Overview**

“Methodology refers to the overall approach to the research process, from the theoretical underpinnings, to the collection and analysis of the data.” (Hussey and Hussey, 1997:54) This chapter presents the methodology; it explains and justifies the research design and process used to achieve the objectives of the present study. The chapter begins by presenting, the research paradigm and then followed by rationale for choosing the interpretivist approach. Other sub-sections of this chapter include, research design, sample population and size, sampling techniques, data collection and analysis, trustworthiness, and Ethical considerations.

#### **3.1 Research Paradigm**

The term research paradigm shows a relationship between “the development of knowledge and the nature of that knowledge.” (Saunders et al, 2016) There are two philosophical positions which help to justify the nature of knowledge: ontological and epistemological. The ontology of research refers to the nature of reality. (Holden, 2016) Within ontology, there are two primary positions; objectivism and subjectivism. Objectivism “exemplifies the position that social entities exist in reality external to and independent of social actors”, conversely, subjectivism “asserts that social phenomena are created from the perceptions and consequent action of social actors.” (Saunders et al, 2016) In other words, objectivism asserts that social phenomena and their meanings have an existence that is independent of social actors. (Bryman and Bell, 2003)

The researcher chooses not to study the maintenance of school infrastructure and equipment objectively. The subjective view is deemed appropriate because reliance on experiences of social actors. School Administrators and other relevant respondents are of considerable importance in answering the research questions. There are various understandings of the concept and role School Administrators in the maintenance and management of school infrastructure. Therefore, ideas on how to maintain school infrastructure and equipment might differ, there are contrasting experiences of school management and senior teachers despite existence of policies in Ministry of Education. Therefore, it is necessary to question the social, rather than the physical phenomenon.

According to Blaikie (2001), epistemology refers to ideas about what is regarded as knowledge: the known and set criteria, rather than beliefs. There are two main epistemologies of what counts as knowledge within the social sciences: positivism and interpretivism. According to Bryman and Bell (2003), positivism is an epistemological position that advocates the application of the methods of the natural sciences to the study of social reality and beyond. On the other hand, interpretivism “respects the differences between people and the objects of natural sciences and therefore requires the social scientist to grasp the subjective meaning of social action.” (Bryman and Bell, 2003) Essentially, positivism is concerned with explaining human behaviour, while interpretivism places an emphasis on understanding it. (Graham, 2015)

According to Bryman and Bell (2003), in positivism knowledge is associated with observable facts that exist independently from the mind; that is theoretical terms that are not directly open to observation are not considered legitimately scientific. The researcher acts as a ‘natural scientist’ (Saunders et al, 2016), interpreting data that have been collected in a value-free manner. Positivism places emphasis on a highly structured methodology to facilitate further replication. (Johnson et al, 2005; Saunders et al, 2016) The main focus of the positivist paradigm is, therefore, to produce generally accepted universal laws based on observable facts independent of the mind.

The maintenance of school infrastructure and equipment is not independent of the mind. For the purpose of this research, the positivist paradigm is deemed unsuitable, because the researcher is of the view that the phenomena under inquiry may not be deemed rightfully scientific. School infrastructure and equipment maintenance as an organizational practice deals with social process of leadership and management abilities as well as enactment of Ministry of Education Policies. It is a product of managerial thinking, leadership ability in pursuit of creating an enabling learning environment. For this reason, the interpretive paradigm is deemed appropriate.

### **3.2 Research Design**

Niewenhuis (2007:70), defines Research Design as a strategy that moves from underlying philosophical assumptions to specifying the selection of respondents the data gathering techniques that were used in the data analysis to be done. Nzoka et al (2014), explains that a research design is a scheme outline or plan that is used to generate answers to the research problem. The multiple case study approach is adopted. Kothari (2004) stated that the case

study method is a very popular form of qualitative analysis and involves careful and complete observation of a social unit, be that unit a person a family an institution, a cultural group or even the entire community. It is a method of study in depth rather than breadth. Schools in Zambia are divided into Zones this is to allow for effective management. In Lusaka, there are 7 Zones. Mumuni Zone has been isolated for this particular study. As there are several schools in Mumuni Zone, a multiple case study is therefore appropriate for the situation under consideration.

### **3.2.1 Justification of the Qualitative Approach**

According to Creswell (2009), qualitative research as an inquiry process facilitates understanding based on distinct methodological traditions of inquiry that explore a social or human problem. In this study the research approach taken is determined by the nature of the subject to be studied. This research is about investigating the strategies adopted in the maintenance of school infrastructure and equipment. The study is therefore about human activity which includes the evaluation of how administrators deal with challenges encountered. As such, using the qualitative approach will be ideal as it stresses the subjective aspects of human activity as well as focusing on the meaning rather than the measurement of social phenomena.

There is often a presumption among many researchers that choosing qualitative research enhances the potential for participants' own voices and values to inform the research process and thus clarify in a grounded approach the evaluation of a project or policy. (MacPherson et al, 2010) This means that, the researcher can also enter in the social world in which s/he is interested and have an understanding of the participants' experiences of the phenomenon under investigation. (Shaw, 1999) Using the qualitative approach will therefore enable the researcher to capture the meaning and context of the tales from the School Administrators, Ministry of Education representative and the pupils themselves. This approach will result in an in-depth exploration of the issues as they emerge. This approach will therefore be suitable for understanding experiences of staff regarding the maintenance of school infrastructure and equipment as well as strategies adopted.

Additionally, Easterby-Smith et al (2001) also notes that the qualitative approach enables the researcher to look at change processes over time, to understand people's meaning, to adjust to new issues and ideas as they emerge and to contribute to the evolution of new theories. Using the qualitative approach will thus empower the researcher in this study to identify the current

trends in the strategies employed by School Administrators to maintain school infrastructure and equipment as well as exploring challenges encountered.

Employing the qualitative method enables researcher to be committed to data collection within the context of the social world in which the phenomena naturally occurs. This supports the generation of an understanding grounded in the viewpoint of the research participants. (Bryman, 2012) Collecting data qualitatively does not allow the researcher to manipulate the settings in which the research occurs as in the experimental research. (Tucker et al, 1995) In qualitative research, the researcher seeks to understand naturally occurring phenomena in their naturally occurring state. (Tucker et al, 1995: 386) The research will be conducted within the Mumuni Zone, with administrators, staff and pupils as key respondents.

### **3.2.2 Multiple Case Study Approach**

This research adopts a multiple case study design to explore the strategies employed by School Administrators in maintaining school infrastructure as well as challenges encountered. A case study by definition is the study of the particularity and complexity of a single case, coming to understand its activity within important circumstances. (Saunders et al, 2016) The researcher therefore intends to use schools in Mumuni Zone under the Ministry of Education to have a clear and in-depth understanding of the complexities of the phenomenon under discussion. The main claims in favour of the multiple case study approach is that it improves theory building, owing to the fact that two or more cases can be contrasted. (Bryman and Bell, 2003)

A case study is an exploration of a bounded system or a case (or multiple cases) over time through detailed, in-depth data gathering involving various sources of information rich in context. (Creswell, 2009) Creswell defines a bounded system as “a study done within a specific period of time and place.” Therefore, a case study has defined parameters within which the research is conducted, there is a standard set of semi-structured interview questions, the specific zone is Mumuni Zone and research population include; School Administrators, Senior Teachers, Teachers, Parents, MoE representative and Pupils. If the same study had been carried out over an earlier or later period, the results may not be the same owing to the discrepancies that must have been obtained over that particular period.

As Saunders et al (2016), point out, we do not study a case primarily to understand other cases, because findings of a case study cannot be generalised due to the small number of the

sample population. Debatably, results of multiple case studies can be generalised with respect to theoretical propositions and not to populations or universes. Therefore, although the findings of the Mumuni Zone case studies may not be generalised in terms of the population, it can be argued that they nevertheless make a notable contribution to the theory of maintenance of infrastructure and school equipment within education administration and management studies.

### **3.3 Target Population**

Population is the sum total of all the cases that meet definition of the unit of analysis. (Burgess, 2003) While Kumeckpor (2002) cited by Inusah et al defines a population as the total number of all units of the issue or phenomenon to be investigated. This study was conducted in Mumuni Zone of Lusaka district in Zambia. The focus was on schools in the Zone that have been in existence for 20 years and more. The target group for the study, included the 5 Head teachers, 5 teachers, 9 pupils and 5 parents who take children to schools in Mumuni Zone and one Ministry of Education Official. The five Public Primary Schools were named as School ‘A’, ‘B’, ‘C’, ‘D’ and ‘E’.

### **3.4 Sample Size**

A sample is a portion of the population. A Sample size is the smaller group or subset of the population that provides information for the study and the data collected is used to infer things about the population as a whole. (Field, 2005) The sample size shall be 25 respondents. By using non probability sampling, which is appropriate for qualitative research five Headteachers from Primary schools of Mumuni Zone in Lusaka from selected schools which have been in existence for twenty years or more, 5 Headteachers, 5 teachers preferably those that have served at a particular school of a selected zone, for at least 5 or more years, 9 pupils two from each selected school and 5 Parents as the study samples and one Ministry of Education Official.

### **3.5 Sampling Techniques**

Ngandu (2013), refers to sampling techniques as that part of the research plan that indicates how cases are to be selected for the study. It is a process of selecting a number of individuals or objects from a population such that the selected group contains elements representative of the characteristics found in the entire group.

In this study non-probability sampling, which aims to be theoretically representative of the study population by maximizing the scope or range of variation of the study. Among the methods used under non-probability sampling the researcher shall use purposive sampling. (Kombo and Tromp 2009), purposive sampling is a method in which the researcher chooses a particular group of people knowledgeable about the study. It is also called the Judgmental sampling because of its characteristic of basing judgment on the researcher. (Bless and Achola, 1988) This is because the researcher had a target group that was reliable for the study. In this vein, the officer from Ministry of General Education shall be part of the respondents as he is directly deals with infrastructure and maintenance of schools. Headteachers were also part of the respondents as they are the custodians of schools. Teachers and parents were part of the implementers and interact with these facilities in one way or another. These respondents were part of a convenient sample for the study.

### **3.6 Data Collection Instruments**

Kombo and Tromp, (2005) define Data collection instruments are tools used in the gathering of information. This study used semi-structured interviews and observations. These are data collection methods that can be applied under qualitative research, (Merriam, 2009, Denscombe, 2010)

#### **Interviews**

Ngandu (2013), explains that there are two types of interviews that are semi-structured and structured interviews. Ngandu further explains that a semi-structured interview is a method of research used in the social sciences which has an advantage of flexibility as they comprise of both closed and open ended questions. Brewerton and Millward (2001) describe semi-structured interviews as an extremely flexible research tool, and further note that these kinds of interviews are generally easy to analyze, quantify, compare and provide a chance of supplying an in-depth understanding of a situation. This study used semi structured interviews because of their characteristic of according the leeway for respondents to provide answers in their own words. Questions and probing were also generated which helped in providing responses to particular topics and themes that emerged during the interview. (Burgess-Limerick 1998) In addition the flexibility in the nature of semi-structured interview questions provided a gate way for the reconstructions of questions which revealed other aspects of the study.

## **Observation**

Ngandu (2013), states that, observation is a research tool that provides information about the actual behaviour or situation. Merriam (2009), observes that observation differs from interviews in that the researcher obtains a first-hand account of the phenomenon of interest rather than relying on Someone else's interpretation. Therefore it helps one to understand more about what is going on. This research also used observation check list and schedules to enhance data collection. This helped to verify what was discussed during the interviews and also helped to get the true picture of the phenomenon under study. For example, first-hand information about the condition and practices of the school in relation to maintenance of infrastructure was communicated by merely looking. Photographs were also taken to confirm the data collected.

### **3.7 Data Collection Procedures**

Data collection refers to the gathering of information to answer research questions. In research, the term data collection refers to gathering of specific information aimed at proving or refuting some facts. (Ngandu 2013)

The researcher had prepared an interview schedule which had a list of questions to cover the interview with the respondents. (See Appendices number 1 to 5) Each group of respondents were to answer questions which had to be specifically prepared for them. That is for the Deputy of Standards under the infrastructure department MoGE, Headteachers, Teachers, parents and pupils. In addition, recording of the discussion and interviews was conducted to help out with the analysis.

### **3.8 Data Analysis**

Data Analysis refers to manipulation of the data collected for the purpose of drawing conclusions that reflect on the interests, ideas and theories that imitated the study. It also involves uncovering underlying structures, extracting important variables, detecting any variance and testing any underlying assumptions. All this is done in order to make and making deductions and inferences. (Ngandu 2013; Kothari, 2004)

Data was analyzed using thematic analysis, a method used in identifying, analyzing and reporting information in themes. The analysis was done according to the step-by-step six-stage process of thematic analysis. These are, familiarization, generation of initial codes, searching for themes, reviewing themes, defining and naming themes and producing the final

report. (Stake, 2013) Data transcribing was done as part of the familiarization stage.

Transcripts were carefully and thoroughly read and re-read after which initial coding and categorization of themes was done. Responses that were related through content and context were categorized, coded and merged as themes. This was continued until no new themes came up.

### **3.9 Trustworthiness**

Trustworthiness is criterion of how good a qualitative study is. (Lincoln and Guba, 1985:290) To be sure those findings are worth believing, trustworthiness has been divided into four categories which are Credibility, Transferability, Dependability and Conformability.

Credibility refers to the extent qualitative researchers can demonstrate that their data are accurate and appropriate. (Denscombe, 2010) The researcher used triangulation to ascertain the credibility of data. Triangulation involves the practice of viewing things from more than one perspective. (Denscombe, 2010; 346) This was done by using more than one method of collecting data which include, semi-structured interviews, observation, photographs and review of documents related to the study.

Conformability is concerned with ensuring that, while recognizing in social research can show to have acted in faith, it should be apparent that the researcher has not overly allowed personal values or theoretical inclinations manifestly to study the conduct of the research and findings deriving from it. (Bryman, 2004) In this study, follow ups were made by way of calling the participants whose contact numbers were available to the researcher during interview sessions. This was a means of making verifications and clarifications in bid to confirm adequacy.

Dependability refers to the way in which a research carried out in a way that maintains and reflects consistency across time researchers and analysis techniques. means for taking into account both factors of instability and factors of phenomenal or design included change. (Lincoln and Guba, 1985:299) The study attempted to ensure consistency by paying careful attention to every detail and following the study stage by stage and documentation accompanied each stage. To ensure a better understanding of the phenomenon under study the questions that were asked to the headteachers were also asked to the teachers.

### **3.10 Ethical Considerations**

“Ethics are generally considered to deal with beliefs about what is right or wrong, proper or improper, good or bad”, McMillan (2001) as cited in Mdakane (2016). During this study, approval and permission from the University of Zambia to carry out the study was sought as well as the office of the District Education Board Secretary. The participants were assured and granted anonymity. This is evidenced by the use of letters of the alphabet and not their original names. In addition participants were granted confidentiality both at the beginning and throughout the interview. Furthermore, participants who revealed sensitive information about the Administrators in relation to the study were protected. Assurance was given that the information was strictly for academic purposes. Arrangement of interviews was made prior to the actual day after consent was sought and a consent form was signed.

## **CHAPTER FOUR**

### **PRESENTATION OF FINDINGS**

#### **4.0 Overview**

This chapter presents findings of this study whose purpose was to explore strategies used and challenges encountered by Administrators in the maintenance of the condition of infrastructure and equipment in selected Public Primary Schools in Mumuni Zone in Lusaka District. The findings will be analyzed in the context of the stakeholder framework presented in Chapter 1, Specifically, Stakeholder theory. The study sought to achieve the following objectives; to establish the condition of school infrastructure and equipment in Public Primary Schools in Mumuni Zone; to determine the challenges encountered in the choice and implementation of the strategies used in the maintenance of school infrastructure and equipment in selected primary schools in Mumuni Zone and to identify the strategies used by school Administrators in the maintenance of school infrastructure and equipment in selected Public Primary Schools in Mumuni Zone.

To arrive at the objectives stated above, interviews were carried out and the respondents included; MoE official in charge of infrastructure maintenance, five Headteachers, five members of the maintenance committees from the five schools, five parents and 9 pupils through interviews guided by the researcher using the interview guide accordingly. For the purpose of anonymity, the schools are labelled: 'A', 'B', 'C', 'D' and 'E'. Findings are presented under the three main objectives highlighting the key emerging issues. Finally, a summary of emerging key themes is presented.

#### **4.1 Setting the Context**

In order to have a meaningful interpretation of the data, a stakeholder analysis was conducted for Mumuni Zone Schools. From the stakeholder analysis below, it is apparent that failure to maintain school infrastructure would have devastating effects on the teachers, pupils, parents and the local community in this zone and the public at large. As noted by Johnson et al, (2009), positioning an organisation's strategy, needs consideration of the environment, strategic capability, stakeholder expectations and how these influence the purposes, in this case delivery of quality education through maintenance of infrastructure and equipment Below is the Stakeholder analysis for Mumuni Zone;

## 4.2 Stakeholder Analysis Mumuni Zone

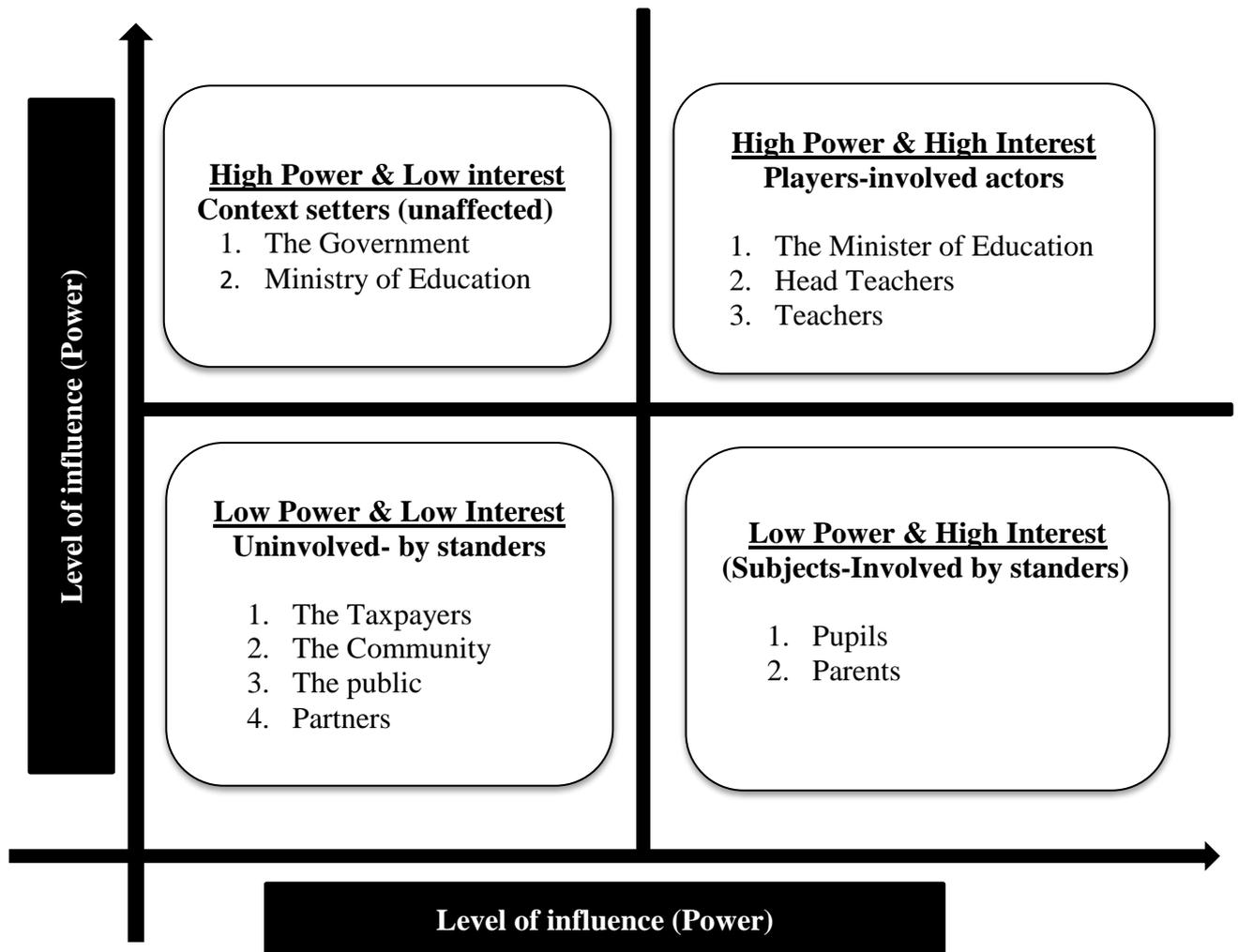


Figure 2 Stakeholder Analysis of Mumuni Zone

From the Stakeholder analysis, it is clear that Ministry of Education are the context setters, they set the policies which are used by Headteachers to run the particular school. In this regard, they have high power in setting the agenda for maintenance as well as providing financial resources. However, MoGE has little interest in actually implementing, but this is delegated to the Headteachers. The involved actors the teachers and other people such as parents.

## 4.3 The condition of school infrastructure and equipment in Mumuni Zone

Findings under this question revealed considerable dissatisfaction with the condition of their school infrastructure and equipment in several ways. In two of the five case studies, there

were broken desks left in piles stack away with no plans to carry out repairs or to get rid of the accumulating garbage. School 'A', 'E' and 'C' had no visible broken desks or frames. One out of the five schools had dilapidated walls which had not seen a leak of paint in many years while in 4 of the cases, the equipment in departments such as Home Economics were dilapidated and no longer in use. The table below shows the summary of the condition of infrastructure and equipment in the schools.

The condition of the 5 schools that were sampled is presented in figure 3 below as observed and figure 4 the rating scale by the researcher.

School	A	B	C	D	E
Windows	3	2	3	5	3
Doors	3	2	3	3	3
Desks	3	3	3	5	3
Walls	3	2	3	3	3
H.E equipment	3	2	2	5	2
D.T equipment	3	3	-	2	-

Figure 3: Conditions of School Infrastructure and Equipment

1	2	3	4	5
Excellent	Very Good	Good	Satisfactory	Poor

Figure 4: Rating Scale

From the table above, the conditions of infrastructure and equipment varied from school to school. In some instances a school would have good state of the windows but broken and insufficient desks. While others, would have, good windows but insufficient desks, and ununlockable doors. However, among the population participants from 2 schools expressed concern at the condition and the inadequate number of desks in the classrooms. Though some schools had no broken desks, the teachers looked forward to receiving new desks for the classrooms because they are short. This was a concern raised by participants in all the 5 schools. Though the schools had well painted walls, there was a concern from the teachers and parents to have classrooms painted in the interior as much attention was being paid to the exterior part of the classrooms at one of the schools.

The schools have been divided by MoGE in terms of practical subjects offered. Among the five schools visited only three offered Design and Technology. The condition of equipment was in a very good state. This is in line with the implementation of the new curriculum. Government had just given out new equipment to the Design and Technology Departments in the zone. The five schools had Home Economics Department but all the schools expressed concern at the condition of the utensils and stoves. This scenario was expressed by one teacher; who lamented saying,

*“some of the utensils are not in a good condition. They have been used for such a long time that they became worn out and had since been disposed off creating a shortage.”*

There is a certain element of negligence in the maintenance of infrastructure and equipment, which has led to the deterioration of the equipment in some schools. As such the condition of utensils and other types of equipment in the five schools that are offering Home Economics neither support quality education nor the newly introduced two tier curriculum which supports skill acquisition.

#### **4.3.1 The impact of lack of infrastructure maintenance on the school as a learning environment**

Given the above condition, there are emerging issue. These will be analysed accordingly under the two points; the impact of lack of infrastructure maintenance on the school learning environment and the implication of the poor condition of school infrastructure.

Findings reveal some resultant issues which impact on learning and the sustainability of the teaching learning process. Lack of maintenance of infrastructure and equipment for instance the desks, has a negative impact on the effective learning environment. In this case the findings reveal that, on average in at least one of the schools, the ratio of desks to pupils was 1:3 per desk at grades 8 and 9 level and 1:4 pupils at primary level. This is likely to result in loss of concentration on the part of the pupils as they are squeezed on the desks and so uncomfortable and could not learn properly.

In addition, there is loss of quality teaching time as some of it is spent on fighting for the few desks. The few resources also cause the learners to engage in unruly behaviour, bullying and harassment as they take advantage of the situation.

This is evidenced by this statement made by one of the pupils;

*“sitting in threes on one desk is causing a lot of discomfort, and we are squeezed and cannot write properly. Sometimes I even fail to concentrate especially in the hot season. The school should buy us new desks”* Later she stated that the boys are fond of bullying the girls.

At one of the five schools no care was given to the proper storage of broken furniture creating a hazardous situation for pupils as they were just lying about in the school premises. Among the Stakeholders, pupils have very low power to influence such a phenomenon,

This is evident in the photographs below.



Picture 1: Some desks stacked on the roof top and in a classroom

The other aspect includes the condition of stoves and utensils in the H.E department causing teachers to abandon practical lessons and concentrate more on theory work. During the practical examination they resorted to using braziers even during the practical part of the examination even for baking. This altered the results especially for the baked products.

#### **4.3.2 The implications of the poor conditions of school infrastructure**

The implication of the condition of infrastructure and equipment, leads to teachers being frustrated as they do not have much power to influence the situation. This is evidenced by this statement made by a particular teacher;

*“at the beginning of every session at least ten to fifteen minutes is lost as the learners scramble for desks from the classrooms where they are available. This is very frustrating.”*

Such situations may lead to teacher attrition. This means teachers leaving to look for school where there is better infrastructure and equipment to enable them to flourish. The findings above actually show that the lack of adequate learning facilities is impacting negatively on the learning outcomes. The learners are not happy about their experience in the environment. Indeed, such situations have led to mushrooming of private schools providing better infrastructure and learning environment. However, not every common parent can afford to pay for private education for their children.

#### **4.4 Challenges encountered by School Administrators in the implementation of maintenance strategies**

Research question two sought to identify the challenges School Administrators encountered in the choice and implementation of strategies used in the maintenance of school infrastructure and equipment in selected Public Primary Schools in Mumuni Zone in Lusaka District.

##### **4.4.1 Lack of funding**

Findings indicate several emerging issues. It was evident that schools needed funds to implement the maintenance process and this is what posed the greatest challenge. Headteachers and teachers alike from the five schools echoed the lack of funds as the major constraint.

*“there is no maintenance work that could take place without money and this is the greatest challenge.(Head Teacher School A)*

In effect, the pupils in primary schools are not required to pay school fund in line with the Education for All policy as free primary education requires. However, both the Headteachers and officer in charge of maintenance at the MoE explained that, parents of grade eight and nine classes at Schools A, B, C, D and E are required to contribute to school fund, part of which must go to maintenance programmes. Although this arrangement is in place, the funds are not adequate because not all parents are keen to pay the school fund. Additional contributing factors to this inadequate fund situation can be political as evidenced in the quotation below:

*“Sometimes politicians go to the extent of appearing on public media and*

*cautioning Head Teachers not turn away pupils from school who have not paid their school fees, this has really affected the availability of the much needed income in the school”*

There are challenges as regards reinforcing this payment of school fund mainly as parents know that whether they pay or not their child will continue learning. However, even when these funds are finally collected, they are so inadequate that they cannot cater for all the needs of the schools. There is need to sensitize parents as they are stakeholders who are directly involved in education and can do a lot to take it forward.

#### **4.4.2 The impact of negative attitudes towards the physical learning environment**

Findings indicate that negative attitude towards the physical learning environment is another key challenge in school infrastructure maintenance. This factor may be explained by the backgrounds of the individual- pupils, teachers and administrators. For the learners, it could be that they may be coming from homes, or committees where good and upright morals are not taught as a priority. However one teacher blamed the coming of children’s rights which have stripped off some considerable amount of power in as far as instilling discipline in the learners is concerned. While teachers tend to adopt negative attitudes from society and the negative attitude of administrators, it can also come with the influence from colleagues who do not understand their role as stakeholders in maintaining school infrastructure and equipment. There is need to educate Teachers on their other responsibilities apart from academic ones.

#### **4.4.3 Lack of School Maintenance Policy.**

There seems to be a lack of School Maintenance Policy in some schools. Though schools had Maintenance Committees in place, one teacher in charge of Preventive Maintenance stated that,

*“Lack of school policy on maintenance in the school has made it difficult to plan and work on maintenance programmes. Therefore we often work in isolation. The school has no direction in as far as maintenance work its concerned”.*

These comments show a lack of support from one of the major stakeholders, the Ministry of Education, who have the authority to direct the Headteachers, who work with teachers and pupils and also should persuade parents to support maintenance programmes in schools. Some

heads of schools appear to have no initiative to plan strategies in as far as maintenance work is concerned. In addition both the Headteachers and teachers, denied ever attending any workshop on maintenance of school infrastructure and equipment. This could be one of the contributing factors to the poor situation in some schools with regard to maintenance programmes which impacted negatively on teaching and learning.

#### **4.4.4 Vandalism**

Vandalism was also another challenge that was highlighted in the findings. It appears there is no sense of ownership for the school infrastructure and lack of respect for school property by the pupils and teachers who use the buildings. As some doors had no locks in most schools, the public took advantage; one teacher noted that “*over the weekend some individuals went to the extent of using the classrooms as toilets*”. This is a health hazard; it exposes the pupils to diseases which could result from unhealthy human waste disposal. While this can be attributed to lack of security in the schools, these unreasonable actions of defecating in classrooms is a question of lack of societal values and a lack of sense of ownership of the facilities. Perhaps sensitization on the idea of the school as community property needs to be addressed not only among pupils and parents but also among the general public.

#### **4.5 Strategies used by the School Administrators to maintain infrastructure and equipment**

Findings show that there are 4 main strategies currently being used by the School Administrators to maintain infrastructure and equipment in Mumuni Zone in Lusaka District.

##### **4.5.1 Fundraising**

Findings highlighted the creativity of some school Headteachers. As earlier noted, the government has inadequate financial resources to support the maintenance of school infrastructure and equipment. In addition, learners in Public Primary Schools in Zambia, as earlier mentioned do not pay school fees which may assist in maintenance programmes. Although these kinds of school have grades eight and nine classes they have too few pupils as compared to the whole primary section, therefore their contribution is minimal compared to the maintenance needs of the whole school.

The Headteacher as a major stakeholder must use their initiative to ensure to raise sufficient funds for school maintenance, thereby providing an enabling environment for quality education. The MoGE officer in charge of maintenance explained that:

*the School Administrator who is at the school level knows what the school*

*requires, therefore it is his or her responsibility to write to the District Education Board Secretary's Office for permission, to raise funds for the purpose of maintenance work at his or her school..*

It follows that as there is a clear laid down policy and procedure regarding fundraising activities for infrastructure maintenance, there is no reason why some Headteachers do not concern themselves with proper maintenance of their school and equipment. Indeed, there is evidence to show that in schools where the administrators have come up with fund raising initiatives; the P.T.A has cooperated in supporting their school. For example, one teacher narrated how they organized a fundraising luncheon which turned out to be very successful in raising funds. He said, *"the parents were very instrumental in the selling of tickets"*. One of the Headteachers appreciated the support from the parents at their school. In schools where these fundraising initiatives have been successful, parents as stakeholders have been instrumental in connecting schools to numerous significant people with resources to assist the school maintenance programmes. One Teacher was in agreement with what the Headteacher at School 'A' had said and cited the following example,

*Parents are very helpful, I remember how the P.T.A supported the school and worked in collaboration with management in raising funds for replacing the improvised window frames with the metal ones in one of the classroom blocks.*

The Headteacher at School 'A' concluded by commenting that, *"Parents are good organizers who also love team work"*. In all the examples above, it is clear that parents who understand their role as stakeholders in providing a clean and safe learning environment for their children are able to support school fundraising initiatives. Headteachers as school leaders do have a key role to play in engaging parents as stakeholders in their maintenance work. For example: One parent pointed out that

*"the co-operation of parents is largely dependent on the way the one in the office carries himself or herself and how one relates with them"*.

This suggests the ability of the Headteacher as one of the major stakeholders to build healthy relationships that will help to influence others to support the school programmes. It is not good enough that MoGE has policies in place, Headteachers need to be proactive in their role as custodians of the interest of schools.

#### **4.5.2 Sensitisation**

Another strategy used by school administrators is sensitisation and discipline of learners as stakeholders on the importance of looking after school infrastructure and equipment. This was noted by one of the Headteachers who for schools A and E as follows:

*“there was need to sensitise the pupils on the importance of maintaining of good infrastructure and equipment. That is to create and maintain an enabling and sustainable school environment that enhances teaching and learning. Therefore learners should not only think of themselves but must be aware of the future generations.”*

The quotation shows that the Headteacher acknowledges the role of pupils as important stakeholders in the sustainability of school infrastructure for use of future generations. Apart from just telling them to take care of the school infrastructure, there are also penalties for damaging school property. The Headteachers added that; *‘pupils should not be sensitised but should be made to follow rules and regulations’*, these are vital for their moral development and education. Two of the five schools showed evidence of strict rules as regards learners who damage school property.

One of the measures put in place included repairing the broken items before a pupil could be allowed back in class. The Headteachers believed that this application of penalties had helped pupils to be more cautious about the way they conduct themselves at school. It is important that other stakeholders such as parents also should be made aware of the need to work as partners in providing for education. They can do this by educating their children at home on the importance of the value of taking good care of property. This will help to cultivate good habits of property maintenance even at home.

#### **4.5.3 Partnership**

Partnering with organisations or the community to maintain school infrastructure was also seen as another effective strategy. For example, school B partnered with a local church that usually rents the school Hall for church services, to have the school buildings painted. The church did not only help in sourcing for paint but also provided labour, while the correctional service fixed the desks for the school at a much cheaper price. In addition, a memorandum of understanding with Airtel was signed in order for the company to mount a tower at the school as a source of income by renting the area where the tower was installed. There are also examples from other three of the sampled schools receiving donations from parents, business

houses and well-wishers who gave donations to the school. One of them, School received a donation of two stoves from Lotto Company. However it is important for the Administrators as involved actors with high power and interest, to build healthy relationships if they are to score success in this venture .

#### **4.5.4 Local Manpower**

Schools engage local manpower in maintaining infrastructure and equipment. This is evidenced by one Headteacher who explained that, *“sometimes the repair of desks is done by the Teachers and pupils from the Design and Technology Department”* Doing so helps learners to develop a sense of belonging and also imparts in them the sense of responsibility and independence.

#### **Summary**

The chapter presents findings of the study which helped the researcher to establish whether the objectives of the study were achieved or not .The findings revealed that the conditions in some of the sampled schools were not up to the expected standard. The researcher observed that some schools had broken windows, ununlockable classroom doors inadequate desks and equipment at the H.E Department. Challenges included lack of funds, negative attitudes to maintenance by staff and pupils, and vandalism. Findings also showed that most school Headteachers had embarked on a number of Strategies in the maintenance of infrastructure and equipment included influencing parents to contribute funds towards maintenance of the school. Fundraising ventures and rules and soliciting for funds from the business houses.

There are a number of emerging issues in this chapter. These shall be discussed under the following key themes which include; Infrastructure and equipment as key in the provision of quality in education; Leadership qualities; Lack of will power by government.and the Administrator as a creative entrepreneur in chapter five.

## **CHAPTER 5**

### **DISCUSSION OF THE RESEARCH FINDINGS**

#### **5.0 Overview**

The chapter discusses the research findings of the study in the context of the relevant literature. The study aimed at exploring the strategies used and challenges encountered by Administrators in the maintenance of condition of infrastructure and equipment in selected Public Primary Schools in Mumuni Zone in Lusaka District. A multiple case study approach using an interpretivist paradigm was adopted. In order to establish the strategies used, the study sought to establish the condition of the infrastructure and equipment in the sample schools as well as challenges faced by School Administrators. To start this discussion, we first establish the context of research, this is followed by the discussion of the condition of the infrastructure and equipment followed by challenges encountered by Administrators in the choice and implementation of strategies then a discussion on the strategies will follow.

#### **5.1 The Context of Research**

The research adopted the stakeholder theory as the theoretical framework. This entails gaining an understanding of the context of research for a meaningful discussion. According to Bush (2011), context is regarded as increasingly important for school leadership. The schools under investigation in this research are managed by the Ministry of Education (MoE). From the perspective of the stakeholder theory, MoGE is an important contributor, they are context setters, they provide the infrastructure, funding of ancillary work in schools and they pay teachers' salaries, as well as formulate policies which guide the operations of the schools including infrastructure and equipment maintenance. The Ministry has a hierarchical setting in terms of administration and management. Hierarchies include: Headquarters (National level), the provincial, district and school levels. Funding is first received by the headquarters from the Ministry of Finance and then it is distributed to provinces who in turn distribute to the districts and finally the schools. Therefore, the School Administrators operate in a very hierarchical and bureaucratic environment which not only delays implementation of plans but may also have rigidity which may hinder maintenance projects.

Hierarchical culture is regarded as having the most control over its employees. (Cameron & Quinn, 1999) In addition, it is seen as a strong culture due to the high centralization and formalization of its structure. (Martins & Martins, 2003) Ministry of Education has a very formalised culture. Although formally centralised, there has been decentralisation and

restructuring of the organisational structure in MoGE as a government ministry. However, the decentralisation has not reached a fully operational state. For example in accessing maintenance funds, Headteachers have to go to DEBS who in turn has to seek approval from the provincial office. It appears the policy regarding accessing maintenance funds through the DEBS has not been cascaded down the hierarchy as School Administrators in this study expressed ignorance of the availability of this policy. Indeed, this shows the downside of hierarchical structures which are characteristic of rigidity, and lack of much freedom for its employees. (Richard, McMillan-Capehart, Bhuian, & Taylor, 2009) Lack of freedom may lead to lack of creativity in sourcing funds for infrastructure. Within a hierarchical structure, there is disproportional distribution of authority and power which is epitomised through this culture's restriction of the level of communications among employees. (Friebel & Raith, 2004) Restricted communication restricts cascading relevant information and organisational policy down to the lower stratum of MoE that is School heads and teachers.

## **5.2 Infrastructure and equipment as key in the provision of quality learning and Teaching**

Several points can be advanced as regards the impact of poor school infrastructure and equipment on the quality of learning and teaching. There are three main points which can be used to elaborate this theme further in the context of the existing literature.

### **5.2.1 Poor school infrastructure and equipment disables quality learning**

Lack of good infrastructure and equipment results in poor quality learning and teaching as the evaluation of the current condition of school infrastructure and equipment, the present research established. Although some efforts are being made, the state of school facilities and equipment is negatively impacting learning. Though, the UN has identified lack of quality education as being caused by lack of adequately trained teachers and poor conditions of schools contribute more to this negative effect among other issues. (UN, 2018) Indeed, previous studies have identified the importance of school infrastructure and instructional materials as critical in the attainment of quality learning. For example, earlier research has shown that adequate use of instructional materials increases student's academic achievements (Adebule, 2009; Fakomogbon, 2012; Isola *et al.*, 2011). However, the current study shows lack of textbooks for pupils due to poor management and lack of diligence on the part of the Headteacher. There were also deficiencies in the number of desks available to the learners on the same account and classrooms were not secure owing to broken doors, in other cases, the necessary equipment and the utensils in Home Economics department for classes. For what was available was too old and broken.

As noted by Ibrahim et al, (2017), Instructional materials are the working tools (e.g. teaching aids and textbooks) required in schools that enable effective teaching and learning, ensuring high-quality education. Absence of the necessary teaching equipment can dilute the quality of teaching and learning. Indeed, further research has shown that the availability of both infrastructure and instructional materials has a great impact on teacher's effectiveness as well as students' academic achievement which could further result in the attainment of quality education (Ayeni and Adelabu, 2012; Asiyai, 2012). As evidenced in the findings, the lack of adequate learning facilities is impacting on the learning environment and learning outcomes.

### **5.2.2 The poor condition of schools leaves teachers frustrated**

Lack of teaching materials and equipment necessary for teaching and learning discourages teachers in their effort to provide quality teaching and learning. As noted by Ibrahim et al, (2017), the teachers as stakeholders in the education process, have the responsibility of structuring the learning environment and they are key causal drivers of a student's achievement. Ibrahim et al, (2017) noted that it is not enough to have highly competent teachers in the provision of quality education, but physical elements comprising quality school facilities, enable interaction between the school infrastructure and other quality dimensions as well to take place.

### **5.2.3 Poor quality conditions can lead to unruly behaviour among pupils**

In some cases, the learners were not happy about their experience of the learning environment due to inadequate facilities such as desks which have a pupil shared in the ratio of 1:4 at primary level and 1:3 in grades eight and nine classes. Clearly this leads to poor quality learning as pupils are uncomfortable and unable to concentrate in class. Fighting for resources has also led to bullying and harassment. According to Ibrahim et al, (2017), quality education enables students to develop good moral attitudes that facilitate becoming good ambassadors, in addition to accumulating high life earnings. In this interpretation, quality education is viewed as that kind of education that as far as possible meets learner's needs and that of their families, while also impacting the society constructively.

The variations in the condition of infrastructure and equipment in the sample schools is an indication of the quality of relationship among the stakeholders. According to Bush and Glover (2016), the School Administrator's role includes but not limited to ensuring the best possible resource achievement, allocation and evaluation, and the security of the site and property. In this vein, infrastructure management and ensuring a safe learning environment is

an important part of school administration. Indeed, the processes identified by Bush and Glover (2016) above are a necessity as they support the provision of quality teaching and learning.

Educating Our Future (GRZ, 1996), Zambia's education policy document, states that teaching and learning are impacted by the personal health of members of a school community, while school activities and what is learnt can also be powerful factors that influence in promoting the health and wellbeing of pupils. Further, The Zambia Environmental Management Act (2011) also states that

*'the right to clean, safe and healthy environment shall include the right of access to the various elements of the environment for recreational, educational, health, spiritual, cultural and economic purposes.'*

Clearly, this statement points to the, criticality of a safe and healthy learning environment, for the betterment of education. Unfortunately, some of the schools in this research do not seem to place safety first making the learning environment unsafe for the pupils, as noted earlier in the previous account where the School Administration left broken furniture lying about or stack away heaped in the school grounds.

### **5.3 Leadership qualities.**

This theme shall be elaborated under three points .It is the acquisition of knowledge that enhances leadership qualities and empowers a leader to act accordingly.

#### **5.3.1 Lack of knowledge of necessary policies and procedures provided by MoGE**

Knowledge is a vital ingredient in all managerial responsibilities. However, the current study revealed that some administrators lacked the knowledge on the scope and responsibilities of their position. To be precise many do not know that maintenance of school infrastructure and equipment is part and parcel of management function therefore is not accorded the priority status it deserves as evidenced by the rating of conditions of some schools sampled during the course of the study. When broken or damaged infrastructure and deteriorating equipment is left unattended to, the end result tends to negatively affect not only the teaching, learning process but also the health and safety of the learners. For instance some previous studies have shown that, in schools where maintenance has not been prioritized, the academic performance of the learners has negatively been impacted on. (Ifeoma, 2012; Mokaya, 2013).

The revelations resonated with the findings of a study conducted by Xhaba (2011), in South Africa. The study looked into the attitudes and practices in 12 schools which comprised both primary and secondary schools. His research involved evaluating the responsibility of School Administrators in maintaining school grounds, buildings and equipment. It revealed that Administrators generally did not have knowledge of the maintenance of infrastructure and equipment. The conclusion was that maintenance of infrastructure and equipment was not being accorded the attention it deserves and yet a lot is being done to improve the academic aspect of the work of the school. At this point it is important to mention that Administrators need to strike a balance on their numerous responsibilities if they are to succeed. This can be done once they are equipped with the knowledge of the policies and guidelines of the Ministry of Education.

### **5.3.2 Lack of Training the key enabler in infrastructure maintenance.**

Ministry of Education as context setters, who are tasked with the responsibility of formulating policies to be used in the running of schools by Administrators, are also key stakeholders. Therefore, they must set the stage by ensuring that policies and guidelines that can enhance the maintenance process are not just formulated and made available but also communicated to the School Administrators through in-service training. (MoE 1996, 2015) This can be done at various forums the same way it is done when it comes to academic purposes. This can be done by holding workshops, seminars and issuing circulars on maintenance. (Ikoya and Onoyase, 2008)

Once Administrators are empowered with knowledge they will be able to mobilize and lead others with confidence. In addition, a platform for obtaining other stakeholders input (financial, material and human resource expertise for various maintenance works) will be created. Administrators will find the opportunity to share the vision and allow other stakeholders to buy in it. Burns (2011), explains that the collaborative approaches allows leaders to develop a shared vision and commitment, thus maximize capability among stakeholders.

Therefore, there is need to build a team for programmes to work out otherwise if Administrators take on so many the vision may fail. There is also need to delegate tasks to others. In this a leader should not look at pupils, teachers, parents and the rest of the community as mere people but as stakeholders and a pool of knowledge, experiences and ideas that would take the school forward in as far as coming up with strategies of maintaining

school infrastructure and caring for equipment is concerned. In this vein, school Administrators can involve stakeholders such as parents through the P.T.A in the implementation of policies. However the maintenance programmes should be a responsibility of the maintenance committees that are already in existence in schools as evidenced by the findings of the current study, while the MoE, shall monitor maintenance programmes in Public Primary Schools by carrying out regular inspection visits to schools. This would help to ensure that what is happening on the ground is in line with the aim of education. However it was revealed that inspection was more inclined to the academic aspect.

### **5.3.3 Lack of School Maintenance Culture.**

It is worth mentioning that maintenance of school infrastructure and equipment can only be sustained if School Administrators cultivate a Maintenance Culture. This could be directed by a maintenance policy that if put in place, would create a platform upon which good morals could be inculcated in the stakeholders through sensitization. This would also help to curb vandalism and promote the enhancement of not only maintenance but also sustenance of school infrastructure and equipment. Maintenance Culture does not only allow for the development of a sense of belonging and responsibility as evidenced from literature but also help in the development of positive attitudes which facilitate the collaboration of efforts in advancing the works of the maintenance committees. (Yusuf et al, 2012) It further brings together all stakeholders whose efforts result in the attainment and upholding of value in this case, quality education. There may be no profit to share but once quality education is attained all stakeholders would benefit in one way or another. For instance quality education once attained has the capacity of improving the social and economic status of not only the stakeholders but society at large.

## **5.4 Lack of will power by Government**

This theme means government's input in the school maintenance programmes. The lack of will power shall be elaborated further through the following point.

### **5.4.1 Provision of Resources (financial)**

Having put policies and guidelines in place in relation to infrastructure and equipment maintenance, calls for government's involvement to ensure that these policies and guidelines come to fruition. However, for this to happen, the government must ensure that the required resources are made available and accessible to school Administrators. These include financial, material and human resources. Nonetheless, the current study established that, there is little

support from government in terms of resource provision in line with maintenance of infrastructure and equipment. This is unfortunate because as it stands government has high power of influence as stakeholder in the provision of quality education.

Although Administrators are expected to carry out maintenance works using part of the fund that parents pay for their children, and also by using part of the grant money that the schools receive from government, they have faced a number of challenges in striving to provide quality education. The school fund from the parents trickles into the school as government allows pupils to attend class even without making the payments. In addition the grant as is evidenced from the findings is not only released late but it is also inadequate. Both the school fund and government grant fail to meet the needs of the school. This poses a great challenge to School Administrators who wish to use part of the money for maintenance of school infrastructure and equipment.

In addition budget restrictions have also contributed to inadequate maintenance of school infrastructure and equipment. For instance, Zambia National Education Coalition (ZANEC) (2018), records that from 2015 funding to Education and skills sector has been on the downward trend as indicated by the following figures; 2015 (20.2%) 2016 (17.2%), 2017 (16.5%) and 2018 (16.1%). This study does not only reveal the poor condition of infrastructure, equipment and other learning materials but also the shortage. It further reveals the result of lack of government input as the major stakeholder in the provision of quality education. It is therefore important that government improves on funding to the sector as this leads to better infrastructure and equipment which later have a positive impact on the provision of quality education.

### **5.5.2 Support by provision of teaching learning material and equipment.**

Apart from the fact that government must consider increasing funding to Primary schools, and making it regularly available there is need to ensure that educational equipment such as desks, cupboards, stoves and text books are provided at regular periods. As infrastructure and equipment age with time, it is the responsibility of those who use the facilities to put measures in place and ensure that they are kept in useable condition. This can be done by repairing and replacing those that are worn out. However, while this may be true to some extent, replacing some of this equipment such as desks may be a great challenge for primary school Administrators due to the financial status earlier stated. Therefore government as the major stakeholder and context setters must from time to time ensure that school equipment

that enhances quality education in provided.

## **5.5 The Administrator as a Creative Entrepreneur**

This theme shall be elaborated further in two or more points.

### **5.5.1 Application of initiative in strategy formulation.**

It is of great importance that the School Administrator is well aware of the position that they hold as the responsibility of attaining educational goals and objectives lies with them, and one of the responsibilities is the maintenance of school infrastructure and equipment. This gives meaning to Education and provides a sustainable learning environment. While It is a well-known fact that the Zambian government does not provide funds specifically for maintenance of infrastructure and equipment. The Education Act of 2011 coupled with the principles of liberalization and partnership (MoE, 1996) requires School Administrators to use their initiative in coming up with a number of strategies to meet the need for maintaining schools and equipment as evidenced by the findings of the study. The recognition of stakeholders has also enhanced the sharing of ideas experiences and knowledge which has advanced the core business of education. Some of these strategies according to the study include fundraising, partnership with the business houses and faith based organisations.

The fundraising strategy has mostly been used to secure funds for maintenance in Public Primary Schools. These varied from one school to another though some were common in two or all the schools. Fund raising activities include renting out of classrooms to other learning institutions and organisations such as Universities and churches. Other ventures include careers day for the learner, poultry keeping and setting up of a car wash. The money raised is used for maintenance work such as repairing of desks and the painting of walls. All these fundraising activities fall in the strategy of financing maintenance as revealed in the literature. (Yusuf et al, 2012)

However, it was observed that although MoE (2015), has outlined a number of guidelines pertaining to the raising of funds by making good use of school facilities in relation to maintenance in schools, very little is being implemented by Administrators in Public Primary Schools. For instance, the H.E and other facilities in the school such as the tuck-shop are not being utilized according to the stipulated guidelines. For example Administrators could get into partnership with some business houses that would supply the school tuck shop with essential commodities that the school community requires. While the H.E department, can be

preparing snacks for sale to the school community. Nonetheless it is worth stating that some Administrators are doing a commendable job by using their initiative and coming up with fundraising activities which include; poultry and car wash among others as indicated ear

However, it is important to understand that to be successful in these endeavors, Administrators must be driven by the common interest among the stakeholders as this provides a conducive atmosphere that enables them to move in one direction in creating value which enhances the attainment of collaborative advantage. (Freeman 1984, 2000, 2012) For the sustainability of infrastructure and equipment, they need to continue using their initiative in coming up with creative ideas that will help to sustain the school as an enterprise whose core business is to provide quality education. In addition there is need to develop mutual trust, honesty and reliability not forgetting open communication among stakeholders. (Freeman, 1994)

Most of all, whatever activity is embarked on, it must be borne in mind that the school should not depart from the good and outstanding academic performance of the learners as it is the core business and all activities must be directed towards achieving this and ensuring that the school remains marketable in as far as attaining quality education is concerned.

### **Summary**

The chapter discussed the findings which have been categorized in four Key themes which are; Infrastructure and equipment as key in the provision of quality learning; Leadership qualities; Knowledge as a key enabler of in infrastructure maintenance; Lack of will power by government and lastly; the Administrator as a creative entrepreneur. The next chapter looks at the conclusion and recommendations.

## **CHAPTER SIX**

### **CONCLUSION AND RECOMMENDATIONS**

#### **6.0 Overview**

The study aimed at exploring the strategies used and challenges encountered by Administrators in the maintenance of conditions of infrastructure and equipment in selected Public Primary Schools in Mumuni Zone of Lusaka District. The study was done in line with governments' limited financial resources. Having discussed the findings in the previous chapter, conclusions shall be drawn and recommendations made in this chapter.

#### **6.1 Conclusion**

The Study was an exploration of strategies used by school Administrators in maintaining infrastructure and equipment in view of government limited financial resources .The summary of the main findings are presented below guided by the research questions.

##### **6.1.1 Conditions of school infrastructure and equipment**

There was not much in the extant literature as regards studies in Zambian schools which reported on the condition of the infrastructure. Therefore, the researcher took a step of carrying out primary research through an on-spot observation by visiting the selected schools physically. Hence visits to the selected schools revealed that most schools were not in the expected and desired condition suitable for the teaching learning process.

It was revealed that some schools had inadequate desks for the learners, while in others some desks were broken or in bad shape causing a shortage and challenges to pupils in their sitting arrangement. The windows in some of the selected Public Primary Schools had been vandalized or glass panes broken due to accidents and natural causes such as the wind. The sad part in one of the schools was that no steps had been taken to repair or replace the broken glass panes, hence the dilapidated condition. The doors in some schools had no locks; this meant that classrooms remained unlocked both during the day and night time. This was also the case for cupboards in some schools. As discussed, this made the teachers feel uncomfortable in as far as storage of books and other school apparatus was concerned .There was no dependable secure storage.

Findings further revealed that departments of Design and Technology, and Home Economics in particular were not adequately stocked with utensils while the utensils in use were quite

old. All the five schools that were sampled had been given the responsibility to offer Home Economic. In all these schools, teachers expressed concern at the condition of stoves which were not fully operational leaving the teachers with no option but to use braziers for both cooking and baking during the practical part of the grade nine examinations. Findings from the Secondary data revealed that the minimum prescribed standards and guidelines by which educators must strive to meet the basic benchmarks and go beyond them in an effort to continuously improve the quality of education have been clearly outlined (MOE ,2015). In this vein, the workshops, Home Economics and other institutional facilities have been granted a go ahead, in raising funds that can be utilized for school maintenance programmes

Although the Ministry of Education has documented ways or systems for the use of school facilities to raise additional funds (apart from the school fees that pupils pay) to enhance infrastructure and equipment maintenance, most of the School Administrators have not utilized the tuck shops and Home Economics departments to this effect. It appears that they lack such knowledge that can enhance the school environment or they may not be keen in exploring more about their responsibilities either by enquiry or through reading. The condition of school infrastructure and equipment contributes greatly to the outcome and character of the school leaver as the quality of education being offered depends largely on this aspect of the school hence, School Administrators need to pay particular attention to it.

### **6.1.2 Challenges encountered by School Administrators in the choice and implementation of maintenance strategies**

Challenges encountered by School Administrators in the choice and implementation of strategies used in the maintenance of infrastructure and equipment. The study revealed that although schools had maintenance committees in place, they lacked a school policy to guide their day to day maintenance activities. Hence these committees worked as the situation dictated to them despite having guidelines clearly outlined in the Ministry of Education (2015). This can be attributed to a lack of passion, initiative and pro-activeness among some Administrators. In addition the lack of communication and co-ordination among the School Administrators and the Ministry of Education was another challenge which negatively affected co-ordination between the School Administrators and the teachers.

The study further revealed that there had been no workshops held in line with maintenance of infrastructure and equipment in schools. Most of the workshops had focused on pedagogical skills and curriculum development. This showed that knowledge and experience sharing were

limited to academic purposes which left out the part on infrastructure and equipment maintenance. Quality education which is goal four of the SDGs and also among the 17 important areas that would help in promoting life-long learning as a means of eradicating poverty, cannot be achieved by curriculum development and the enhancement of pedagogical skills alone but also by ensuring that, infrastructure and equipment are in good condition as they facilitate the teaching and learning process. It is therefore important that Administrators pay particular attention to all aspects that contribute to the attainment of quality education , maintenance of infrastructure and equipment included.

The study revealed two contrasting styles of management. The first type was one which revealed total absence of supervision and coordination of the activities, involving the use of infrastructure and equipment resulting in as atmosphere of chaos. The second style of leadership that portrays concern and a sense of responsibility with practical organizational abilities, resulting in an enabling and conducive teaching and learning environment. Such helps to maintain high morale in both teachers and pupils.

### **6.1.3 Strategies used by Administrators in the maintenance of infrastructure and equipment**

The strategies used by School Administrators in the maintenance of school infrastructure and equipment in selected primary schools. In this regard, it could be concluded that, there is a level of awakening in the quest to maintain school infrastructure and equipment. As revealed by the study, various strategies have been put in place by School Administrators which include fundraising activities, partnership with organisations (business and faith based), sensitization of pupils, use of school equipment and resources for instance the use of equipment in the Design and Technology Workshop to repair desks.

School Administrators must familiarize themselves with the Ministry of Education Standards and Evaluation Guidelines on preventive maintenance in programmes. These will not only help in the planning process but also in the implementation, monitoring and evaluation of infrastructure and equipment maintenance programmes in the schools. They must also encourage the participation of not only pupils but teachers, parents and the community as the success of the system depends on their cooperation as stakeholders.

## **6.2 Recommendations**

The recommendations shall be based on the conclusions drawn from the study.

1. Ministry of General Education must consider, creating a post at District level of Standard

Officer to be in charge of infrastructure and equipment maintenance, whose work should include looking at conditions of buildings and equipment and supply of teaching materials.

2. The Ministry of Education should Re-introduce workshops on maintenance to be held once every term at zone level, this will allow networking among Public Primary Schools and sharing of ideas, experience and knowledge. It will also help solve daily challenges faced by teachers and Administrators which may be different from their college experience. This will help in promoting a sustainable school infrastructure and equipment to further quality education.

### **6.3 Suggestions for Future Research**

This study explored the strategies used and challenges encountered by Administrators in the maintenance of conditions of infrastructure and equipment in Public Primary Schools .

Future research must:

1. Focus on a rural district to determine the extent to which the concept of maintenance of infrastructure has been embraced.
2. Focus on maintenance of infrastructure in boarding secondary schools.

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## APPENDIXES

### APPENDIX 1: Interview Guide for Headteacher

Dear Respondent,

The researcher is a post graduate student at the University of Zambia, seeking information on school infrastructure and equipment maintenance. You are assured that the information you give will be treated confidentially and will be used for the purpose of research **ONLY**.

#### Section A

Bio Data

1. What is your highest qualification?
2. How long have you been in your current position?

#### Section B

**Objective 1:** To establish the condition of school infrastructure and equipment in selected Public Primary Schools in Lusaka, Mumuni Zone.

3. In what year was the school established?
4. How many classrooms does the school have?
5. What would you say about the condition of the school infrastructure and equipment?

**Objective 2:** Determine the challenges encountered in the choice and implementation of school infrastructure and equipment in selected Public Primary Schools in Mumuni Zone.

6. Does the school have a Maintenance Committee in place?
7. Have they been attending any workshops in relation to maintenance?
8. Does the school have a budget allocation for maintenance of infrastructure and equipment?
9. Is there any co-operation exhibited by the members of staff, pupils and parents?

**Objective 3:** Identify the strategies used by School Administrators in the maintenance of school infrastructure and equipment in Public Primary Schools in Mumuni Zone.

10. What measures has the school put in place to ensure that school infrastructure and equipment is maintained in good condition?

## **APPENDIX 2: Interview Guide for the Teacher**

Dear Respondent,

The researcher is a post graduate student at the University of Zambia, seeking information on school infrastructure and equipment maintenance. You are assured that the information you give will be treated confidentially and will be used for the purpose of research **ONLY**.

### **Section A**

Bio Data

1. What is your highest qualification?
2. How long have you been in your current position?

### **Section B**

**Objective 1:** To establish the condition of school infrastructure and equipment in selected Public Primary Schools in Lusaka, Mumuni Zone.

3. What concerns do teachers raise in relation to the condition of school infrastructure?
4. What is the condition of the Home Economic department in relation to equipment and utensils?

**Objective 2:** Determine the challenges encountered in the choice and implementation of school infrastructure and equipment in selected Public Primary Schools in Mumuni Zone.

5. As teachers what challenges can you say the school encounters in relation to infrastructure and equipment maintenance.
6. What measures have been put in place to ensure maintenance is carried out.

**Objective 3: Objective 3:** Identify the strategies used by School Administrators in the maintenance of school infrastructure and equipment in Public Primary Schools in Mumuni Zone.

7. What challenges does the committee face in implementation of the maintenance activities?
8. How do you think these challenges would be resolved?

### **APPENDIX 3: Interview Guide for the Pupil**

Dear Respondent,

The researcher is a post graduate student at the University of Zambia, seeking information on school infrastructure and equipment maintenance. You are assured that the information you give will be treated confidentially and will be used for the purpose of research **ONLY**.

#### **Section A**

Bio Data

1. What grade are you doing?
2. How long have you been in this school?

#### **Section B**

**Objective 1:** To establish the condition of school infrastructure and equipment in selected Public Primary Schools in Lusaka, Mumuni Zone.

3. What would you say about the condition of the school?

**Objective 2:** Determine the challenges encountered in the choice and implementation of school infrastructure and equipment in selected Public Primary Schools in Mumuni Zone.

4. How many pupils are there in year class?
5. How many pupils share one desk?
6. What do you do when your desk breaks?

**Objective 3:** Identify the strategies used by School Administrators in the maintenance of school infrastructure and equipment in Public Primary Schools in Mumuni Zone.

7. Who is in charge of cleaning the classroom and school surroundings?
8. What things would you want done in your school?

## **APPENDIX 4: Interview Guide for Parent**

Dear Respondent,

The researcher is a post graduate student at the University of Zambia, seeking information on school infrastructure and equipment maintenance. You are assured that the information you give will be treated confidentially and will be used for the purpose of research **ONLY**.

### **Section A**

Bio Data

1. Sex: Male or Female
2. What grade is your child in?
3. How long has been your child in this school?

### **Section B:**

**Objective 1:** To establish the condition of school infrastructure and equipment in selected Public Primary Schools in Lusaka, Mumuni Zone.

4. What would you say about the condition of school infrastructure and equipment?
5. What role do you play as a parent in relation to school infrastructure and equipment maintenance?

**Objective 2:** Determine the challenges encountered in the choice and implementation of school infrastructure and equipment in selected Public Primary Schools in Mumuni Zone

6. Are you free to give suggestions in relation to maintenance of the school infrastructure and equipment?
7. Do you relate freely with the teachers in the school especially in relation to maintenance of school infrastructure and equipment?

**Objective 3:** Identify the strategies used by School Administrators in the maintenance of school infrastructure and equipment in Public Primary Schools in Mumuni Zone.

8. What is the working relationship between parents and the P.T.A. Committee?

## APPENDIX 5: Interview Guide for the Ministry Officer

Dear Respondent,

The researcher is a post graduate student at the University of Zambia, seeking information on school infrastructure and equipment maintenance. You are assured that the information you give will be treated confidentially and will be used for the purpose of research **ONLY**.

### Section A

Bio Data

1. What is the level of your education?
2. How long have you been working in current position?

### Section B

**Objective 1:** To establish the condition of school infrastructure and equipment in selected Public Primary Schools in Lusaka, Mumuni Zone.

3. How would you rate the condition of school infrastructure and equipment in Public Primary Schools?

Good

Very Good

Satisfactory

**Objective 2:** Determine the challenges encountered in the choice and implementation of school infrastructure and equipment in selected Public Primary Schools in Mumuni Zone.

4. What role has your department played in school infrastructure and equipment maintenance?
5. What challenges has your department encountered in relation to Administrators' maintenance of school infrastructure and equipment?

**Objective 3:** Identify the strategies used by School Administrators in the maintenance of school infrastructure and equipment in Public Primary Schools in Mumuni Zone.

6. What measures has your department put in place to help School Administration in the maintenance of school infrastructure and equipment?

**APPENDIX 6: Letter of Confirmation**

Letter of confirmation of study from the University of Zambia in collaboration with the Zimbabwe Open University



**UNIVERSITY OF ZAMBIA – ZIMBABWE OPEN UNIVERSITY  
(UNZA-ZOU)**

Telephone: 26021-1-291777-78 Ext. 3500/ 0978/772249  
Telegrams: UNZA LUSAKA  
Fax: 26021-1-253952  
Email: [director-ide@unza.zm](mailto:director-ide@unza.zm)

P.O. Box 32379  
LUSAKA, ZAMBIA

DATE: 01-01-2018  
JULIET MWILA KABWE

Dear Sir/Madam

**RE: CONFIRMATION OF STUDY**

Reference is made to the above subject.

This serves as a confirmation that the above mentioned person of NRC No: 197096/4311 and computer number 715809579 is a bonafide student of the University of Zambia in collaboration with Zimbabwe Open University (UNZA-ZOU).

The student is pursuing a Master of Education in Educational Management and he will be carrying out a research on AN EXPLORATION OF THE STRATEGIES USED BY SCHOOL ADMINISTRATORS IN THE MAINTENANCE OF INPRASTRUCTURE AND EQUIPMENT IN A CASE OF SELECTED PUBLIC PRIMARY SCHOOLS IN MUMUNI ZONE OF LUSAKA DISTRICT. Any assistance rendered to him will be greatly appreciated.

Yours faithfully

Prof. B. Namangala, PhD  
**DIRECTOR**  
**INSTITUTE OF DISTANCE EDUCATION**

## APPENDIX 7: Permission from DEBS to conduct the Research

All correspondence should be addressed  
to the District Education Board Secretary

Telephone: 0211 - 240230/240249/0955 623749  
E-mail: deds@zdebs.co.zm



REPUBLIC OF ZAMBIA

## MINISTRY OF GENERAL EDUCATION

DEBS/101/1/19  
TS/17679

DISTRICT EDUCATION BOARD SECRETARY  
P.O. BOX 5029  
LUSAKA

20<sup>th</sup> June, 2018

Ms. Juliet Kasanga  
SIN: 715809579

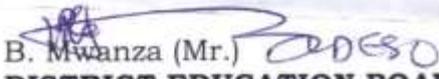
usf: The Director  
University of Zambia – Zimbabwe Open University (UNZA-ZOU)  
P.O. Box 32379  
**LUSAKA**

**RE: REQUEST TO CONDUCT RESEARCH ON THE TOPIC, “EXPLORATION OF THE STRATEGIES USED BY SCHOOL ADMINISTRATORS IN THE MAINTENANCE OF INFRASTRUCTURE AND EQUIPMENT: A CASE OF SELECTED PRIMARY SCHOOLS IN LUSAKA DISTRICT UNDER MUMUNI ZONE.”**

Reference is made to your letter dated 19<sup>th</sup> June, 2018 from the Director – Institute of Distance Education, (UNZA-ZOU) in which you wish to conduct a research project in Primary Schools in Lusaka District: under Mumuni Zone.

I am pleased to inform you that permission has been granted for you to carry out your project. However, ensure that your programme does not interfere with the learning schedule.

Through this letter, Headteachers are informed to welcome and give you all the necessary support accordingly.

  
B. Mwanza (Mr.)  
**DISTRICT EDUCATION BOARD SECRETARY  
LUSAKA DISTRICT**

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**APPENDIX 8: Consent Form**

Title of Research:

Reference to respondent information sheet

1. Read the information carefully
2. You are free to withdraw from participation anytime feel like.
3. Your permission is required to take a recording of an interview.
4. The information collected in this interview will be treated with high confidentiality.
5. If you agree to participate in this interview, you will be asked to sign below before proceeding to an interview session.
6. Refusal to participate will not affect the loss of services to which you are otherwise entitled.

**Voluntary Consent**

I have read or been explained to the information about this research undertaking as contained in the participant form sheet.

I now freely consent to participate in this study project.

My pending of my signature below implies that I have accepted to participate in this research.

Respondent's Name: .....

Respondent's Signature: ..... Consent Date: .....

**Research conducting informed consent**

Signature of Researcher: ..... Date: .....

**APPENDIX 9: Ministry of Education Annual School Census 2018**  
**PART C: INFRASTRUCTURE INFORMATION**

**Number 45.** Number of rooms: Enter total number of rooms according to condition.

	Temporary	Incomplete	Permanent			
			How many by Condition			
			Good	Fair	Poor	Total
Classroom						
Libraries						
Health room						
Administrative offices						
Subject department rooms						
Computer Laboratory						
Science Laboratory						
Workshop						
Home Economics rooms						
Dormitories Boys						
Dormitories Girls						
Storeroom						
School Hall						
Staff houses						
Ablution block (building)						
Special Education Classroom						
Boarding place available –Boys						
Boarding place available – Girls						

NB. STATUS IS FOR PERMANENT ONLY

**Number 48.** Sanitation and Hygiene

		Pit Latrine			Flush Toilets	
		Temporary	Permanent Working (Including VIPs)	Permanent not Working	Permanent Working	Permanent not Working
<b>Pupils</b>	Boys					
	Girls					
<b>Staff</b>	Male					
	Female					
<b>Staff Houses</b>						

#### Number 49. Furniture

	A	B	C
	Number in use	Number not in use	Number repairable
Black Boards			
White Boards			
Tables for Storerooms			
Tables for Teachers			
Chairs for Staff in			
Chairs for Pupils			
Chairs for offices			
Tables for offices			
Tables for classroom			
Double seater desks			
Single seater desks			
Shelves			
Cupboards			
Lockers			
Beds			
Mattresses			
Laboratory stools			
Dining Hall benches			
Dining hall tables			
Dining hall chairs			

#### NOTE:

- 23 Double-seater desks are required per classroom, 45 single-seater desks and 45 chairs are required per classroom.
- 3 chairs are required per office, 2 chairs are required per storeroom, 1 cupboard is required per classroom,
- 2 cupboards are required per office, 1 chair is required per classroom, 1 table is required per classroom,
- 1 table is required per storeroom

**Number 50. Equipment**

	Teaching and Learning		Administration	
	A	B	C	D
	Total Available	Need repair	Total Available	Need repair
Typewriters				
Overhead projectors				
Computers				
Printers				
Musical instruments				
VCR				
TV				
Sewing machines				
Photocopies				
Science kits/mobile lab				
Duplicating machines				
Radio				
Cooker				
Fridge				
Vehicles				
Bicycles				
Perkins brailers				
Audiometers				
Writing frames				
Others				

## APPENDIX 10: Ministry of Education, Standards and Evaluation Guidelines on Preventive Maintenance Programmes in Schools

Preventive maintenance is important in any educational institution because it prolongs the usable life of the infrastructure and provides for a conducive teaching and learning environment. The success of the system depends on the cooperation between the management of the institution, teachers, learners, parents and the community. It is for this reason that each school should sensitise the local community to ensure their participation in the preventive maintenance system of the school.

Item	Requirements
<p>Organisation of Preventive Maintenance Programme (PMP)</p>	<ol style="list-style-type: none"> <li>1. For effective teaching and learning in educational institutions, there should be a programme of preventive maintenance.</li> <li>2. There should be a preventive maintenance committee.</li> <li>3. There should be preventive maintenance sub-committees, dealing with such issues as:               <ol style="list-style-type: none"> <li>a. fund raising;</li> <li>b. cleaning and maintenance of institutional surroundings;</li> <li>c. repair of furniture, equipment and other institutional property;</li> <li>d. waste management;</li> <li>e. buildings and toilets.</li> </ol> </li> <li>4. Board members, PTA/AC/PCSC members and learners should be represented in the committees, with equitable representation between male and female and should meet once a quarter.</li> <li>5. Learners should be involved in the cleaning of the school environment.</li> <li>6. The participation of Education Standards Officers from the district at least once a year is desirable.</li> <li>7. A PMP chart should be drawn up at school, class, group and learner levels.</li> <li>8. Each school should have a PMP calendar.</li> </ol>
<p>Orientation</p>	<p>The school management should ensure that new Board members, PTA/AC/PCSC members, learners, teachers, as well as the community are given PMP orientation in the areas indicated in items 3 a) to e) above once a year</p>
<p>Utilisation of workshops and other institutional facilities to support PMP</p>	<ol style="list-style-type: none"> <li>1. Design and technology workshops should be used for undertaking repair works.</li> <li>2. Workshops, Home Economics and other institutional facilities should be used to fundraise in order to support PMP activities.</li> <li>3. Institutional facilities can be used by other institutions and the community to fundraise and contribute towards PMP activities.</li> </ol>
<p>Security and safety</p>	<ol style="list-style-type: none"> <li>1. Security and safety features, such as a wall fence and burglar bars to all rooms should be installed, except in classrooms and other specialised rooms that accommodate a large number of learners.</li> <li>2. Security guards should be put in place to guard against vandalism.</li> <li>3. There should be functional and adequate fire-fighting equipment.</li> <li>4. Regular drilling of teachers and learners in fire fighting techniques should be conducted.</li> </ol>

Item	Requirements
Community involvement in PMP	<p>In order for the community to participate in PMP effectively, the following measures should be put in place:</p> <ol style="list-style-type: none"> <li>1. A member of the community should be on the PMP committee.</li> <li>2. The community should be sensitised by the school management on the advantages of PMP, during the Annual General Meeting.</li> <li>3. The PMP committee should support the school in areas of finance, relevant technical skills, material donations and rehabilitation of machines, equipment, workshops, etc.</li> <li>4. The community should be made aware of the guidelines concerning levying outsiders using school facilities. This is to enable schools meet their administrative costs. In this regard, advocacy can be achieved during PTA/AC/PCSC meetings and school open days.</li> </ol>
Utilisation of other institutions in PM programmes	<p>It is important for Education Boards to promote cordial and productive working relationships with line ministries, non-governmental organisations and other stakeholders in order for PM programmes to succeed. The following activities could be organised:</p> <ol style="list-style-type: none"> <li>1. Sponsored awareness campaigns.</li> <li>2. Donations of PMP materials.</li> <li>3. Adoption of classrooms or surrounding areas, such as sports fields, gymnasias or swimming pools by external sports bodies or private companies. Records of agreements with other institutions should be kept</li> </ol>
Funding and fundraising for PM programmes	<ol style="list-style-type: none"> <li>1. There should be records kept of funding and its utilisation.</li> <li>2. PMP projects, such as making of desks for sale to other schools, should be initiated by Boards where capacity exists.</li> </ol>
Areas of emphasis in PMP activities	<ol style="list-style-type: none"> <li>1. Litter bins, rubbish pits and dust bins should be placed in strategic places to keep the school environment clean.</li> <li>2. Beautification of school surroundings and buildings should be emphasised to learners, teachers and the local community, exemplified by:</li> <li>3. regular painting of all buildings;</li> <li>4. removing cobwebs, graffiti, dirt and dust from buildings and school furniture;</li> <li>5. taking steps to ensure immediate surroundings of the school are kept clean; for example planting lawn and shrubs to reduce dust and create a pleasant environment;</li> <li>6. ensuring that floors, chairs, desks and tables are mopped and dusted daily;</li> <li>7. putting up a duty roster to indicate tasks to be undertaken by learners and teachers to ensure that learners do the above mentioned work;</li> <li>8. involving all learners in PMP activities;</li> <li>9. ensuring proper utilisation of water, electricity and toilets.</li> </ol>
Evaluation of PM programmes	<p>Boards should ensure that the school management shows evidence of evaluation of PMP programmes through the availability of:</p> <ol style="list-style-type: none"> <li>1. Records of weekly evaluation of PMP programmes.</li> <li>2. Minutes of monthly PMP meetings.</li> <li>3. Records of corrective measures being taken before and after inspection.</li> <li>4. Records of annual reviews on the performance of schools in PMP.</li> </ol>