

CHAPTER ONE

BACKGROUND

INTRODUCTION TO THE STUDY

The development of education in Zambia dates back to the early missionaries in the then Northern Rhodesia. The Government of the Republic of Zambia policy document on education (2005) state that the earliest school was established at Sefula, Mongu, in the Western Province of the then Northern Rhodesia, in 1887 by the Paris Evangelical Missionary Society (PEMS). Since then, the growth of the education system in the country can be seen through two major phases, namely; the colonial period and the post independence period.

THE COLONIAL PERIOD

During the colonial period from 1924 to 1963, access to education beyond the most elementary level was available only to a few privileged Africans. At that time, there was unequal provision of educational opportunities between indigenous Africans and white settlers. African education was provided mostly by missionaries, and was limited to the supply of labour for the colonial government while that of the non-Africans was meant for European children and it was intended for the more highly developed, competitive, sophisticated and challenging roles found in the job markets of Europe.

Snelson (1974) states that missionary education then was such that it was an essential element in evangelism and the nurturing of Christian leadership among the indigenous people. This perspective suggests that very little could have been done to improve the quality of education that was offered to the Africans. The Zambian Information Services (ZIS) (1966) state that Dr. Kenneth Kaunda at his installation as Chancellor of the University of Zambia in July, 1966 condemned the British Colonial record in Northern Rhodesia in the field of education as most criminal. Dr. Kaunda then contended that the country had been left by the British as the most uneducated and the most unprepared of Britain's dependencies on the African continent.

Snelson (1974) further indicates that Zambia entered its independence in 1964 with a pathetically and dangerously small stock of educated human power. At that time, there were only 100 Zambian university graduates, a bare 1500 Zambians with a secondary school certificate and only 600 Zambians who had as much as two years of secondary education.

THE POST INDEPENDENCE PERIOD

At independence in 1964, the Government of the Republic of Zambia (GRZ) had to dismantle the racist system of education and develop an education system that would provide equal opportunities to all Zambians regardless of race, tribe or religious affiliation. The GRZ (1992) in 'Focus on Learning' states that during the first ten years of Zambia's independence, the Government of the Republic of Zambia (GRZ) made massive investments in the education sector. As a result, many primary schools, secondary schools and tertiary institutions were built while those which were already in existence were regularly maintained. The Zambia government at that time was financially capable of building new schools and rehabilitating old ones. Teachers were recruited from all over the world to come and educate the young generation. Quality in education was there and what the country then wanted was quantity.

In 1973, Zambia politically, entered the phase of the one party rule. The GRZ (1992) states that with the one party rule there was ushered in a huge bureaucratic party system within government, which was wholly financed by the state. Party functionaries were then given sinecures at all levels of state operations and the total annual allocation of financial resources by Parliament to education and health combined was less than that spent on the party. This led to a very rapid deterioration in the educational services. Primary schools then could only be built by local communities while secondary schools, except in a few cases, could only be maintained by the Parents and Teachers Associations (PTAs).

The Government then was unable to supply sufficient educational materials to schools and once again these had to be provided by the local communities. The GRZ (1992) adds that few teachers ever benefited from 'in-service education' since there was no proper funding for this outside the few colleges designated for such activities. Consequently, the quality of education was compromised as many teachers could not access further training to enhance their skills. This, therefore, went against the tenets of a sound education system which was envisaged at independence.

THE SCHOOL EDUCATION SYSTEM

The fundamental aim of a school education system is to promote the integral, harmonious development of the physical, intellectual, affective, moral and spiritual endowments of all students so that they can develop into complete persons for their personal fulfilment and for the common good of the society of which they are already members and in whose responsibilities they will share as adults. There is, therefore, need

to develop an education system that leads to a sound intellectual formation, development of imaginative, affective and creative dimensions of each student.

The realisation of a sound and qualitative education of late has, however, become difficult in the face of inadequate funding and supply of teaching and learning resources to the schools in the country. The GRZ (1992) says very few local resources have been available in recent years for supplying schools with text books and other educational materials. The result of the inadequate funding and support to schools, as the MoE concedes, has been a reported decline in the level of student achievement and supply of teaching and learning resources. The GRZ (1992) adds that this could be seen as the price that has been paid for the rapid quantitative developments of schools infrastructure of the earlier years, resulting in a serious deterioration of the quality of school education.

BACKGROUND TO THE STUDY

The United Nations Charter of Human Rights recognised education as a basic right. This, therefore, entails that education should be provided and accessed by all Zambian nationals irrespective of race, socio-economic status, religion or ethnic background. The GRZ (1996) states that the purpose of education is to serve the individual's social and economic well being and to enhance the quality of life of the individual and the community as a whole. The Zambian Government through the Ministry of Education (MoE) has, therefore, a universal obligation to provide meaningful and qualitative education to its nationals.

The GRZ (1996 and 2006) recognizes the fact that quality education provision requires the supply of books, writing materials and other educational items in sufficient quantity to meet the needs of the students as the availability of adequate teaching and learning resources enhances the quality of learning in the high schools. When teaching and learning resources such as text books and other educational materials are insufficient, the teaching of subjects, such as geography occurs with great difficulty. Such a development greatly disadvantages the pupils.

The GRZ (1996:84) states that “the current situation in schools is that, although the position is better than it was five years ago, the supplies of educational materials are generally inadequate. This problem is compounded by the undeveloped state of the book and educational materials industry in Zambia”.

The GRZ (1996:88) states that the MoE policy on books and educational materials is to encourage the development of a strong and competitive local book industry and its strategy has been “to encourage and support teachers in the writing of books for the education system and in the development of other educational materials”. Despite the

favourable MoE policy, the situation on the ground is far from satisfactory, especially when it comes to a teaching subject like Geography. Teaching and learning materials (TLM) in Geography are inadequate in both Government and Grant aided high schools in Zambia.

In high schools, despite the teachers recognizing the importance of TLM, there were very few teaching and learning materials produced by teachers of geography in the 1970s and the 1980s. The production of TLM at the time of compiling this report in the year 2011 was mainly being done by non-teaching teachers of geography who had either retired or were serving in other areas in the Ministry of Education. However, most of the current serving teachers of geography have, individually, been able to produce such materials as pamphlets which were mainly examination oriented for sale to the pupils in the examination classes.

The state of affairs in terms of the production and provision of TLM in the high schools at the time in Zambia as highlighted by the GRZ (1992) and GRZ (2007) necessitated the need for this study. Gould (1967), Melaku (1973) and Newberry (1977) take cognisance of the individualistic tendencies of the teachers themselves in the production of TLM which do not promote a healthy learning environment. The question that comes to the fore then is how such negative tendencies among some of the teachers could then be addressed. The FAO (1994) and Lotz-Sisitka and Russo (2003) raise issues of collaborative effort in the production of teaching and learning materials which support or enhance learning. Very little, however, has been done in the area of production of TLM among the serving teachers of geography in Zambia. This was observed by Ntalasha, et al (2000). The foregoing, therefore, suggests that there exists an information gap on the production of TLM in the MoE in general and the high schools in particular. This is a serious problem which should, therefore, be investigated to result in possible solutions that could help in mitigating the problem and promote a healthy learning atmosphere in the high schools in the country.

Being professionals, teachers have pledged to make all their pupils succeed in their studies (Nyerere: 1988). In view of this commitment, teachers are required to adopt measures which could satisfy their clients, such as collaborating effectively in the production of TLM. Where the teachers do not collaborate, it means they negate on their commitment; thus, seeming not to care about what happens to their pupils, especially when they may fail. There is need, therefore, to investigate how the various collaborative efforts in the production of TLM among teachers of geography such as environmental

games, posters, models and many others could be utilized to enhance the teaching and learning environment in the Zambian high schools.

STATEMENT OF THE PROBLEM

The geography syllabus has changed over time in Zambia, but no new teaching and learning materials have been forthcoming from serving teachers of geography. Teachers have not risen to the occasion by developing TLM to match the new syllabus. They have instead continued to complain about lack of reference and other materials. Many of them, however, have identified serious challenges such as lack of financial resources, time and many others in the production of TLM but they have only tried to do so individually. Surprisingly, they have not taken any tangible steps towards collaborative efforts in the production of TLM. A situation where teachers of geography on one hand complain of lack of TLM and, on the other, fail to collaborate to produce such TLM constitutes a problem because they can not effectively teach their pupils in the absence of relevant TLM.

On the Zambian scenario, linked to the above problem, are the following questions;

- (i) Could the economic hardships that the teachers face incline them to work individually for financial gain rather than to collaborate for the good of the subject?

Could the assertion by Melaku (1973) hold any water that the secondary school text books are produced by authors working alone, usually authors not themselves involved in education? Melaku (1973) argues further that text books produced by co-authors are varied and rich in content. It is difficult to understand how such an important aspect in the production of TLM can be ignored by teachers of geography who have continued to work individually to produce their own TLM.

- (ii) Do teachers of geography in this regard recognize the value of team work as a tool to improving their efficiency in their schools?

The above questions need serious reflection among the teachers of geography themselves and other stakeholders. There was, therefore, need to investigate the general problem as to whether or not collaboration by teachers in the production of TLM has any value among Zambian teachers of geography.

PURPOSE OF THE STUDY

The purpose of this study was threefold. Firstly, the study sought to investigate the levels and forms of collaboration among teachers of geography in the production of

teaching and learning materials (TLM). Secondly, it sought to examine the likely problems that may arise when teachers of geography collaborate in the production of teaching and learning resources. Thirdly, it went further to establish whether or not teachers of geography were not producing teaching and learning resources in a collaborative manner and what could be done to address the matter.

RESEARCH QUESTIONS

The research questions were:

1. Do teachers of geography collaborate effectively in the production of teaching and learning materials?
2. What factors influence the levels and forms of collaboration among geography teachers?
3. Does the Ministry of Education (MoE) provide a platform for teachers to produce teaching and learning materials in order to enhance the quality of education in the Zambian high schools?

RESEARCH OBJECTIVES

The specific research objectives of the study were:

1. To find out whether or not teachers of geography collaborate effectively in the production of teaching and learning materials.
2. To investigate the factors that influence levels and forms of collaboration among teachers of geography in the production of teaching and learning materials.
3. To determine whether or not the Ministry of Education, in line with its policy of encouraging the development and competitive local book industry, offered any incentives to teachers who wished to collaboratively develop teaching and learning materials.

SIGNIFICANCE OF THE STUDY

The study was very significant because it sought to establish whether or not teachers of geography collaborated in the production of teaching and learning materials, which are essential in enhancing the quality of teaching in the high schools.

The study focussed on collaboration among teachers of geography because of the broad nature of the subject comprising map reading, physical geography, human and economic geography and field work or practical geography. However, not all teachers of

geography are comfortable to teach all these branches of the subject, hence, the need for them to work together or collaborate in the production of TLM.

The results of the study might be useful to pupils, parents, teachers, the book publishers and the Ministry of Education. This is so in that when teachers collaborate, more and varied TLM would be produced which would eventually enhance the learning process. Hence, this would in turn motivate the pupils in their studies resulting in improved performance by the pupils and job satisfaction on the part of the teachers when the pupils succeed in their studies. The parents would also become more supportive of school activities when they are satisfied with the quality of education being provided to their children by the school authorities.

Collaboration among teachers in the production of TLM would also form the basis of mutual learning among the teachers themselves. It would help them in mentoring the new members of the profession and also greatly assist in promoting an effective teaching and learning environment in the high schools. The co-operation that would be established among the teachers would eventually lead to a variedly collaborative TLM publications in geography by the teachers themselves which would in turn result in the sufficiency of the teaching and learning resources in the schools. This would, consequently help to promote a healthy learning environment in the high schools in the country.

LIMITATIONS OF THE STUDY

There were a number of limitations that were encountered during the course of this study. Firstly, most researchers conducted their studies at the same high schools as that of this study. This led to most of the teachers being reluctant to complete questionnaires as they were constantly complaining of being flooded with questionnaires on issues that did not even concern them.

Secondly, some teachers took too long to complete questionnaires. This made it very difficult to collect the questionnaires on time. In some cases, questionnaires could not be collected on agreed times, in some schools, and the exercise then went on up to the end of term tests and through the school holidays. Hence, in such situations, it took a lot of persuasion and patience on the part of the researcher to receive most of the completed questionnaires. Some of the respondents were just unwilling to complete questionnaires and, the researcher had to seek the assistance of the school administrators who were able to prevail upon their teachers.

Thirdly, though the geographical scope of the study was specifically limited to Lusaka, the results may be representative enough of the prevailing situation in other urban and rural schools in the country. The researcher considered the various categories of schools in Lusaka such as the already established high schools and the newly upgraded high schools in order to ensure that generalisations could be representative enough of the situation in the country.

CHAPTER TWO

LITERATURE REVIEW

INTRODUCTION

This chapter reviews the literature related to studies and works on the production of teaching and learning materials in general, and on collaboration among teachers of geography in the production of TLM in particular. The review has been discussed under the following sub-headings: The importance of education in human resource development, the high school sub-sector of the education system in Zambia, the significance of TLM in schools, the state of the TLM in schools, the teacher's role in the provision of TLM, collaboration among teachers in the production of TLM, checks and balances in collaborative effort in the production of TLM and the key issues that arose from literature review.

THE IMPORTANCE OF EDUCATION TO HUMAN RESOURCE DEVELOPMENT

The GRZ (1996 and 2006) states that education is a right for each individual. Education is also seen as a means for enhancing the well being and quality of life for the entire society. Nyerere (1988) adds that the purpose of education is to prepare people for their future membership of society and their active participation in its maintenance or development.

Kelly (1976) says education aims at the formation of the whole human person in intellectual, physical, emotional and social domains. Education can, thus, be seen as trying to help the individual acquire skills, attitudes, dispositions that will enable him to live harmoniously with himself and with others in society. Kelly (1976) further argues that once the human personality has been catered for, the individual so formed is also so in respect to the good of the society of which he is a member, and in whose responsibilities he shares. He or she is enabled to act competently and energetically for the common good. In this regard, education must ensure that the individual is equipped for a constructive role in society. Education, therefore, should empower the learner to be more productive, display increased efficiency and value addition to the society to which he belongs.

The GRZ (2006) states that the Government's role in education arises from its overall concern to protect the rights of individuals, promote the social well being of its citizens and achieve a good quality life for every person in Zambia through embracing economic development. The Government must, therefore, seek to create, promote and support the conditions within which education can help citizens realize their full potential in society. The recognition of the importance of education has been upheld since the time

before independence. Chipimo (1977) noted that Article 26(i) of the United National Independence Party (UNIP) manifesto of 1962 upheld the United Nations Charter on human rights that states that everyone has a right to education. The UNIP Manifesto further stated that education would be free, at least in the elementary and fundamental stages. Chipimo (1977) stated further that Article 26 (ii) of the same manifesto went on to state that education should be directed to the full development of the human personality and to the strengthening of respects of human rights and fundamental freedoms.

The GRZ (2006) states that one of the critical responsibilities of the Ministry of Education, is the provision of formal education to all Zambians which should be of acceptable quality in line with both the national policy and the global declarations that Zambia has ratified. This is as reflected in the MoE vision under quote, “Quality lifelong education for all which is accessible, inclusive and relevant to individual, national and global needs and value systems” (GRZ, 2005:2). The GRZ (2006) indicates that it had developed two landmark education policy documents in 1992 and 1996, namely, ‘Focus on Learning’ and ‘Educating Our Future’ respectively which placed emphasis on quality improvements while sustaining access and participation at all levels. The distinct characteristic of the ‘Focus on Learning’ document was the need for the calibration of required inputs that would help realise the desired quality levels. ‘Educating Our Future’, on the other hand, put emphasis on the totality of the human being.

The GRZ (2006 and 2007) shows that in order to move towards the attainment of the policy goals articulated in ‘Educating Our Future’, the MoE prioritised basic education, a programme which was undertaken under, the Basic Education Sub-Sector Investment Programme (BESSIP) conceptualised in the period 1999-2002. Kasanda (2003) says that the major priority objective areas of BESSIP were to broaden access and participation and improving the learning achievement of the pupils. Belatedly though it could be argued that the emphasis that was brought about through BESSIP to a great extent disadvantaged the high school sub-sector in that much investment was earmarked for the basic education sub-sector only. Consequently, infrastructure development and the provision of TLM at high school level were not satisfactory and could not adequately meet the needs of the learners.

THE HIGH SCHOOL SUB-SECTOR OF THE EDUCATION SYSTEM OF ZAMBIA

The GRZ (2007) explains that the High School Education Sub-Sector (Grades 10 – 12) had remained stagnant up to the end of the 1990s. During this period, no new infrastructures were completed and enrolment only marginally increased. Since 2000, however, there has been a marked improvement in terms of access and participation. Though there has, of late, been these marginal improvements in the sub-sector there are challenges and I quote “There are still significant challenges which include; increase in school places through infrastructure development without the training and development of qualified teachers, no revision of curriculum and lack of significant investments in teaching and learning materials” GRZ,2007:53).

The GRZ (2006) says that ‘The World Education Forum in Dakar, 2000’ which Zambia attended adopted the ‘Education for All’ (EFA) goals. Macha (2006), MoE and UNICEF (2005) show that among several other EFA goals, one stated that member countries had to ensure that the learning needs of all young people and adults were met through equitable access to appropriate learning and life skills programmes. The other goal was that member countries had to improve on all aspects of the quality of education and enhance the monitoring and evaluation mechanisms so that recognised and measurable learning outcomes are achieved by all.

Macha (2006) quotes the late Mr. Moonde, Member of Parliament for Moomba, who at the Forum of African Parliamentarians for Education (FAPED) stated that

“Ensuring quality education for all citizens in a given country is the best way to ensure equal and active participation by all in any development undertaking. It is, therefore, the sole duty of those in leadership to ensure that they keep learning new ideas and introduce reforms in the education sector and that they themselves will be well informed”.

It should be noted, too, that new ideas should not just be introduced in the education system for the sake of it, but should be aimed at enhancing the quality of education being provided. This will in turn make the education being provided in the Zambian schools relevant to the learners in particular and to the country in general.

THE SIGNIFICANCE OF TEACHING AND LEARNING MATERIALS IN SCHOOLS

The Copperbelt Energy Corporation (CEC) (2006) notes that to educate a nation takes much more than increasing school enrolment figures. The CEC (2006) calls for the provision of a sound environment, sufficient teaching and learning resources, adequate and appropriate infrastructure; among other essentials. This, however, is not always

possible to achieve when resources are scarce even as demand for a service as essential as education increases.

The Ministry of Education notes, too, that “quality education provision requires the supply of books, writing materials and educational items in sufficient quantity to meet the needs of the students” (GRZ, 1996:84). In this regard, the availability of adequate TLM enhances learning and makes the learning process more relevant and beneficial to both the teachers and the learners.

However, the GRZ (1996) regrets that the current situation in schools, though better than it was a few years before, remain to show that the supplies of education materials were generally inadequate. In addition, the problem has been compounded by the underdeveloped state of the book and educational materials production in the country. Unfortunately, the role of teachers in the provision of TLM in the high schools has also not been fully utilized in the education system in Zambia.

THE STATE OF TEACHING AND LEARNING MATERIALS IN HIGH SCHOOLS IN ZAMBIA

Chondoka (2006) says that the general picture on learning and teaching material is such that these are critically inadequate in all the schools that they had visited. Milimo (2002) notes, too, that the problems over the non availability of text books were acute in some sites, particularly in the rural areas. The GRZ (2008) adds that text-books especially at high school level were still inadequate. The MoE Education Sector Review of the period 1996 – 2006 indicate that very little money had been allocated towards the purchase of textbooks resulting in the high pupil/book ratio at high school level.

The GRZ (2007) shows also that during the review of the MoE Sector Plan in 2006, the Review Team found that schools then were not places of vibrant learning. The state of affairs was attributed to:

- (i) Few and overcrowded classrooms which could not stimulate learning.
- (ii) Few teaching and learning resources which were often mismanaged and underutilised by the teachers.

In the midst of inadequate TLM as pointed out by the MoE Review team, what outcomes then are expected of the learner? What contributions then can such a learner make to society and national development? These are significant questions that require concrete solutions that would help to address the problems of the education system as a whole in order to make it relevant to the learners and the nation as a whole.

Nyerere (1988) asks what it will benefit a child if he or she goes from a poor primary school to an even poorer secondary school without facilities or even adequate number of teachers. He observed that secondary education without proper facilities or materials was deception to an innocent child as well as being useless as preparation of the learner for future service to the nation. Macha (2006) adds that improvements should be made on all aspects of the quality of the learning environment, in order for the children not only to go to school but to actually learn from their schooling, that is, in terms of quality of teachers, quality of learners and quality of input and outcome of the school system. Cheyeka (2003) goes further to state that a school with a good learning achievement should have enough resources, a steady and quality supply of books and other educational materials and adequate contact time with the pupils.

The GRZ (2007) states that the Ministry of Education Review Team emphasised that the microcosm of an educational system is the classroom. The classroom is an important basic unit where the actual learning processes take place in the schools. It can be noted further that if the classroom in our schools is not functioning well it will in turn affect the whole education system. As seen earlier on, pupils cannot reach relatively satisfactory levels of learning and achievement in the absence of appropriate learning resources. This is exemplified by the GRZ (1992) which stated that the vitality and quality of an educational system are revealed by the relative abundance of books, writing materials and educational aids of all kinds while the virtual absence of such items bespeaks real educational impoverishment.

In the midst of significant shortages of teaching and learning resources, teachers have a critical role to play and make a difference in the Zambian education system in general and the high schools in particular. Hence, it is essential for the teachers themselves to recognise and appreciate their relevance in achieving a sound education system.

THE TEACHER'S ROLE IN THE PROVISION OF TEACHING AND LEARNING MATERIALS

Nyerere (1988:119) says that “teachers are the trainers of the builders of the society”. He adds that pupils are influenced by the personal example that the teachers set through what they teach, the way they teach, their attitudes, the manner in which they deal with others and their clear desire to learn as well from others who may have anything at all to teach them. Nyerere (1988) states further that teachers should consider themselves as having failed if their grade twelve pupils would leave school without being capable of:

- (i) Developing into self reliant persons who can contribute effectively to society, and

- (ii) Not using their school education to act as the basis of acquiring more knowledge through their efforts.

These postulations, call for innovations on a variety of teaching methods on the part of the teachers. The teachers' production of TLM through collaborative efforts would impact positively on the pupils as it would reduce the teachers' individualistic tendencies in handling classes in their respective high schools. This would in turn result in the pupils being exposed to a variety of teaching expositions through the provision of adequate TLM, requiring them to cooperate or work together in groups or as a class. This would, consequently, help in breaking barriers among them and help them further to appreciate each other's efforts and subsequently assist them to grow into responsible citizens of Zambia.

The Permanent Secretary, Ministry of Education, Mrs Lillian Kapulu at the Joint Annual Review of the Ministry, in January, 2008 (Kunda, 2008) acknowledged that the procurement of educational materials for schools was a major challenge for the Ministry. She wondered why, as an initiative, teachers were not producing teaching and learning materials despite all the high schools in the country having computers. Belatedly to say though, while this concern is appreciated, there is also need to look at the school system critically and find out what provisions would have been made for the teachers in the high schools to produce TLM, more so, in a collaborative manner. There is also need to take into account the rules and regulations which would have been put on the use of the computers and the provision of other requisites that would be needed in order for the teachers to collaboratively produce TLM.

Simukoko (1977) complains, too, that there have been no contributions from his colleagues at the Ministry of Education (MoE), Examinations Council of Zambia (ECZ) and the schools on the production of TLM. He adds that there have been no articles forthcoming in the production of the Zambia Geographical Journal despite efforts having been made to invite the geographers to do so in the institutions mentioned. This state of affairs works against the Ministry of Education whose strategy is "to encourage and support teachers in the writing of books for the education system and in the development of other educational materials "(GRZ 1996:88). In this same vein, it is also important to acknowledge that though this strategy has been put in place by the MoE, there is need, however, to look at how it is being implemented at all levels of the education system. It would only be appreciated when it is able to contribute positively towards enhancing the teachers' capabilities to produce TLM especially in a collaborative manner.

Gould (1967) noted that teachers were to a great extent individualistic in the execution of their duties. He argues that they in most cases pursue their own interests and not those of the wider group of teachers even within the same institution. Consequently, “the teacher handles his class, unaided, unvisited and unobserved” Newberry (1977:37). This unfortunately, results in professional isolation as the teachers do not know each other’s teaching techniques. It could also, result in newly recruited teachers seldom getting the opportunity to observe others in action. In this regard, the new teachers would have to acquire information about the practices and beliefs of experienced teachers indirectly through comments on report books, comments in staff rooms and in departmental meetings. Gould (1967) observes further that the individualistic tendencies among the teachers are brought about by a number of factors that include:

- (i) The training of different kinds of teachers in different institutions which makes for feelings of superiority and inferiority and to some extent, feelings of snobbery and resentment and also makes for a feeling of unity difficult to achieve.
- (ii) The different qualifications, training, responsibilities and functions of teachers also lead to clashes among the teachers.

Despite the many challenges that teachers face as outlined above, they should, however, be able to overcome them as they are professionals who are committed to making their pupils succeed in their schools. The teachers do not operate on an island but in institutions that require them to work in a collaborative way. Hence, they have to overcome their structural differences in order for them to work as a team.

Melaku (1973:38) adds that: “Typically secondary school textbooks are produced by authors working alone, usually authors not themselves involved in education, many who have not attended as pupils the secondary schools they wish to serve”.

Melaku (1973) goes on to say that the adoption of their books as school texts is only sought as a means of expanding the market. It is against this background that Professor Lungwangwa (Times Reporter, 2005) urged the academicians in the country to transcend their academics outside the classroom if Zambia was to achieve economic growth. He pointed out further that their maturity would continue to be doubtful as long as they did not transcend outside the classroom. He urged them to go beyond the confines of the classroom and address the developmental challenges that have continued to affect the education system and the country as a whole. Consequently, this call is also echoed when teachers are called upon to collaborate among themselves in the production of TLM.

Ologe (1979:2) argues that “if British and French geographers studied, wrote about and taught the geography of the tropical empires with empirical interests uppermost in their minds, then we really have no excuse for not teaching and writing the kind of geography that would serve out national interests first and foremost. We should not just tag on to what some people might describe as the main stream of geography by teaching what is in standard textbooks and international journals (mainly British and American) which by pure accident of history, are available to us. For if we did, we would not be teaching geography with a Eurocentric or an anglocentric world view”.

All these postulations call for books or teaching and learning materials that as a population, one can identify with. There is, therefore, a direct challenge to teachers of geography in particular to be pro-active by writing and developing educational materials for our educational system. In the absence of the teaching and learning resources, teachers of geography’ work is made difficult. The teachers, thus, have a big role to play in the production of their own materials. Such undertakings in turn enhance their work and ensure a healthy learning environment in their schools. It is also acknowledged that using locally produced teaching and learning materials allows for creativity among the pupils as they are able to explore and try out what they had learnt at school. This is such a great motivational factor which promotes and enhances learning among the pupils as it removes monotony and brings about new experiences in the classroom (Healy, 2009).

COLLABORATION AMONG TEACHERS IN THE PRODUCTION OF TEACHING AND LEARNING MATERIALS

Martin (1973:13) states that “one common element in the many definitions and applications of the basic principles of teaching is the idea that it involves co-operative planning and arriving at a working agreement”.

Martin (1973) adds that there is need for interaction among the teachers themselves before a common understanding is reached on areas of common concern such as planning, evaluation and pupil activities.

Newberry (1977:40) states further that “if teachers are to build their teaching experience through interaction with the other teachers and discussion of alternative approaches, they need opportunities to see, first- hand what other teachers are doing”.

The FAO (1994) observes, too, that the process of joint analysis and dialogue helps to define changes, which would bring about improvement and seek to motivate people to take action and implement the defined changes. This action includes local institutions building and strengthening their linkages, and in so doing increasing the capacity of the people to initiate action on their own. Hawley (1997) emphasizes that co-ordination and collaboration among teachers needed to be recognised as key aspects of a

teacher's professional responsibilities. It should be noted too, that thoughtful cross-curricular co-ordination can lead to more effective teaching and learning processes.

Huckle (1997) argues further that the establishment of critical school geography requires radical teachers to continue to turn the curriculum frameworks in more empowering directions and to argue their case, by example in such settings as departmental meetings, geographical associations and other professional gatherings by teachers of geography. Hence, school geography should develop a multi-dimensional form of citizenship which prompts critical engagements within economic, social, political and cultural realms. Graves (1997) adds that teachers need to develop a common understanding about their standards of work, whereby formative monitoring of pupils' progress, needed to be done by individual teachers should, however, be based on decisions taken at departmental or school level about the nature of the assessment to be undertaken.

Tilbury (1997) says that geography teaching must be challenging to pupils on a personal level and engage them in changes towards sustainable lifestyles. He adds that participatory learning processes create a climate within the classroom which explicitly values and affirms each individual and empowers pupils to exercise responsibility for their own lives and for the environment. It should be able to promote the dynamic qualities of initiative, assertiveness, independence, commitment, readiness to accept responsibility and bring about creativity, all of which are required for constructing a sustainable world. Hence, it is very important to the learners in that it helps in developing their mental capabilities. This in turn enables the learners to apply what they have learnt and be ready to face new challenges in future (Abromitis, 2009). Teachers themselves can do a lot to address some of the shortcomings of the education system such as lack of teaching and learning resources, their own Individualistic tendencies, and many others. Through teachers' active participation in producing their own teaching materials collectively, they can enhance their own work and contribute significantly to the quality of the public education system in Zambia.

The FAO (1994), Lotz-Sisitka and Russo (2003) emphasize the need for participation in the production of teaching and learning materials. This emphasis on collaboration is significant in that it calls for the positive input of each and every teacher in the school. Hawley (1997) further elaborates that from the teacher's perspective, collaboration can lead to:

- (i) Saving time and energy, if teachers shared responsibilities.
- (ii) Teachers learning from each other and gaining from different perspectives and

- approaches to teaching.
- (iii) Recognition and sharing appropriate knowledge and expertise in terms of subject content and teaching approaches.
 - (iv) More reliable assessment of pupils.

Hawley (1977) goes further to say that collaboration can even be encouraged between different subjects. He gives as an example, Science and Geography subjects, where teachers could identify common subject areas such as population, pollution, energy, solar system and many others which could be handled in a collaborative way such that repetitions and duplications which occur when such topics are taught separately are removed. This would also bring about excitement among the pupils and depth of material coverage in the subjects. In addition, teaching and learning styles are by their nature dynamic and have been changing over time. This has in turn been calling for new approaches to be adopted in schooling (Davis, and Wilcock, 2009). All these developments show why, it is imperative for the teachers to change and adopt positive trends in their work. The teachers would then have to collaborate even as they develop TLM or educational supports that will help them enhance qualitative interactive learning processes in the classroom. When materials are carefully developed and used appropriately, they greatly help the pupils retain what they had learnt. They are also important as they lead to good school performance among them and greater learner achievement.

Collaboration among teachers as Graves (1997) and Williams (1997) observe also helps to bring about variety in the teaching methods and pupils' activities. Teachers, by working together, would produce a variety of TLM which would in turn bring about good results in the schools as the quality of teaching would significantly improve. Taylor and Russo (2002) state further that participatory orientations in the development of learning support materials enable the materials to become more relevant to the learners and more responsive to content. In addition, through these processes, many people become involved in establishing the adequate frameworks for teaching and learning within the high schools.

Lotz-Sisitka and Russo (2003) state that materials should be developed for specific situations and used in particular contexts. Hence, there is need for material developers to think about the purpose, content and relevance in the design of their materials. This is essential in making the developed materials relevant to both the developers and the learners.

In addition, they argue that “developing learning support materials through collaborative work and meaningful debate enhances understanding of the issues being discussed. When learning support materials are developed with people rather than for target groups, a sense of ownership is developed in participants and the learning support materials are likely to be widely used and relevant to people’s needs” (Lotz-Sistka and Russo, 2003:30).

This will also help in the teachers themselves to take care of the developed materials in their schools. Taylor (1997) says that there is need for material developers to work with potential users of the materials rather than just assuming that the materials can be developed for them. This works well for the teachers as they are both material developers and users who need to work together and understand their own materials. They would, therefore, be able to establish how their pupils could be involved in the material development process by providing feedback. This would in turn enhance the quality and relevance of the developed materials. Teachers in the process of developing teaching and learning materials need to initially consider the following aspects:

- (i) How the materials could foster active learning processes.
- (ii) How the materials could assist the teachers themselves to further the aims of the curriculum and the subject areas.
- (iii) How the teachers could assess the activities, and how the materials could be used within the structural constraints in schools such as the timetable, different teachers for different subjects.

Lotz-Sisitka and Russo (2003) advise that different tasks should be agreed upon and shared among different people with clear guidelines and deadlines. There would, however, be need to ensure co-ordination and shared responsibility. The roles and responsibilities could change in due course while new ones would also emerge and be incorporated. They advise further that there was need for the material developers to identify stakeholders, that is, people with relevant expertise on a particular subject or topic. The experts to be considered could include: meteorologists for weather studies, foresters for forest conservation and land degradation, demographers for population studies, veterinary officers for livestock or pastoral farming, and many others. This would help to enhance the quality and relevance of the developed materials. It would also provide depth to the content of the materials. Lotz- Sisitka and Russo (2006) give as examples the following materials that could be developed:

- (i) Posters, flyers and fact sheets – which can be used to create or raise awareness and to

spread information messages such as environmental activities and issues.

- (ii) Environmental games- which can be used to provide useful introductions to environmental issues and raise topics for debate and enable the pupils to appreciate the environment and its problems.
- (iii) Booklets and books – which are designed to be more informative, practical (hands on) or exploratory (guided walks) and many others.
- (iv) Computer based materials- though relatively new in most schools, would enable the pupils to research on the internet. This would in turn help the pupils to develop their research skills.

The GRZ (2007) and Williams (1997), further give some of the learning activities that can be developed by the teachers as card games, role plays, projects, models, field trips and many others, all of which can greatly enhance the learning process. In addition, the MoE emphasizes that using appropriate teaching and learning materials create an exciting and active learning environment whereby the pupils come to enjoy and like the subject. This results in effective learning as the pupils are able to use their abilities to analyse their needs, seek the information that relates to those needs and solve problems. The need for collaborative effort in the development of TLM cannot be over emphasised. It is helpful in the promotion of an active learning process that greatly enhances the quality of teaching and learning processes through the use of a variety of appropriate TLM.

CHECKS AND BALANCES IN COLLABORATIVE EFFORT IN THE PRODUCTION OF TEACHING AND LEARNING MATERIALS

It should, however, be noted that collaboration is not an end in itself in facilitating effective learning. There is need for checks and balances in the development and actual use of the developed TLM. The FAO (1994) argues that participation is not a panacea for community development or the child's learning nor is it a substitute for thorough preparation, long term planning, constructive dialogue and sustained interaction. However, when correctly used, it could deepen and strengthen the learning process. Lotz-Sisitka and Russo (2003) noted the following dangers that should be kept in check in participatory material production:

- (i) Too much participation and no action: This often arises when the groups of teachers are too big such that little or no materials are produced in the end. This may also result

from situations where everyone is expected to do everything and in the end no one takes responsibility for anything.

- (ii) Pseudo-Participation:- This is brought about by the promotion of participation at all costs even where it is inappropriate. This results in pretence at participation which is very unproductive.
- (iii) The actual use of learning support materials is often neglected during material development with little thought being given to the learning processes, that is, what learners will be doing and how they will be supported by the teacher.

There is need, therefore, to take into account the dangers given by Lots-Sisitka and Russo (2003) in order to ensure that the developed TLM actually support the learning process.

Lots-Sisitka and Russo (2003) pinpoint further that over emphasizing participation leads to problems with the quality, purpose and the use of the learning support materials. This problem, if not handled properly, could lead to lack of focus in the production of materials whereby the materials produced would not be relevant to the learning process. Another problem likely to arise is that of time constraints as participatory processes if not well handled could be time consuming. This would in turn result in significant loss of quality learning time.

The problems identified could pose a serious challenge to the production and utilization of educational materials. Most problems could be taken care of when clear goals are set out collaboratively at the start of the materials development projects with clear time frames and expectations. The teachers should always bear in mind that the role and effectiveness of the learning support materials should not only be confined to supporting the learners or the pupils directly in their lesson activities but also in supporting the teachers themselves to conceptualize and plan the learning processes and outcomes adequately. It is only when the learning support materials are used properly that the learning outcomes could be sufficiently realised.

KEY ISSUES THAT AROSE FROM THE LITERATURE REVIEW

There are a number of key issues that have arisen from the literature review and these include: The provision of quality education is much more important than just access and participation of the pupils in the education system. TLM which are in short supply in most of the high schools play a very significant role in the provision of a healthy learning atmosphere.

If teachers of geography in schools are not collaborating effectively in the production of TLM, such a state of affairs would, unfortunately, work against the teachers themselves as they would be negatively affected in their quest as professionals to uphold their pledge to make all their pupils succeed in their studies.

It has also been noted that collaborative effort in the production of TLM is not an end in itself. There is need for teachers of geography to consider adequately the needs of the pupils, the type of TLM needed and how they could enhance the learning process. Before the actual development of TLM collaboratively, teachers need to come together and agree on the individual responsibilities, time frame and the actual utilization of the developed materials.

This study would help to remind the teachers as the major stakeholders in schools that they should do their part by producing TLM in a collaborative manner. This will in turn ensure self sufficiency of the much needed teaching and learning resources. In addition, it will also help to motivate their pupils and enhance the relevance and quality of the education being provided at the high school level in Zambia.

CHAPTER THREE

RESEARCH METHODOLOGY

INTRODUCTION

This chapter covers the following: research design, target population, sample and sampling procedures, research instruments, validity of instruments, data collection procedure and ethical considerations. Discussed also are the problems encountered during data collection, data analysis and data interpretation.

RESEARCH DESIGN

The study employed a descriptive and to some extent evaluative design approaches. It also conjures qualitative and quantitative aspects in its design. It was descriptive because it brought out subjective views of the teachers, school administrators, Ministry of Education officials and book publishers. It was evaluative in that the researcher made critical assessment of how the basic conditions were met. It was also qualitative in nature. Hence, it made use of research questions rather than hypotheses. It was equally quantitative in nature in that it made use of computations to quantify data in terms of numbers and percentages.

In the gathering of data, a survey approach was used. This method was found appropriate because it helped to gather data at a particular point with the intention of describing the nature of existing conditions and how they can be compared or determining the relationships that exist between specific events. In addition, despite their weaknesses, survey studies help to generate numerical data, provide descriptive, inferential and explanatory information. The design also generates accurate instruments through their piloting and revision. They also help to gather data which is processed statistically.

Furthermore, survey studies assist in making generalizations about certain aspects such as feelings of the respondents. It is easier when using a survey to gather standardized information in the study, that is, one could employ the same instruments and questions to all participants or respondents. They help to capture data from different forms of instruments such as multiple choice, closed, test scores or observation schedules.

POPULATION

The target population was all the teachers of geography in twenty (20) high schools in Lusaka District and their respective head teachers excluding those from private schools. The teachers at the private schools were excluded from the sample because they

were not directly under the supervision of the Ministry of Education. The study also included Ministry of Education officials and book publishers.

SAMPLE AND SAMPLING PROCEDURE

A sample of eighty (80) respondents was drawn using a simple random sampling technique. Of the eighty respondents, sixty (60) were teachers of geography, twelve (12) were school administrators, five (5) were MoE officials and three (3) were book publishers. The number of teachers of geography in the sample varied according to the size of the high school, ranging from three (3) at Matero Boys and St.Mary's to twelve (12) at Kabulonga Boys.

David Kaunda Technical High School was purposefully selected because it was the only Government boarding school in Lusaka District. For the eleven other schools, stratified random sampling was used in order to ensure that the sample was representative enough. It was also ensured that various categories of schools such as boarding, day, co-educational and single-sex were sampled. In addition, the newly upgraded high schools were also taken into account in the sample.

With the principle of stratified random sampling that was used, the total number of schools was divided into different groups, such that each high school belonged to only one stratum. The schools were then divided into their categories to form the stratum. The total number of high schools in Lusaka were the strata. Then within each stratum, random sampling was carried out. Systematic sampling was used within each stratum in order to draw the sample. The teachers of geography at each of the stratified selected high schools were automatically picked for the sample.

The sample embraced as much as possible the various categories of teachers of geography in Zambia in that various categories of high schools were taken into account. This was essential as there was need to ensure that the results of the study could be generalised to other parts of the country.

RESEARCH INSTRUMENTS

The major instruments used in the study were self-administered structured questionnaires, interviews and observations. The semi- structured self administered questionnaires were used to obtain data from teachers of geography, school administrators, book publishers and the MoE officials.

The interview was used mainly especially during the follow-ups and also for some respondents who had requested to be interviewed instead of them filling-in the questionnaire. The questionnaires appear as appendices (iv) to (vii). Observations were

very helpful to the researcher as he visited the classrooms and the Geography Departmental rooms in the sampled high schools.

VALIDITY

Before carrying out the main study, a pilot study was undertaken from 28th February, 2008 to 11th March, 2008. Questionnaires were administered to ten (10) teachers of geography not in the sample as well as the interviews and observations which were conducted simultaneously. This was done in order to determine the effectiveness of the research instruments. Consequently, no major changes were made to the instruments.

ADMINISTRATION OF THE RESEARCH INSTRUMENTS

The collection of data for the study was done from 17th March, 2008 to 20th September, 2008. Permission was obtained from the Provincial Education Officer, Lusaka Province for the researcher to go to the schools and collect data.

The researcher personally took the questionnaires to the respondents in the sampled high schools of Lusaka. The schools appear as Appendix 1. Where it was not possible at the time to meet the teachers of geography, the questionnaires were left with either the school administrators or Heads of Department- Social Sciences. This made it much easier for the researcher to collect the completed questionnaires as the school administrators and the Heads of Department ensured that whatever questionnaires they had given out were brought back by the concerned teachers. To minimize gaps in the completed questionnaires, the researcher when collecting the questionnaires, browsed through them to check on their completion. Where gaps were found, follow-ups were made with the respective respondents.

The researcher also conducted some structured interviews with some book publishers and the Ministry of Education officials. Some of these respondents had asked for the interview rather than the questionnaire as they claimed that they were busy and did not have enough time to complete the questionnaires. This was helpful to the researcher as it reduced the waiting time for the completed questionnaire.

The researcher was observant especially as he visited the geography departmental rooms in the high schools which provided valuable information. He was also able to make further observations as he interacted with the teachers with regard to the availability of TLM.

PROBLEMS ENCOUNTERED DURING ADMINISTRATION OF THE GATHERING INSTRUMENTS

A number of problems were encountered during the administration of the data gathering instruments. These include the following:

- (i) Some respondents were not willing to complete the questionnaires. Hence, the researcher had to persuade them to do so while for some, he had to solicit the assistance of the school administration.
- (ii) Some respondents took too long to complete questionnaires. Hence, this resulted in some questionnaires being collected as late as the end of September, 2008.

DATA ANALYSIS AND INTERPRETATION

The data collected was analysed qualitatively and quantitatively. Content analysis of the responses was used to qualitatively analyse the data. Quantitative data was analysed using the Statistical Package for Social Sciences (SPSS). The latter was used to generate tables of frequencies and the corresponding percentages. Quantitative data was then inferred through the use of tables, frequencies and percentages as shown in the various sections of the study in chapter four (4).

The qualitative data was analysed by comparing and grouping (categorizing) respondents' opinions. The emerging themes from the data were grouped or categorised and then interpreted.

ETHICAL CONSIDERATIONS

During the course of the study, the respondents were assured of strict confidence as the information was purely going to be used for academic purposes only.

CHAPTER FOUR

PRESENTATION OF FINDINGS AND DATA ANALYSIS

INTRODUCTION

This chapter presents the findings of the study and the analysis of the data from all the respondents. Data analysis was divided into four main sections based on the data gathering instruments used in the study. The first section of the study solicited information from the teachers of geography themselves and was divided into four parts. It sought information from the teachers of geography on collaboration among themselves in the production of teaching and learning materials. It went on to establish whether there were any provisions or incentives offered by book publishers and the MoE respectively to the teachers in order for them to produce TLM.

The second section of the study sought information from the school administrators on whether teachers of geography in the sampled high schools collaborated in the production of TLM. The third section was aimed at finding out from book publishers on the provisions they had for the teachers who wished to produce TLM. The last section of the study sought information from the MoE officials on the programmes and incentives that had been put in place for the teachers to collaborate and produce TLM.

The findings of the study were as follows:

RESPONDENTS' LOCATION

This variable considered the type of high school where the respondents were serving. There were mainly two types of high schools in Lusaka, that is, Government schools and the grant-aided or mission schools, (see Appendix 1).

The categories of the high schools were also taken into account. There were two main categories of high schools namely: a boarding school and day schools. There were also two specific categories of day high schools considered in the study and these were the co-educational and single sex-schools for boys and girls respectively. These types and categories of high schools were considered that way in order to help in terms of generalisations of the study results to the other parts of the country.

The variable helped to determine whether there would be variations in terms of collaboration among the respondents on production of TLM, that is, according to the nature of the high school where the teachers served. It was also significant in determining the levels of collaboration among the teachers of geography in various types of schools within the sampled high schools. This was important in order to find out whether there

were variations also among the respondents who served in Government and grant-aided schools.

From the study, it was found out that the majority of the respondents (90%) were serving in Government schools while only 10% were teaching in grant-aided or mission schools.

The findings of the study are presented in Table 1:

Table 1: Type of high schools where the respondents served

Type	No. of respondents	Percentage
Government	54	90
Grant-aided	6	10
Total	60	100

(Source: Field Data, 2011)

The table mentioned above, indicates that most of the high school teachers (90%) were from Government schools and only ten (10) percent of the teachers in the sample were from grant aided or mission schools as stated earlier.

The study had gone further to consider the categories of high schools where teachers of geography served. This variable was taken into account in order to establish the category of high schools in the sampled schools where the teachers were producing TLM in a collaborative manner. The variable was relevant in that the administration of the schools would differ significantly between Government and grant aided schools. This is so in that, unlike in Government schools, the church mother bodies or managing agencies would always have a different approach in the appointment of school administrators and teaching staff in their schools.

The findings of the study are presented in Table 2.

Table 2 : Category of high schools where teachers served

Category of high school	No. of respondents	Percentage
Boarding School(Co-educational)	4	6.67
Day School(Co-educational)	27	45.0
Day Single Sex(Boys only)	16	26.67
Day – Single Sex(Girls only)	13	21.67
Total	60	100

(Source: Field Data,2011)

Table 2 shows that most of the teachers 93.33% were serving in day schools while only 6.67% of the teachers were at a boarding school. It can be noted further that of the day schools, most of the teachers (48.34%) were teaching at single sex day schools while 45% of the teachers were at co-education schools in Lusaka

RESPONDENTS' QUALIFICATIONS

This variable considered the qualifications of the teachers of geography serving in the high schools. The qualifications of the teachers in the sampled high schools were taken into account in order to establish whether or not the respondents' qualifications had any significant influence on their collaboration in the production of TLM. It also sought further to find out whether or not there were any differences on the production of TLM between male and female teachers in the sampled high schools and whether or not the teachers were qualified to handle senior grades, that is, grades 10 to 12. At the time of the study in the year 2011, only degree holders were supposed to teach at high school level. The findings were as presented in Table 3:

Table 3: Qualifications of teachers of geography in the sampled high schools

Qualifications of the teachers	Female teachers		Male teachers	
	No. of respondents	Percentage of respondents	No. of respondents	Percentage of respondents
Certificate	0	0	0	0
Diploma	16	26.7	17	28.3
Degree	8	13.3	15	25.0
Degree & certificate	0	0	1	1.7
Degree & diploma	2	3.3	0	0
Masters degree	1	1.7	0	0
Total	27	45.0	33	55.0

(Source: Field Data, 2011)

The above table shows that 55% of the respondents in the sampled schools were diploma holders, 38.3% had a first degree. However, only a sub-total of 5% of the respondents had upgraded their qualifications to the degree level, that is, 3.3% among the female teachers and 1.7% among the male teachers. Only 1.7% of the respondents, among the female teachers, had a Masters degree. Hence, it could be seen that most of the teachers in the study (55%) were diploma holders.

The study also took into account the subject combinations of the respondents in the sampled schools. This was necessary in order to find out whether or not the teachers had only geography as their teaching subject. This was important in order to establish the impact of the teachers' subject combinations on their collaboration in the production of TLM. The findings of the study are presented in Table 4.

Table 4: Subject combinations of teachers in the sampled high schools

Subject combinations	Number of respondents	Percentage (%)
Geography(Single major)	9	15.0
Geography & English Language	25	41.7
Geography&Religious Education(R.E)	15	25.0
Geography & History	6	10.0
Geography& Physical Education (PE)	2	3.3
Geography& Mathematics	1	1.7
Geography & Civics	2	3.3
Total	60	100

(Source: Field Data, 2011)

The table revealed that only 15% of the teachers in the sampled schools were geography single subject majors, while the majority (85%) combined geography with another subject. For example, 41.7% of the teachers offered Geography and English Language, 25% offered Geography and Religious Education Studies while 10% of the teachers offered Geography and History. Other subjects that teachers of geography offered included Physical Education (PE), Mathematics and Civics.

The study went further to establish the teaching loads or the number of periods of geography that the teachers in the sampled high schools had per week. This was necessary in order to find out how their teaching loads impacted on their collaboration in the production of TLM. The findings of the study are presented in Table 5.

Table 5: Number of teaching periods of geography per teacher in the sampled schools

No. of periods per week	No. of respondents	Percentage(%)
0 - 8	20	33.3
9 - 16	24	40
17 - 24	9	15
25 - 32	7	11.7
33 - 40	0	0
Total	60	100

(Source: Field Data, 2011)

The table shows that the highest number of periods in geography at the time was 32. It could be seen further that 73.3% of the teachers held up to 16 periods. It can be noted from table 5 that the total number of periods could be much higher for the teachers that offered other subjects in addition to geography.

The study also went further to find out the length of service of the respondents in the sampled high schools and how it impacted on their collaboration in the production of TLM. The findings of the study are presented in Table 6.

Table 6: Years of service of teachers of geography in the sampled high schools

No. of years of service	No. of respondents	Percentage (%)
0 - 5	29	48.3
6 - 10	23	38.3
11 - 15	3	5.0
16 - 20	4	6.7
21 - 25	1	1.7
26 - 30	0	0
Total	60	100

(Source: Field Data, 2011)

Table 6 shows that most of the teachers (86.6%) had served for ten (10) years and less. The majority of them (48.3%), however, had served for up to five (5) years. 13.4. % of the respondents have been teaching for more than ten (10) years, with only 1.7% having more than twenty (20) years experience. Hence, a good number of teachers of geography (48.3%) were still new and without much experience.

EFFECT OF NON-AVAILABILITY OF TEACHING AND LEARNING MATERIALS ON TEACHERS OF GEOGRAPHY

This variable sought to find out the extent to which the non availability of the TLM in the sampled high schools was negatively affecting the teachers. The findings of the study are presented in Table 7.

Table 7: Teachers negatively affected by non-availability of TLM in the sampled high schools

Responses	No. of respondents	Percentage(%)
Yes	60	100
No	0	0
Total	60	100

(Source: Field Data, 2011)

From Table 7, we can see that all the teachers of geography (100%) stated that they were negatively affected by the non availability of TLM in their respective high schools.

The study also sought to establish the specific TLM that negatively affected the teachers of geography in the sampled high schools of Lusaka. The findings of the study are presented in Table 8.

Table 8: Specific TLM that negatively affect teachers of geography in the sampled high schools

Teaching and learning materials	Responses	
	Actual number	Percentage (%)
Text books	50	83.3
Pictures/photos	15	25
Charts	30	50
Diagrams	20	33.3
Stationary	40	66.7
Weather instruments	10	16.7
Maps	45	75
Globes	30	50
Atlases	45	75
Field trips	30	50
Not stated	5	8.3
Total	320	100

(Source: Field Data, 2011)

The above table indicates that most of teachers of geography (83.3%) were negatively affected by the non availability of text books. 75% of the teachers were negatively affected by the non availability of maps and atlases respectively. 66.7% of the respondents were negatively affected by the non availability of stationery while globes and field trips accounted for 50%. It could be noted from the table, however, that 8.3% of the teachers could not state whether or not any TLM negatively affected their work.

COLLABORATION AMONG TEACHERS OF GEOGRAPHY IN SCHOOL

This variable sought to find out the extent to which teachers of geography collaborated effectively in their schools. It went further to establish the specific areas and levels of collaboration among teachers of geography in the high schools. The findings of the study are presented in Tables 9, 10 and 11.

Table 9: Collaboration among teachers of geography in the sampled high schools

Collaborating with other teachers in school	No. of respondents	Percentage (%)
Yes	27	45
No	33	55
Total	60	100

(Source: Field Data, 2011)

From the table above, it can be seen that 45% of the teachers of geography at the time of the study were collaborating generally in their respective schools while the majority (55%) were not collaborating among themselves in the sampled high schools.

In terms of the specific areas of collaboration, the findings of the study were as presented in Table 10.

Table 10: Specific areas of collaboration among teachers of geography in the sampled schools

Area of collaboration	Responses	
	Actual number	Percentage (%)
Departmental meetings	27	45
Common tests	18	30
Geography project	9	15
Sharing text books & notes	8	13
Own material	14	23
Producing TLM	0	0
Not stated	6	10
Total	82	100

(Source: Field Data, 2011)

Table 10 shows that the most important form of collaboration among the teachers of geography in the sampled high schools at the time of the study was the holding of

departmental meetings which percentage stood at 45%. It can be seen from the table that 30% of the teachers were working together in setting common tests while 23% of them were relying on their own materials. It can also be noted from Table 10 that 10% of the teachers, however, could not state any form of collaboration with other teachers at all. Only 15% of the teachers were working together on Geography Projects, a practical and examinable component of Geography then at high school level. 13% of the respondents indicated that they were sharing their text books and notes. Sadly, none of the respondents indicated any form of collaboration in the production of teaching and learning resources in their respective high schools.

The study went further to find out the levels of collaboration amongst teachers of geography themselves in the sampled high schools on the production of TLM. The findings of the study are presented in Table 11.

Table 11: Level of collaboration among the teachers of geography in the sampled high schools

Level of collaboration	No. of respondents	Percentage (%)
Very high	0	0
High	3	5
Average	23	38.3
Low	13	21.7
None	21	35
Total	60	100

(Source: Field Data, 2011)

From Table 11, it can be seen that none of the respondents at the time of the study indicated very high levels of collaboration in their respective schools. Only 5% of the respondents stated that the levels of collaboration were high. 38.3% of the teachers indicated average levels of collaboration while 21.7% of them stated that there were low levels of collaboration. Unfortunately, 35% of the respondents indicated that there wasn't any form of collaboration in their respective schools at all.

COLLABORATION OF TEACHERS OF GEOGRAPHY WITH THOSE FROM OTHER SCHOOLS IN THE PRODUCTION OF TEACHING AND LEARNING MATERIALS

The study sought to establish whether or not the respondents collaborated with the other teachers of geography from other schools in the production of TLM. The findings of the study are presented in Table 12.

Table 12: Collaboration of teachers of geography in the production of TLM with those from other schools in the sampled high schools

Collaboration with those from other schools	No. of respondents	Percentage (%)
Yes	0	0
No	60	100
Total	60	100

(Source: Field Data, 2011)

The table above indicates that all the teachers (100%) in the sample at the time of the study were not collaborating at all with those from other schools in the production of TLM.

THE PRODUCTION OF TEACHING AND LEARNING MATERIALS IN SCHOOLS

This variable sought to establish whether or not teachers of geography produced TLM individually or in a collaborative manner. It went further to find out the type of materials that they were able to produce and the mode of producing such resources. The findings of the study are presented in Table 13.

Table 13: Teachers able to produce TLM in the sampled high schools

Type of materials Produced	Individually produced		Collaboratively produced	
	No. of responses	Percentage (%)	No. of responses	Percentage (%)
Text books	0	0	3	5.0
Pamphlets	32	53.3	10	16.7
Notes	45	75.0	4	6.7
Charts	18	30.0	4	6.7
Models	2	3.3	2	3.3
Maps	12	20.0	3	5.0
Diagrams	18	30.0	4	6.7
Not stated	5	8.3	40	66.7
Total No. of teachers	132	100	70	100

(Source: Field Data, 2011)

From Table 13, we can see that individually, 53.3% of the respondents were able to produce pamphlets. 75% of the teachers of geography were able to provide notes while 30% could produce charts and diagrams respectively. None of the teachers could individually produce a text book. However, 8.3% of the teachers in the sampled schools could not state any type of material that they were able to produce.

The findings, however, were different when it came to collaborative effort as 66.7% of the respondents could not state the type of material that they were able to produce with others. Only 16.7% indicated that they could produce pamphlets together with others. Even in terms of notes, only 6.7% of teachers of geography stated that they were able to do so collectively. Similarly, the other teaching and learning materials stood at less than 28% as follows:

Charts and diagrams both stood at 6.7%, respectively models and text books at 3.3% and maps at 5%. It can be inferred further from the table that few teachers (3.3%) were able to work together to produce TLM as a team or in a collaborative manner.

The study had sought further to establish the actual or specific TLM that the respondents had been able to produce in geography in the sampled high schools. The findings of the study are presented in Table 14.

Table 14: Specific TLM produced by teachers in the sampled high schools

Type of material	Individually Produced		Collaboratively Produced	
	Number	Percentage (%)	Number	Percentage (%)
Text books	0	0	3	4.3
Pamphlets	32	24.2	10	14.3
Notes	45	34.1	4	5.7
Charts	18	13.6	4	5.7
Models	2	1.5	2	2.9
Maps	12	9.1	3	4.3
Diagrams	18	13.6	4	5.7
Not stated	5	3.8	40	57.1
Total	132	100	70	100

(Source: Field Data, 2011)

Table 14 indicates that more materials could be produced in the high schools individually than in a collaborative way by teachers of geography. It can also be noted that most of the respondents (96.2%) were able to produce TLM individually as compared to 42.9% who were able to do so in a collaborative manner. In addition only 3.8% of the teachers could not state the material they were able to produce individually as opposed to 57.1% when it came to collaborative effort.

FACTORS THAT HINDERED COLLABORATION AMONG TEACHERS OF GEOGRAPHY IN THE PRODUCTION OF TEACHING AND LEARNING MATERIALS

This variable sought to establish the reasons that the teachers of geography had for their failure to collaborate or rather the factors that hindered collaboration among the teachers of geography in the production of teaching and learning materials. The findings of the study are presented in Table 15.

Table 15: Factors hindering collaboration among teachers of geography in the sampled high schools

Factors hindering collaboration	Actual responses	
	Number	Percentage (%)
Lack of subject Association	8	13
Lack of time	34	56.7
Lack of money/financial resources	28	46.7
Poor teacher relationships	8	13
Lack of motivation incentives	18	30
Heavy workload	12	20
Poor conditions of service	15	25
Lack of teacher commitment	10	16.7
Lack of co-ordination/team work	25	41.7
Rigid timetable	12	20
Total	170	100

(Source: Field Data, 2011)

Table 15 shows that the major factors that hindered or inhibited teachers of geography from developing teaching and learning resources at the time of the study were many and included: lack of time at 56.7% of the respondents, lack of money or financial resources at 46.7%, lack of co-ordination or team work at 41.7%, lack of motivation at 30%, poor conditions of service at 25% and the rigid timetable at 20%. The other factors included: lack of teacher commitment at 16.7%, heavy workload at 20%, lack of subject association and poor teacher relationships at 13% each.

COLLABORATION BETWEEN TEACHERS OF GEOGRAPHY AND BOOK PUBLISHERS IN THE PRODUCTION OF TEACHING AND LEARNING MATERIALS

This variable sought to establish whether or not there were any links or collaboration between teachers of geography and book publishers in the production of TLM. The findings of the study are presented in Table 16.

Table 16: Existence of collaboration between teachers of geography and book publishers

Responses	No. of respondents	Percentage (%)
Yes	0	0
No	60	100
Total	60	100

(Source: Field Data, 2011)

Table 16 shows that there was no collaboration between teachers of geography and book publishers in the production of teaching and learning materials at the time that this study was undertaken. It could be seen from the table that all the teachers (100%) did not indicate any form of collaboration with book publishers.

INCENTIVES AND PROGRAMMES PROVIDED BY THE MINISTRY OF EDUCATION FOR TEACHERS TO PRODUCE TEACHING AND LEARNING MATERIALS

These variables sought to find out whether or not there were any programmes and incentives which have been put in place by the Ministry of Education (MoE) at the time of study in order to encourage teachers in the high schools to produce TLM and improve the quality of their lessons. The variables went further to establish ways and means through which collaboration could be enhanced among teachers in the production of teaching and learning resources.

The findings of the study were as presented in Tables 17 and 18.

Table 17: Programmes provided by MoE for teachers to produce TLM

Responses	No. of respondents	Percentage (%)
Programmes provided	3	5
No Programmes provided	57	95
Total	60	100

(Source: Field Data, 2011)

From Table 17, it can be seen that only 5% of the respondents stated that there were programmes put in place for them by the MoE to produce teaching and learning materials

while the majority, 95% of the teachers indicated that there were no programmes at all for them in the sampled high schools.

The study endeavoured also to find out whether or not there were any specific incentives that were put in place by the MoE to motivate the teachers to collaborate and produce TLM. The findings of the study were as presented in the table 18.

Table 18: Incentives provided by the MoE for teachers to produce TLM

Responses	No. of respondents	Percentage (%)
Incentives offered	3	5
No Incentives offered	57	95
Total	60	100

(Source: Field Data, 2011)

Table 18 indicates that the responses were similar to those under table 17. Thus, most of the respondents (95%) stated that there were no incentives offered by the MoE for teachers to produce TLM while only 5% of the teachers were of the view that incentives were in place for them.

The study went further to find out the ways in which collaboration among the teachers of geography in the production of TLM could be enhanced in the sampled high schools. The findings of the study are presented in Table 19.

Table 19: Ways of enhancing collaboration among teachers of geography in the production of Teaching and learning materials

Suggestions by teachers	Actual responses	
	Number	Percentage (%)
Provide funding for procurement of materials	18	30
Form Teacher Subject Association	12	20
Offer In-service Training/Programmes	9	15
Workshops/Seminars	24	40
Provide incentives/motivation	12	20
Develop Policy framework	3	5
Provide computers	6	10
Not stated	6	10
Total	90	100

(Source: Field Data, 2011)

The table indicates the proposals by the respondents in the sampled high schools at the time of the study on ways of enhancing collaboration in the production of TLM in their respective schools. Thus, 40% of the teachers of geography at the time of the study favoured the holding of workshops or seminars on material development. 30% of the respondents requested more funding for the procurement of materials and stationery respectively. 20% of the teachers proposed the provision of incentives and the formation of a geography association respectively while only 10% of the respondents suggested the procurement of computers. Surprisingly, 10% of teachers of geography could not offer any suggestions at all. It was strange, however, that many teachers (10%) could fail to suggest ways in which collaborative effort in the production of TLM could be enhanced in their respective schools at that time of the study.

VIEWS FROM THE SCHOOL ADMINISTRATORS ON THE PRODUCTION OF TEACHING AND LEARNING MATERIALS

The second section of the study sought information from school administrators in order to authenticate the information obtained from teachers of geography on the production of TLM in their respective schools.

The findings of the study on the views from the school administrators were as follows:

HOW TEACHERS OF GEOGRAPHY PRODUCED TEACHING AND LEARNING MATERIALS IN SCHOOLS

The variable sought to find out from the school administrators whether or not the teachers of geography produced materials individually or collaboratively in the sampled high schools. The findings of the study are presented in Table 20:

Table 20: Mode of teachers' production of TLM in the sampled high schools

Mode of material production	No. of respondents	Percentage (%)
Individually	9	75
Collaboratively	1	8.3
Not stated	2	16.7
Total	12	100

(Source: Field Data, 2011)

From Table 20, it can be seen that 75% of the school administrators in the sampled high schools at the time of the study stated that teachers of geography at their respective schools produced materials individually, 8.3% of them indicated collaborative effort among the teachers while 16.7% could not state the mode of production of TLM.

The study went further to find out the type of TLM that the teachers in the sampled high schools could produce individually or collaboratively. The findings of the study are presented in Tables 21 and 22.

Table 21: Type of TLM produced by teachers individually in the sampled high schools

Material produced	No. of respondents	Percentage (%)
Pamphlets	1	8.3
Geography Project Guidelines	2	16.7
Notes	5	41.7
Maps	1	8.3
Not Stated	3	25
Total	12	100

(Source: Field Data, 2011)

From Table 21, it can be seen that 41.7% of the administrators at the time of the study stated that the teachers of geography in their respective schools relied on their own notes, 16.7% indicated the production of the geography project guidelines while maps and pamphlets stood at 8.3% respectively. However, 25% of the school administrators could not state the type of TLM produced by their teachers of geography individually. Unfortunately, there were no specific TLM that were indicated by the administrators which were produced collaboratively by teachers of geography. The school administrators only indicated the forms of collaborative effort in their respective schools which were nevertheless not substantiated. The findings on this aspect are presented in Table 22.

Table 22: Mode of collaborative effort by teachers of geography in the sampled high schools

Mode of collaborative effort	No. of respondents	Percentage (%)
Meetings	3	25
Not stated	9	75
Total	12	100

(Source: Field Data, 2011)

Table 22 shows that no administrator could point out specific geography materials that teachers in their schools produced. 25% of them indicated meetings as the form of collaboration of their teachers of geography in the sampled high schools. Unfortunately,

the majority of the respondents (75%) could not state the type of TLM that the teachers collaboratively produced.

HOW SCHOOL ADMINISTRATORS HAVE ENCOURAGED COLLABORATION AMONG THE TEACHERS OF GEOGRAPHY IN THE PRODUCTION OF TEACHING AND LEARNING MATERIALS IN THE SAMPLED HIGH SCHOOLS

This variable sought to establish how the school administrators have encouraged teachers of geography in the sampled high schools in the production of TLM. It went on to establish the factors that have hindered collaboration among teachers of geography and the measures that the school administrators had put in place to encourage the teachers to produce the TLM in their schools. The findings of the study are presented in Tables 23, 24 and 25.

Table 23: How school administrators have encouraged collaboration among teachers of geography in the production of TLM in the sampled schools

Mode of encouragement	No. of respondents	Percentage (%)
Financially	1	8.3
Procurement of departmental computer	1	8.3
Meetings with H.O.Ds	1	8.3
Not stated	9	75
Total	12	100

(Source: Field Data, 2011)

From table 23, we can see that the majority of the respondents (75%) at the time of the study in the sampled schools could not state how they had encouraged collaboration among their teachers to produce teaching and learning materials. The ways proposed by the school administrators which stood up at 8.3% each were holding meetings with Heads of Department, providing departmental computers and budgeting for TLM.

The study sought further to find out from the school administrators the factors that hindered collaboration among teachers of geography in the production of TLM. The findings of the study are presented in Table 24.

Table 24: Factors stated by school administrator to be hindering collaboration among teachers of geography in the production of TLM in the sampled schools

Factor	No. of respondents	Percentage (%)
Lack of funds	7	28
Lack of time	5	20
Overload (more periods)	3	12
Lack of departmental room	4	16
Poor remuneration	3	12
Lack of materials	1	4
Inadequate equipment	1	4
Not stated	1	4
Total	25	100

(Source: Field Data, 2011)

Table 24 gives the following as the major factors indicated by the school administrators that hindered collaboration among teachers of geography to produce TLM as follows: Lack of funds stood at 28%, Lack of time at 20%, teachers having more periods of geography or overloaded at 12%, lack of departmental room at 16%, poor remuneration at 12% and at 4% each were lack of materials, inadequate equipment such as computers. Unfortunately, 4% of the respondents could not state anything at all.

The study went further to find out from the school administrators what measures they have been able to put in place to encourage teachers of geography in the sampled schools to produce TLM. The findings of the study are presented in Table 25.

Table 25: Measures put in place by school administrators to encourage teachers of geography to produce Teaching and Learning Materials in the sampled high schools

Factor	No. of respondents	Percentage %
Hold meetings	3	20
Provide dept. Computer	1	6.7
Budget and plan for materials	1	6.7
Observe lessons	1	6.7
Fundraise for materials	1	6.7
Not stated	8	53.3
Total	15	100

(Source: Field Data, 2011)

From the table above, we note that the measures that the school administrators had put in place to encourage the teachers to produce TLM were as follows: 20% suggested holding meetings, 6.7% gave providing departmental computers, budgeting and planning for materials, observing lessons and fundraising for school materials respectively. Unfortunately, the majority of the respondents (53.3%) could not state or give any measures that they had put in place in their respective schools to encourage teachers of geography to produce TLM.

HOW THE PRODUCTION OF TEACHING AND LEARNING MATERIALS COULD BE ENHANCED IN THE HIGH SCHOOLS

This variable sought to establish from the school administrators the ways through which the production of TLM could be enhanced in schools and the following were their responses:

41.7% of the respondents suggested holding workshops or seminars for the teachers, 33.3% suggested providing financial resources to the teachers, 8.3% proposed seeking donor assistance and extending the departmental room respectively. Unfortunately, the same proportion could not offer any suggestion at all.

VIEWS FROM THE BOOK PUBLISHERS ON THE PRODUCTION OF TEACHING AND LEARNING MATERIALS IN SCHOOLS

The study had also sought information from book publishers on whether or not the teachers of geography were publishing any TLM. It went further to find out whether or not there were any incentives offered by book publishers to the teachers in order to encourage them to publish TLM.

During interviews with book publishers, they indicated that they had published TLM by Zambian teachers in geography and gave as examples publications such as the High School Geography of Zambia, The Zambian High School Atlas and the Secondary Geography of Zambia among several others.

However, book publishers noted that these publications were not written by serving teachers of geography but by teachers who were not active in the classroom but still serving with the Ministry of Education. They added that some of the former teachers they were working with were retirees from the Ministry of Education.

The book publishers indicated that some of the factors that hindered teachers from producing TLM were the high cost of production, lack of time to research and write materials and lack of knowledge on incentives which they offered on publications. On the deliberate policies which they had to encourage the teachers to produce TLM, they stated that they had put certain measures in place which included: the holding of occasional writing workshops, story writing competitions and commissioning some teachers to write for them in various subjects including geography.

The incentives that book publishers had for the teachers to produce TLM included: payment of royalties, contract fees and assistance in marketing their materials or publications. The measures that the publishers had put in place to encourage the teachers of geography in particular to produce TLM at the time of the study in 2009 were: commissioning some teachers to write books for the new senior geography curriculum, holding teachers' days and book fairs where writing seminars or workshops could be organised.

VIEWS FROM THE MINISTRY OF EDUCATION ON THE PRODUCTION OF TEACHING AND LEARNING MATERIALS IN SCHOOLS

The fourth and last section of the study had sought information from the Ministry of Education (MoE) officials to establish what was prevailing in high schools in

terms of TLM production, programmes and incentives that the Ministry might have put in place to ensure that teachers were collaborating in the production of TLM.

In terms of interviews which were conducted, the responses were obtained from curriculum development specialists based at the Curriculum Development Centre (CDC) and from Senior Standards Officers based at the Provincial Education Office and at the Ministry of Education Headquarters.

The Ministry of Education Officials stated that they were not happy with the staffing levels in the high schools which they described as being very low. They added that most teachers in the high schools were diploma holders. They went further to state that in some of the upgraded high schools, there were even seconded primary school trained certificate holders.

In terms of the sufficiency of TLM in schools, the officials from the MoE stated that these were not adequate. They went on to say that while the Geography Syllabus had changed five years prior to the time of the study, there wasn't enough information or materials that were being developed to match the new syllabus. In addition, most teachers depended on their old books which did not contain adequate information for the new syllabus that was in use at the time of the study.

On the production of TLM, the MoE officials said that the teachers did not produce materials collaboratively but individually. They added that some teachers of geography produced pamphlets for sale while the majority depended on their own individual notes which they had accrued over a period of their teaching career. They went on to state that the teachers did not collaborate in the production of TLM but only worked together during meetings such as those of Discussion, Observation, Demonstration and implementation (DODI) and School Programme of In-Service for the Term (SPRINT) programmes.

The MoE officials further indicated that among the major factors that hindered collaboration among teachers of geography in the high schools in Zambia at the time of the study were mainly those as a result of lacking a subject association and also lack of collaborative methods of teaching and not having common goals in their respective schools.

In terms of the measures that have been put in place to encourage collaborative effort among the teachers in the production of TLM, the officials at CDC stated that there was none as most of the people expected materials to be developed by CDC. The Senior Education Standards Officers-Social Sciences, however, said that there were workshops and SPRINT programmes which were in place to help the teachers to improve on their teaching methods.

On the ways to encourage the teachers to produce TLM, the Senior Education Standards Officers stated that there were Teachers' Group Meetings (TGs) where specialist teachers presented topics that the other teachers were not familiar with or were not comfortable to teach adequately. In addition, the high schools were being encouraged to request funds from the Parents and Teachers Associations (PTAs) for the production of TLM. The officials at CDC went further to state that they do involve teachers from time to time whenever they developed materials for the schools.

On the way through which the Ministry of Education (MoE) could promote collaboration among the teachers to produce TLM, the officials all agreed on the need to re-establish and re-enforce the Geography Association starting from the school through the district, province, up to the national level. They added that once a professional association was in place, it was going to be much easier for teachers of geography to come together and put the interests of their profession first. They went further to state that once the association was formed, it was going to help the teachers themselves to produce qualitative and appropriate TLM. It would consequently assist the teachers of geography themselves to address the many challenges that they faced in their respective schools collectively.

CHAPTER FIVE

DISCUSSION OF FINDINGS

This chapter discusses the findings of the study that investigated collaboration among teachers of geography in the production of TLM in twelve selected high schools of Lusaka, (see Appendices (i) and (ii)). The study sought to establish whether or not teachers of geography collaborated effectively in the production of TLM at high school level. It went on to find out the factors that influenced collaboration among teachers of geography. It went further to establish whether or not the MoE provided a platform for the teachers to produce TLM in order to enhance the quality of education at the high schools in the country.

It was noted from the study that despite the respondents coming from different high schools in the sample, that is, Government and Grant aided or mission schools, they had similar responses to most of the variables used in the study. This was essential to the study as it showed that if the study was to be done in other parts of the country, it was also likely that similar responses could be obtained from the respondents. Hence, the results of the study would be fairly representative of the views of the other teachers of geography at Zambian high schools.

According to the MoE Standards (GRZ, 1996:111), “the minimum qualification for teachers to serve in high schools in the country is the first University degree.” The study, however, found that the qualifications of the teachers in the study varied as follows: diploma holders at 55%, first university degree at 43.3% and masters’ degree at 1.7%. This development was confirmed by MoE officials who went on to state that in some of the upgraded high schools, there were even some seconded teachers who were Zambia Teacher Education Course (ZATEC) certificate holders. Hence, it could be seen that the qualifications of most of the teachers (55%) with diplomas in the sampled high schools at the time of the study did not meet the minimum requirements of the MoE for teachers to serve in the high schools. This state of affairs had far reaching consequences for the MoE, the teachers themselves and the pupils in terms of the quality of education that was being provided in the high schools in the sense that the diploma holders who were currently serving were not supposed to be in the high schools but at upper basic schools.

The disclosure by MoE officials at the time of the study that there were seconded teachers with ZATEC certificates was difficult to comprehend because such teachers were trained to teach lower and middle basic levels of education. Hence, how competent would

such teachers be to handle classes at high school level when they were not even supposed to teach upper basic pupils?

In terms of the qualifications of the teachers serving at either Government or Grant aided schools in the sampled high schools, the study found out that there was no significant difference amongst them. On the production of TLM, there were both diploma and degree holder teachers who were producing pamphlets, maps and charts. However, none of the degree holder teachers were among those who did not state anything on the TLM that they were able to produce alone.

The study found that of the teachers of geography in the sampled high schools, only 15% of them were single subject teachers. The majority of the teachers (85%) at the time of the study offered geography and another subject. This state of affairs resulted in most geography single subject majors having more periods of geography per week. In the case of those combining geography with another subject, they had to divide their time and attention between the two subjects. Hence, little time remained for most of them to collaborate effectively in the production of TLM in geography. The situation in the sampled high schools was compounded by the fact that the majority of the teachers (86.6%) were relatively young in the profession, in the sense that they had served for up to ten (10) years of which 48.3% of them having been teaching for only up to five (5) years. This state of affairs would in turn have negative consequences for such teachers in particular and the MoE in general in the sense that the young or newly qualified teachers who would be joining the service of the MoE would not be mentored adequately in terms of their professional development.

In terms of the availability of TLM, the study found that these were few and insufficient. All the respondents stated that they were negatively affected by the inadequate supply of TLM in their schools. The shortage of TLM in the high schools affected the teachers as follows: text books (83.3%), maps (75%), atlases (75%), globes (50%), charts (50%) and many others at various levels. Unfortunately, 8.3% of the respondents could not even state any TLM that had any negative effect on their teaching. The failure by such a big proportion of teachers to identify factors that affected them in their teaching, therefore, raises questions in terms of their relevance and effectiveness in the schools in general and to the pupils in particular whom they are committed to help succeed in their studies.

The MoE officials confirmed the insufficient stocks of TLM in geography available in the schools. Strangely, however, there seems to have been nothing much done by the MoE to address the situation claiming lack of financial resources to procure TLM.

It can also be noted from the Geography High School Syllabus (Ntalasha et al, 2000) that although it was a revised edition, a number of subject areas or topics were omitted. Some of the topics that had been left out on Zambia included: relief, soils, climate, forestry, fishing, dairying, poultry, transport and communications. The same was true about the sub-region geography whereby many other areas, too, had been omitted from the textbook.

It could also be noted from the High School Geography Pupils' book (Ntalasha et al, 2004) that a lot of material in the subject had not been comprehensively covered. For example, areas such as diamond mining, mining in Angola, transport and communications and many other topics had not even been included in the book.

Unfortunately, such subject areas or topics were examined at grade twelve levels and since the pupils' book appeared to be the main book that was available in high school geography at the time of the study, pupils were really at a loss or disadvantaged as there were no supplementary materials available in the schools for both the teachers and the pupils. In such situations, therefore, the teaching of geography was occurring with great difficulty and was having a negative effect on the learners.

In terms of the production of TLM, the study found that there was no collaboration among the teachers of geography in the production of such resources. It could be seen to be much of a paradox that despite the teachers identifying the negative impact of the inadequate resources on their teaching, they still could not collaborate to produce the much needed TLM.

It was also found out that 23% of teachers of geography in the sampled high schools depended on their own materials such as notes, maps, charts and diagrams. For the old teachers, it was noted, at the time of the study, that most of their notes had not been revised despite the recent changes in the subject such as the privatization and liquidation of certain companies. Geography as a living subject required the teachers to effectively collaborate and take notes of whatever changes that were occurring in the subject. This will enable the teachers themselves to constantly revise their notes and methodologies. However, it was found out that none of the teachers were working together to produce TLM, which was rather unfortunate. It should be noted that, for teachers to be effective in the midst of shortages of TLM, they needed to collaborate effectively with others in order for them to be relevant to their pupils and for their own professional development.

The forms of collaboration or association that the teachers in the sampled schools were engaging themselves in were in areas which were not directly related to the production of TLM. The teachers collaborated mainly through departmental meetings, setting common tests, sharing textbooks, clubs and sport activities. Unfortunately, 10% of

the teachers at the time of the study could not state any form of collaboration with their colleagues in their schools. In terms of the levels of collaboration, the study found out that the majority of the respondents (38.3%) indicated that the levels were average while 21.7% stated that these were below average. However, 35% of the teachers said that collaboration was non-existent in their schools. Only 5% of the respondents indicated high levels of collaboration which could not be well substantiated in terms of TLM production. This state of affairs in the high schools is very worrisome in the sense that meaningful learning outcomes cannot be achieved adequately when teachers are not working together. It was also found out during the study that the teachers were not working together with those from other schools in the production of TLM but in activities and programmes such as setting the common mock examinations, marking final grades 9 and 12 examinations, meetings, sports and other activities.

In terms of the mode and type of resources that the teachers were able to produce, most teachers (91.7%) indicated that they could produce TLM individually as opposed to collaborative efforts which stood at 33.3%. This was confirmed by the school administrators whereby most of them (75%) stated that the teachers produced TLM individually while only 8.3% of them indicated collective effort on the part of the teachers. 16.7% of the school administrators could not even state the mode of production of TLM by their teachers, that is, whether individually or collaboratively.

Individually, the production of certain TLM by the teachers in the sampled schools stood at the following levels: notes (75%), pamphlets (53%), charts (30%), diagrams (30%), maps (20%) and none for text books. Unfortunately, 8.3% of the teachers could not state the type of TLM that they could produce individually. When it came to collective effort, the same materials stood at the following levels: pamphlets (16.7%), notes (6.7%), charts (6.7%), diagrams (6.7%), maps (5%) and text books (5%). Surprisingly, 66.7% of the teachers could not indicate any TLM that they could produce collaboratively. In the case of school administrators, 75% of them could not even state any form of collaborative effort by the teachers while 25% of them gave meetings as the way in which the teachers worked together or collaborated in their respective high schools.

As stated earlier, many teachers at the time of the study preferred to produce TLM individually for various reasons. Most teachers relied on their old notes, charts, maps and diagrams which they had accumulated over the years. Hence, it becomes difficult for such teachers to share their notes and materials with their colleagues. The sad part of it, however, is that in most cases such materials are rarely updated. In addition, the reliance on old notes also encourages laziness among the teachers whereby they would be

sending the notes to class for a pupil to write on the board while the teacher is busy with other issues such as the preparation of pamphlets.

Furthermore, in such situations where a teacher relies on old materials, the pupils are at a disadvantage as recent developments in geography are rarely taken into account. This would, however, not be the case if collaboration among teachers of geography was high in the schools as they could easily give each other tasks and update their TLM.

In terms of pamphlets, the study found out that the teachers produced these mainly for monetary gain. Most of the pamphlets were of the 'question and answer' nature, focussing mainly on the final examinations. The pamphlets mainly comprised questions and answers derived from past Examinations Council of Zambia (ECZ) final examination papers and marking schemes. Sadly, even this lifting of materials from the ECZ is hardly acknowledged by the teachers. This, unfortunately, encourages plagiarism in the development of such TLM. Hence, if not checked well, it could disadvantage many material developers as their materials would be plagiarized.

It was noted, too, that the pamphlets that were being produced were not in fact good teaching and learning aids in the sense that they encouraged the pupils to focus entirely on the examinations. This in turn forced the pupils to ignore other relevant materials and recent developments on certain subject areas. Some of the pupils are negatively affected when certain areas which were not covered by the pamphlet are examined at school certificate level. In addition, the pupils are denied the opportunity to research and read other materials and publications. This eventually results in the pupils being narrow minded and consequently, they are disadvantaged when they proceed to higher institutions of learning as they would lack originality, innovation, imagination and creativity. Hence, there is need for the MoE, through the school administrators and the Senior Education Standards Officers - Social Sciences, to control the production of pamphlets and encourage the use of print-outs after covering certain topics in class.

On the major factors that hindered collaboration among the teachers to produce TLM, a number of factors were given by the teachers and these included: lack of time (56.7%), lack of money or financial resources (46.7%), lack of team work (41.7%), lack of motivation/incentives (30%), poor conditions of service (25%), heavy workload (20%), rigid timetable (20%), lack of teacher commitment (16.7%), lack of subject association (13%) and poor teacher relationships (13%).

When looked at very well, some of the factors stated above really do not have a direct bearing on collaboration in the production of TLM. This is so mainly because the

teachers could have identified some areas of possible co-operation within their constraints in order for them to be effective and relevant to the learners. In addition, most of the factors given by the respondents hinged on conditions of service, which they were not happy with at their places of work. Thus, most of the teachers concentrated more on finding ways and means to supplement their incomes. This in turn left the teachers with very little time for them to collaborate and produce the much needed TLM.

Some of the teachers compared themselves in terms of their standards of living with their colleagues in other professions such as lawyers, economists, bankers and many others whom they were together with either at the university or other higher institutions of learning. They also wanted to lead lives comparable to those of their colleagues. As a result some of the teachers did not have much time to plan ahead so as to be effective teachers. Hence, after normal working hours, some of them involved themselves in teaching the APU classes in the afternoons and evening classes later on in the day. Many others were offering private tuition to their pupils either collectively or individually. A good number of teachers produced pamphlets for sale to the pupils. The need, therefore, by the teachers to supplement their salaries, left them with little time for collaboration in the development and production of TLM. In addition, it reduced further even the time they could have had for them to liaise with their colleagues resulting in the individualistic tendencies that have developed among teachers in the school system.

It appeared that the personal needs of some of the teachers did outweigh those of their profession. In addition, it could also be seen further that unless financial resources or rewards were made available, many teachers would not think of producing TLM so as to enhance the quality of their lessons and create a healthy learning environment.

The study established that there was no collaboration existing between the teachers and book publishers in the production of TLM. It was strange to note that some of the teachers could not identify any publisher in Lusaka. Some of those who were able to identify the book publishers could, unfortunately, not state where the identified book publishers were found in Lusaka. It was, therefore, not far fetched that though there were incentives that book publishers were offering for material development, these were not known by the teachers. It was not surprising therefore, that there were no publications in geography by the serving teachers but by those who were no longer active in the classroom.

It is hoped that through the deliberate policies that book publishers intended to introduce such as holding material development and writing workshops, some teachers would be motivated and encouraged to come together and produce some TLM such as text

books, maps, charts and many others in geography. There would be need for the book publishers to go to the high schools and explain to the teachers how they could help them to produce materials for publications. This would in turn help the teachers to produce, locally, adequate qualitative and relevant TLM for the Zambian school system and even cater for the Southern African region, which would in turn enable the teachers to earn more income through royalties. In addition, the enhanced publication of relevant materials would also result in the variety of materials produced by the book publishers for the local and regional markets. This would in turn lead to the availability of sufficient and appropriate TLM which would consequently enhance the quality of teaching and learning in the Zambian high schools.

In terms of the programmes and incentives that have been put in place by the MoE for the teachers to produce TLM, the study found that the majority of the respondents (95%), in the sampled high schools, were not aware of any such initiatives in the Ministry. It was surprising that only a paltry number of the respondents (5%) acknowledged the existence of programmes available for the teachers to produce TLM which they could, however, not state. There is, therefore, need for the MoE through the Standards Officers to assist the teachers to appreciate the importance of producing TLM through collaborative effort. A lot of TLM such as role plays, debates, group work, clue cards, and many others can be produced at no cost at all. Hence, teachers of geography needed to be reminded about the need for them to be innovative and resourceful for their own good and make the learning process interesting and meaningful to the learners.

When it came to ways in which collaboration in the production of TLM could be enhanced, most of the respondents suggested the following: holding seminars and workshops (40%), provision of funding for the procurement of materials (30%), the formation of a subject association (20%), provision of incentives or motivation (20%), provision of computers (10%). Unfortunately, 10% of the respondents could not offer any suggestions at all. From the interviews carried out with some of the respondents, it was established that some of them had proposed the holding of seminars and workshops for monetary gain through the allowances that they could receive for attending such events. Nevertheless, it was noted during the study that some teachers really needed some form of in-service training as sadly some of them did not seem to have any idea of TLM development which was rather unfortunate.

Though there were some computers in the sampled high schools, these were very few and, consequently, mostly used for the setting of tests. It was rather strange and unfortunate that some of the teachers could not offer any suggestions on how to enhance

collaborative efforts in the production of TLM. It could, therefore, be assumed that such teachers could be passengers in the teaching profession and as such be, firstly, a danger to themselves as teachers. Secondly, the teachers could be a danger to the pupils whom they were employed to teach and lastly to the education system as a whole.

The need for a subject association which the teachers and the MoE officials had called for was cardinal as teachers of geography at the time of the study did not have any professional association to look at the demands and challenges of their profession. Hence, the demand by the teachers and the MoE officials for the formation of a subject association or rather the revival of the defunct Zambia Geographical Association (ZGA) was found to be very appropriate. It is important, too, to note that the association if formed must be adequately supported by the MoE in order for it to be relevant to the teachers and the MoE and, thus, contribute significantly to the promotion of geography education in the country. The MoE officials added that the association, ZGA, if formed would help to bring teachers together and in turn contribute to helping the teachers to collaborate and produce the much needed TLM.

It should, however, be noted that although the ZGA was essential for teachers of geography, it would not bring immediate results as some individualistic tendencies among some teachers would not disappear overnight. This is so because such teachers would either shun it or not be effective members. Nevertheless, with time it would gradually help to bring all the teachers together and eventually help them to develop professionally as teachers of geography.

The MoE officials supported the strengthening of school in-service programmes such as Discussion, Observation, Demonstration and Implementation (DODI), School Programme of In-Service for the Term (SPRINT) and Teachers` Groups (TGs). Although these programmes are significant in terms of assisting the teachers to improve on their teaching methods, they would do very little to help the teachers to collaborate in the production of TLM.

It is essential, therefore, for the teachers themselves to realise the need for them to collaborate and produce TLM which would contribute towards the provision of quality learning which meets the needs of their learners, and the society in which they live. This would help them to contribute positively to the development of the education system in Zambia. The teachers needed to inculcate positive values in their learners. This would in turn assist the learners to acquire positive attributes from their high school learning experiences which would enable them to graduate from the school system with positive

attitudes that would eventually help them grow and become effective members of the community and the country as a whole.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

CONCLUSION

It is evident from the findings of this study that there is no collaboration among the teachers of geography in the production of TLM. The study established that the teachers collaborated well in areas that were not directly related to the production of TLM. It was noted further that the low levels of collaboration among the teachers of geography had contributed significantly to the individualistic tendencies among some of them. Lack of a subject association has also not helped matters as there is no forum to bring the teachers together and help them face the challenges of their profession.

The study revealed further that although book publishers offered incentives for the would-be publishers of materials, these were unfortunately not known by most of the teachers as these had not been made known to them. The study also established that there were no tangible incentives or programmes by the MoE for the teachers who wished to collaborate and produce TLM. Summarily, a lot needed to be done, especially by the MoE, to encourage the teachers to produce the much needed TLM in high schools in the country. The CDC could take a lead in developing deliberate TLM development programmes for the teachers in the high schools.

The need by teachers to supplement their salaries had led them to engage in various income generating ventures such as the production of pamphlets, provision of private tuition, and teaching three sessions in a day in some schools where there is night school or evening classes. This development leaves little time for the teachers to collaborate with their colleagues to produce TLM or to plan effectively for their lessons.

Although some of the teachers of geography stated that they could not produce TLM citing lack of financial resources, the study, however, revealed that this could be overcome if such teachers worked together as they would easily pool their resources together. It has been noted through the study that many TLM may not cost anything or much money to have them in the classroom. The TLM activities which the teachers could produce at minimum cost include: card games, case studies, models, posters, pair work, group work and many others which would in turn enhance the learning process through the use of a variety of teaching methods. Furthermore, it was noted, through the study, that “when pupils are given some latitude to learn, they explore issues of self-awareness and take part in activities that build their decision making skills and encourage them to build personal goals for their future” (Africare/Zambia, 2007).

Finally, the study has helped to provide possible answers to the research questions. It was noted through the study that teachers did not collaborate, especially in the production of TLM. The study established, too, that the MoE did not provide the platform for the teachers to produce the much needed TLM either individually or in a collaborative manner. The study was also able to meet its objectives in that it was able to establish the low levels of collaboration among the teachers of geography in the production of TLM. It was also established through the study that there were no specific programmes and incentives by both the book publishers and the MoE for the teachers who wished to collaboratively write TLM. It is hoped that this study has provided reliable information on which stakeholders can base their planning for the production of teaching and learning materials in the high schools in the country.

RECOMMENDATIONS

Arising from the findings of this study, the following recommendations are being made:

- (i) The study found out that there was very little collaboration among the geography teachers in the production of TLM but they cooperated well on matters not directly related to the production of TLM such as the setting of common tests, sports activities and other issues.

I recommend that specific in-service programmes for the teachers on the production of TLM should be devised which could be administered through the Teachers Resource Centres (TRCs). This would help to re-energise the teachers and enhance the quality of their lessons.

- (ii) The study also found out that some of the teachers had no idea about the production of TLM in the sampled high schools

I recommend that the CDC should devise some school based programmes on the production of TLM in the high schools.

- (iii) The MoE should establish a special fund to be administered by the DEBS' office to support teachers who collaborate in the production of TLM. This would in turn help to enhance the quality and relevance of the produced TLM.

This recommendation arises from the finding that the teachers were unable to produce TLM which could be published for lack of financial resources

- (iv) The study found out that most of the teachers were unable to produce TLM because they thought that it was expensive to do so on their own.

I recommend that programmes should be introduced through the TRCs to educate the teachers on cost effective TLM such as card games, role plays, flyers, fact sheets and many others, some of which they could produce at no cost at all.

- (v) The book publishers should sensitize the serving teachers of geography on the incentives they have for publishing TLM in order to encourage the teachers to collaborate and produce quality TLM.

This recommendation is based on the finding that the teachers were not aware of the incentives being provided by book publishers for would be producers of TLM.

- (vi) There is need for the MoE to review the conditions of service for teachers in order for them to be motivated and devise a number of teaching approaches including the production of TLM.

This recommendation, although not directly related to the production of TLM, arises from the finding that most of the teachers were involved in a number of income generating ventures such as the teaching of multiple sessions per day and the production of pamphlets for sale to supplement their salaries. It was noted during the study that such programmes and activities by the teachers left them with very little time for collaborative effort in the production of teaching and learning materials in their respective schools.

- (vii) The study found out that despite the MoE designating the first University degree as the minimum qualification for the teachers in the high schools, the majority of them (53%) in the sampled schools were diploma holders.

I recommend that a deliberate in-service training programme should be put in place to aid the diploma holders to upgrade their qualifications. This would in turn help to enhance the learning environment and reduce the inferiority complex in certain cases among some teachers, which inhibits collaborative effort in the production of TLM.

- (viii) The study found out that too much emphasis was being placed on examination

results in the sampled schools such that teachers were individually producing pamphlets, that were examination oriented and earmarked for sale, rather than TLM based on collaborative effort.

I recommend that emphasis should be placed on measures that would help to recognize and reward innovative and collaborative efforts in TLM development. This would in turn help to encourage and motivate teachers to work together and produce TLM, which would eventually result in increased production of relevant and qualitative TLM in schools.

- (x) There is need for the MoE, through the Senior Education Standards Officers (SESO)- Social Sciences to spearhead the formation of an association of teachers of geography, which would greatly help to spearhead the professional development of the teachers. This recommendation is based on the finding that there has been no association for teachers of geography in Zambia since the dissolution of the defunct Zambia Geographical Association (ZGA).

These recommendations arising from the findings of the study are significant and if implemented, could greatly assist the teachers to collaborate in the production of the much needed TLM in high schools. They would also greatly help to reduce the individualistic tendencies among some of the teachers of geography which would in turn enhance the teaching and learning environment in the high schools in Zambia.

FUTURE RESEARCH

In view of the findings of this study, the following areas are hereby proposed for further research.

- (i) The effectiveness of the high school geography teacher in the teaching of geography in schools: A case of Lusaka.

This study would focus on assessing the effectiveness of teachers of geography in high schools of Lusaka. The study would be relevant in view of some teachers handling three different sessions in a day, that is, the normal classes in the morning, Academic Production Unit (APU) classes in the afternoon and evening classes later on in the day.

(ii) An investigation into the significance of the high school geography project in the
Zambian Schools.

The study would be taken against the background of time constraints claimed by most high school teachers of geography. It would help to determine the relevance of the projects being carried out by pupils, the levels of guidance and supervision being provided by the teachers to the pupils.

(iii) The use of the local environment as a resource in the teaching of geography in the
high schools.

In view of inadequate teaching and learning materials in high schools, the study would determine the extent to which the pupils' local environment, whether at school or home, is used as a resource in the teaching of geography in the high schools in Zambia.

REFERENCES

- Abromitis, B, 2009. Demonstrating a Professional Approach to Classroom Internship, Available on www.teachingexperience.com/articles,
- Africare/Zambia, 2007."Features: School- Wide Approach to Improved Livelihoods" Times of Zambia, July 17th, p.5
- CEC, 2006, Educating a Nation, in ZNC for UNESCO, 2006.Zambia and UNESCO. Information Magazine No.3. 2006, Report.
- Cheyeka, A, 2003 Critical Perspectives in Education, Ndola, Mission Press
- Chipimo, E.M, 1997.Statement of Educational Reforms: An Irrational View, in Kasuka, S.M (Ed), 1977. ZANGO: Zambian Journal of Contemporary Issues, Lusaka, UNZA, IAS
- Chondoka, A.Y, 2006. Situation Analysis of Community Schools in Central Province of Zambia, Lusaka
- Davis, C and Wilcock, E, 2009. Teaching Materials using Case Studies: Guides to Lecturers. Available on www.materials.ac.uk/casestudies.asp
- FAO, 1994. The Group Promoters Resource Book. Rome, FAO.
- Graves, N, 1997.Geography Education in the 1990s, in Tilbury, D and William, M (Ed) 1997. Teaching and Learning Geography.NewYork, Routledge.
- Gould, R, 1967.The Professional Responsibilities of Teachers' Organizations, in WCOTP, Education Panorama.Vol.ix, No.3, 1967. GRZ, 1992, Focus on Learning: Strategies for the Development of School Education in Zambia. MoE
- GRZ, 1996, Educating Our Future: National Policy on Education, Lusaka. Ministry of Education .ZEPH.
- GRZ, 2005.Principles of Education Boards: Governance and Management Manual. Education Board Services.MoE
- GRZ, 2006.2006 Educational Statistics Bulletin, MoE.
- GRZ, 2007.Review of the Ministry of Education Sector Plan: Independent Review, 2006, MoE.
- GRZ, 2007.Education Sector: National Implementation Framework, 2008-2010.MoE
- GRZ, 2007.School Programme of In-Service for the Term: A Teacher's Guide for School Based Continuing Professional Development, MoE CHANGES 2.

- GRZ, 2008.Sector Joint Annual Review, 2008: Report of the Joint Field Visits, MoE
- Hawley, D, 1997, Cross-Curricular Concerns in Geography: Earth Science and Physical Geography, in Tilbury and Williams, M (Ed) 1997.Teaching and Learning Geography.New York, Routledge.
- Healy, M, 2009. Pedagogic Research and Development: A selected Bibliography at Centre for Active Learning in Geography Environment and Related Disciplines, Available on academics.georgiassouthernedu/ijsot
- Kasanda, M (Ed), 2003.Learning Achievement at the Middle Basic Level: Zambia's National Assessment Survey Report, 2003.MoE.
- Kaunda, K.D, 1966. Address at the Installation of His Excellency the President as First Chancellor of the University of Zambia, July 12 and 13, 1996.Lusaka, ZIS.
- Kelly, M.J, 1976.Education for Development: A Psychologist's View, Paper Presented to the Psychological Association of Zambia, 1977, ZANGO: Zambian Journal of Contemporary Issues, Lusaka.UNZA, IAS.
- Kunda, M, 2008."Education Sector Achievement Spelt Out" Zambia Daily Mail, February 4th, p.9
- Lotz-Sisitka, H. and Russo, V (Ed), 2003.Development Adaptation and Use of Learning Support Materials: A Source Book in Support of Environmental Education Processes, Howick, Share-Net.
- Macha, C, 2006.Education For All: Forum of African Parliamentarians, In ZNC for UNESCO, 2006, Zambia and UNESCO. Information Magazine, No.3.2006.Report.
- Macha, C, 2006.Progress Towards Implementation of Gender Policy in Education For All, in ZNC for UNESCO, 2006. Zambia and UNESCO.Information Magazine, No.3. 2006. Report.
- Martin, W.1973, Team Teaching: A Few Observation and Guidelines, in Education Canada, Canadian Educational Association, Vol.13.No.31, September, 1973.
- Melaku, A, 1973. A Survey of text books for Teaching Amharic: Grades 1-12, in Kano, A. (Ed) 1973.Ethiopian Journal of Education, Vol.vi. June 1973, No.1
- Milimo, T.J, Shihito, T and Brock, K, 2002.The Poor of Zambia Speak. Lusaka.ZAMSIF
- MoE and UNICEF, 2005.A Glance at Primary Education: Progress Towards Achieving Millennium Development Goals, UNICEF.
- Newberry, M.J, 1977.What Teachers Know (and don't know) About Each_Other, in Education Canada. The Canadian Education Association, Vol.17, No.2.Summer 1977.

- Ntalasha, L.S. (Ed), 2000.Zambia High School Education: Geography High School Syllabus, Grades 10-12.Lusaka, CDC.
- Ntalasha, L.S. (Ed), 2004.A High School Geography: Textbook of Zambia and the Sub-Region.Ndola, Times-Printpak (Z) Ltd.
- Nyerere, J.K, 1988.An Address Given at the Symposium on 20 years of Education For Self Reliance, September 1988, in Education with Production, Vol.6, No.2.June, 1989.
- Ologe, K.O, 1979.The Philosophy of Geography at Ahmadu Bello University, Zaria.
- Simukoko, R.1997. Role of Models in Geography Teaching, in Schools Supplement 1996, ZGA, UNZA, LUSAKA.
- Snelson, P, 1990.Educational Development in Northern Rhodesia, 1883-1945.Lusaka.Kenneth Kaunda Foundation.
- Taylor, J, 1997, Share-Net: A Case Study of Environmental Education Resource, Materials Development in a Risk Society, Howick. Share-Net.
- Taylor, J.and Russo, V, 2002.The SADC Regional Environmental Programme in The Long Walk to Sustainability: A Southern Africa Perspectives, Johannesburg, HIS South Africa.
- Tilbury, D, 1997.Environmental Education and Development Education: Teaching Geography for a Sustainable World, in Tilbury, D and Williams, M, 1997.Teaching and Learning Geography, London, Routledge.
- Times Reporter, 2005."Academicians Challenged: Go Beyond the Confines of the Classrooms"
Times of Zambia, October 31st, p.1
- William, M, 1997. Instructional Design, in Tilbury, D, and Williams, M (Eds), 1997 .Teaching and Learning Geography, London, Routledge.
- www.ivebeenthere.co.uk/front/lusaka-map : Lynda Fielder collection 2003
- www.lib.utexas.edu/maps/ams/africa/zambia

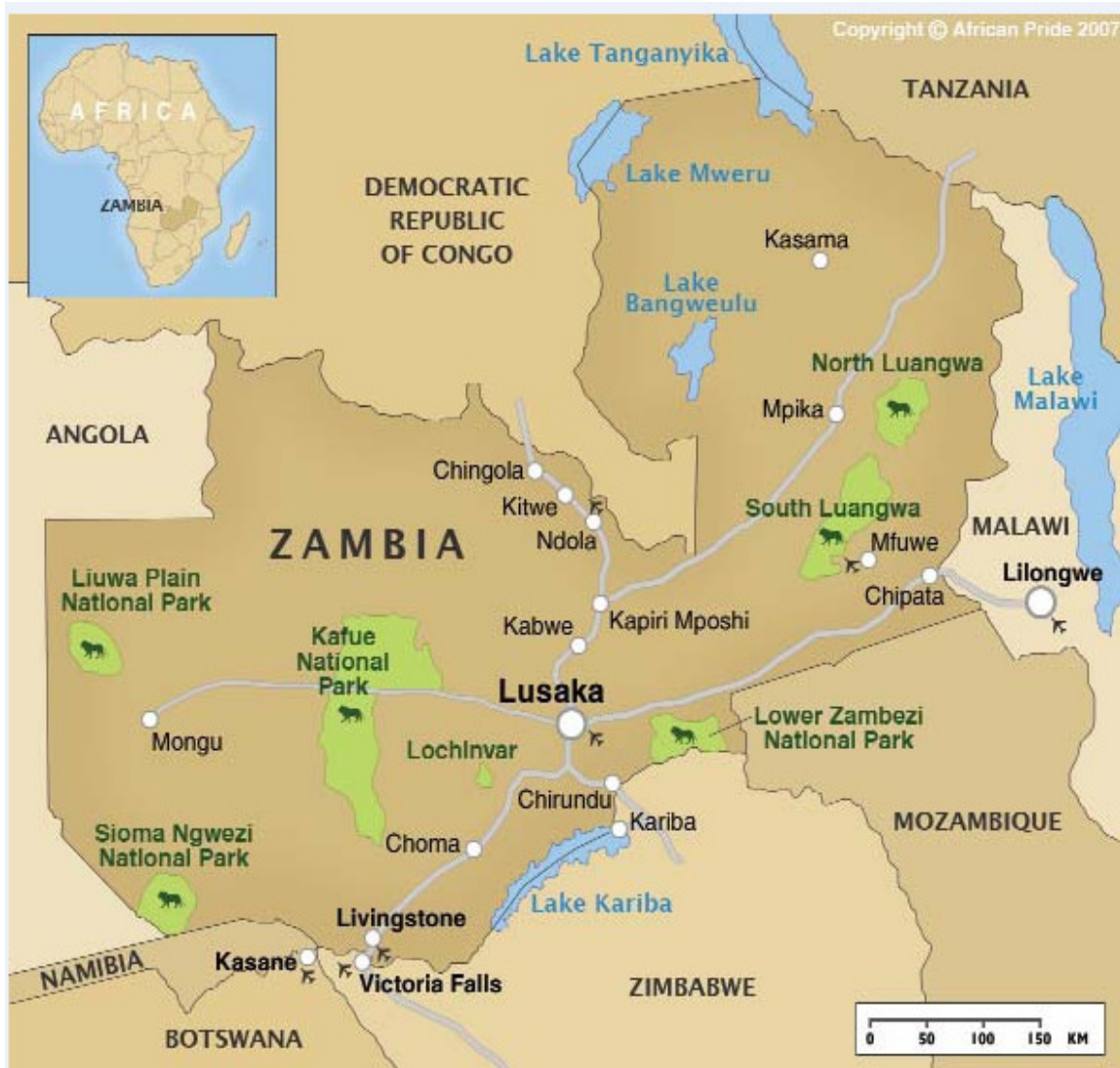
APPENDIX (i)

LIST OF HIGH SCHOOLS WHERE THE STUDY WAS DONE IN LUSAKA

1. Arakan High School
2. Chilenje South High School
3. David Kaunda Technical High School
4. Kabulonga Boys` High School
5. Kabulonga Girls` High School
6. Kamwala High School
7. Libala High School
8. Lusaka High School (GRZ)
9. Matero Boys` High Secondary School
10. Munali Boys` High School
11. Munali Girls` High School
12. St.Mary`s Secondary School.

APPENDIX (ii)

MAP OF ZAMBIA– SHOWING THE POSITION OF LUSAKA



(Source: www.lib.utexas.edu/maps/ams/africa/zambia)