

**A PROPOSED LOCALIZED GEOGRAPHY CURRICULUM
WHICH ENGAGES UPPER BASIC SCHOOL PUPILS IN ISSUES
OF ENVIRONMENTAL PROTECTION OF THE LUANGWA DISTRICT OF
ZAMBIA**

BY

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THESIS
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LUN
2007

**A Dissertation Submitted to the University of Zambia in Partial Fulfillment of
the Requirements for the Degree of Master of Education in Geography
Education**

THE UNIVERSITY OF ZAMBIA

LUSAKA

2007



DECLARATION

I, **Lungu Thomson H**; declare that this Dissertation has been written by me. All quotations have been distinguished by quotation marks. The sources of all materials referred to have been specially acknowledged, and the Dissertation has never been accepted in any previous award for a Degree at this or another University.

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DATE: 18th May 2007

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APPROVAL

This Dissertation of LUNGU THOMSON H. is approved as fulfilling part of the requirements for the degree of Master of Education in Geography Education by the University of Zambia.

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ABSTRACT

A proposed Localized Geography Curriculum which engages Upper Basic School Pupils in Issues of Environment Protection of Luangwa district of Zambia is meant to assist in reducing environmental degradation. Luangwa district has been experiencing serious environmental degradation arising from a range of factors such as HIV/AIDS, suicide cases, Human – animal conflicts and deforestation. Despite having a handful of basic schools offering Geography, it seemed the teaching of Geography was not making any impact in addressing these environmental issues. Therefore, this study was carried out to try and extend the frontiers of knowledge on how best the Geography curriculum would be redesigned to make it more responsive to the local environmental issues of Luangwa district.

Four basic schools and forty (40) grade 9 pupils respectively were selected randomly after sectioning the study area into two zones (i.e. A and B), 14 teachers were selected at random and 35 Grade 9 drop outs were selected from 5 wards at random. The instruments used in data collection included structured and semi-structured questionnaires for teachers and grade 9 dropouts; a learning activity questionnaire for pupils and an interview schedule for key education officers from various departments in the study area. The study was done in two phases which were feeding into each other. In phase one, data was collected from teachers, Grade 9 pupils and dropouts. After analyzing the data, the respondents supported the idea of redesigning the then existing Geography curriculum for Grade 8 and 9. In phase two, the interview schedule was administered to 11 key education officers which included teachers, Head of Departments, Head teachers and key informants from the different departments of Luangwa district. The data generated was then used to redesign the localized Geography Curriculum of Luangwa district. The redesigned curriculum was intended to engage pupils in issues of environmental protection of the study area.

The data collected in phase one and two provided both quantitative and qualitative information. The excel window was used to analyze data. Some of the data from phase

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The data collected in phase one and two provided both quantitative and qualitative information. The excel window was used to analyze data. Some of the data from phase

one is presented in form of tables, pie charts, percentages, and graphs. The data was used to address the following objectives.

- To find out whether or not the Geography at Grades 8 and 9 level contributed to pupils gaining some awareness of their local environmental problems.
- To investigate views of local Grade 9 learners and school dropouts concerning their participation in preservation and conserving the local environment.
- To find out from various key stakeholders of school Geography in Luangwa district about their views, opinions and attitudes towards redesigning the then existing Geography curriculum to address issues of environmental degradation of the district.

The main findings of the study reveal that there was very little contribution that the Geography curriculum at Grades 8 and 9 made to pupils' awareness of the environmental problems that affected the people in the area. The major contributing factor to the failure of the then existing Geography curriculum was that it did not cover local issues, as the teaching was concentrated on examinable topics which were mainly taught from global and national orientations. The study also revealed that the Geography curriculum at the time of the study lacked the practical aspect which the subject is supposed to inculcate into pupils. The teaching of Geography was more examination- oriented.

The study also observed that both Grade 9 pupils and school dropouts contributed very little to the conservation and protection of their local environments. The other finding involved the high poverty levels in the study area which led to the degradation of the environment, as well as the value system of the local community which resisted change partly due to low levels of education. Cultural aspects of the study area did not have characteristic features of respecting the environment.

The other findings of the study was that all stakeholders of school Geography strongly supported the idea of redesigning the basic school geography curriculum. Therefore, chapter six of this study formulated a proposed district localized

Geography Curriculum responsive to environmental issues of the area. This chapter presents the thrust of this dissertation by suggesting an innovative curriculum derived from local community members of Luangwa district, with the ultimate aim of engaging Upper Basic Education pupils actively in issues of environmental sustainability of the Luangwa district. Chapter seven provides recommendations which would be of value for the implementation of the proposed Geography curriculum and the enhancement of a sustainable society in the Luangwa district of Zambia.

DEDICATION

To my late sister (Lydia), may her soul rest in peace. Mum and Dad, brothers David, Royd and sisters Elizabeth, Harriet and Eulita and my beloved wife (Regina) and children Limbikani Henry (Jr.) Bridget, Innocent, Micheal and other relatives and friends whose names are too numerous to be stated herein.

I love you all for the inspiration and encouragement you gave me in the deepest hours of need pertaining to my social and academic endeavours.

May God bless you all.

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LIST OF ABBREVIATIONS

- AIDS: Acquired Immune Deficiency Syndrome
CCF: Christian Children Fund
CDC: Curriculum Development Centre
CSO: Central Statistical Office
CWS: Common Wealth Secretariat
DEA: Department of Environment Affairs
DEBS: District Education Board Secretary
CRB: Community Resource Board
DEAT: Department of Environmental Affairs and Tourism
DOE: Department of Education
ECZ: Examinations Council of Zambia
ECZ: Environmental Council of Zambia
EEASA: Environmental Education Association of Southern Africa
EPPCA: Environmental Protection and Pollution Control Act
GMA: Game Management Area
HIV: Human Immuno Virus
IAAM: International Association of Assistant Masters
IGU: International Geographical Union
IUCN: International Union for Conservation of Nature and Natural Resources
LDHMT: Luangwa District Health Management Team
LDPU: Luangwa District Planning Unit
LIRD: Luangwa Integrated Resource Development Project
LSSE: Languages and Social Sciences Education
MDG: Millennium Development Goals
MOE: Ministry of Education
NEAP: National Environmental Action Plan
NCS: National Conservation Strategy
NGO: Non-Governmental Organization
PAGE: Programme for the Advancement of Girl child Education

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PCSD: President's Council on Sustainable Development
PTA: Parents Teachers Association
SLAMU: South Luangwa Area Management Unit
UN: United Nations
UNEP: United Nations Environment Programme
UNESCO: United Nation Education and Scientific Organization
UNZA: University of Zambia
U.S.A: United States of America
VCT: Voluntary Counselling and Testing
WWF: World Wide Fund for nature
ZAWA: Zambia Wildlife Authority
ZGA: Zambia Geographical Association
ZIMOZA: Zimbabwe Mozambique Zambia

CHAPTER ONE: INTRODUCTION

Since independence, the Ministry of Education has been conducting various educational reforms, some of which were aimed at changing the Basic School Curriculum to address the needs and aspirations of the ever changing Zambian Society (Luangala and Simuchimba, 2002). These changes to the curriculum affected all subjects, including geography. Despite such reforms made to the geography curriculum, some scholars still maintained that school geography faces a number of challenges in Zambia which, as a practical subject, it needs to address. One of the challenges has been the need for the inclusion or infusion of environmental issues into the subject of geography, and the other is the need to rewrite the textbooks to be used (Namafe et al. 2001).

1.1 Background to the Research Problem

Some people are willing to support causes that they understand and believe are important in their environment. Similarly, young people are more likely to develop the interest of protecting the environment while in school and after school if they understand the importance of environmental protection. The issue of environment has become an emotive one as people realize that the image of bountiful nature is not tenable. Nature is unable to satisfy the voracious appetite of modern people. This is so because a lot of activities which are integral to human daily survival are very harmful to the environment. For example, by the late 1980s Latin America had lost 37 percent of its original forests, Asia 45 percent and Africa 52 percent (Commonwealth Secretariat, 1998). It has been observed that forests in Africa disappear at an alarming rate, causing increased soil erosion, flash floods, lowering of water tables, silting of dams, lakes and rivers, as well as loss of soil fertility and devastation of wildlife (Drevensek and Malone 2004). At National level in 1900, 45 percent of Uganda's land was covered in forests; but in 1995 just 7.7 percent forest land was left. Ghana and Madagascar between 1980-1995 had an estimation of 90 percent of their original forest lands lost (Drevensek and Malone 2004). Such a problem of environmental degradation is affecting Zambia, in general and Luangwa

district in particular. For example, the Curriculum Development Centre (CDC, 2003:89) stated that, “the degradation of the environment in Zambia has continued to increase in the last two decades.” The agents identified as responsible for causing environmental degradation in Zambia include the following:

- Deforestation
- Poor water Management
- Soil erosion
- Bush fires
- Water pollution
- Air pollution

However, besides the physical environmental degradation already identified, the study area of the Luangwa district experienced social, economic and environmental degradation such as suicide cases, HIV/AIDS issues, Human – Animal conflicts, as well as the forcing of young girls into early marriages. Hence, in a broader sense, the study area experienced social, natural as well as political and economic degradation which, some how, needed the attention of geography education to address through the basic school curriculum. Therefore, in its desire to address the issue of environmental degradation, the Ministry of Education (MOE) in the National Educational Policy Document called “Educating Our Future” (MOE 1996:5) “aims at producing a learner capable of participating in preservation of the ecosystem in one’s immediate and distant environment.” However, by 2004, it was observed that most Zambians demonstrated little respect for their environment (MOE, 2004). Because people would without restraint deface the environment and destroy it. Therefore, in order to achieve the above objective stated by MOE (1996), this research saw the need to engage geography pupils at Basic School level into issues of environmental protection within Luangwa district, in this case.

There was need to reshape school geography at grades 8 and 9 in Zambia, in general, and the Luangwa District, in particular in order for the subject to address the aims of upper Basic School education as set out in “Educating our future.” These aims are as stated over the next page:

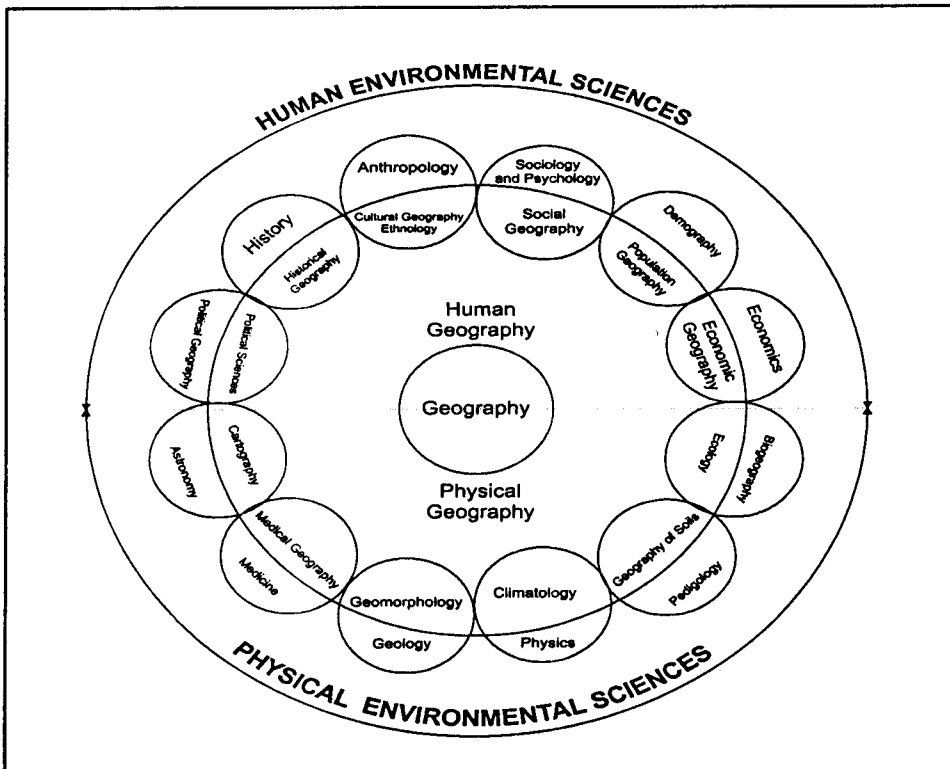
- To consolidate the Basic School learning skills and content acquired in primary schools.
- To equip pupils with relevant skills and attitudes in practical or entrepreneurial areas,
- To improve pupil's ability with intellectual, social and personal issues and with the physical environment.
- To promote satisfaction in learning, the desire to learn, and the skills of learning, in intellectual, practical and other fields.
- To create an environment in which pupils can develop their own special talents and aptitudes, and assist them in so doing.
- To foster development of personally civic, moral and spiritual values,
- To expand the range of pupils knowledge and understanding in critical areas of learning to enlarge pupil's capacity in scientific and technological areas, (MOE , 1996 :31)

Apart from the above noted aims as stated in "Educating Our Future" (MOE ,1996) there are other pressures which the Basic School geography Education is supposed to address. For instance, since the Rio de Janeiro (1992) meeting of Global Heads of State to consider the state of world environment, Namafe et al (2001) argues that various international conferences were organized under the auspices of agencies of the United Nations (UN), such as UNESCO, in order to spell out the central role of education at a local level in issues of environment and sustainable development. Basic school geography, as noted by Namafe et al (2001) should, in this regard, assist to:

- Alleviate poverty and suffering, as well as improving the quality of life of people in poor countries by enhancing sustainable development.
- Enhance agricultural transition towards better and sustainable use of land for greater food production and food security.
- Develop a sense of citizenship and stewardship so that grade 9 school leavers could recognize the importance of taking individual responsibility and action to ensure the world is better than how they found it.
- Make pupils aware of the needs and rights of future generations.
- Foster an understanding of the concept of sustainable development where they have to know that resources are finite and that this has implications for people's lifestyles.

To translate all the stated aims into meaningful personal development would depend on pupils' actual learning acquisition (MOE, 1996). Therefore, geography as a subject needed to be redesigned into a localized curriculum in order to achieve sustainable development for the study area. Unlike other subjects, geography is special because it unifies other disciplines and, therefore, when properly taught at local level, such as that of the Luangwa district of Zambia, a sustainable society may be achieved. (See Figure 1 on the next page).

Figure 1 The Strategic position of geography in addressing broader environmental issues to Luangwa



Source: Obara (1995)

As seen in figure 1, above, geography links well with other subjects and it is well positioned to draw upon the ideas and methods of the study from other disciplines. In this way, this aspect if well utilized, most environmental issues experienced in the study area could be catered for as long as the teaching of geography was improved in the curriculum. This was the general challenge tackled by this study, namely to actively Engage Upper Basic geography pupils in issues of environmental protection of the Luangwa district.

1.2 Statement of the Problem

Luangwa district at the time of conducting this study, is experiencing serious environmental degradation arising from a range of different factors such as poor farming practices, forced early marriages of young girls by locals as well as the increasing number of HIV/AIDS, suicide cases and Human-Animal conflicts. The manner in which geography was being taught did not seem to contribute to the

reduction of such environmental degradation, as it was largely examination-oriented. In the manner in which it was at the time of study, geography at Upper Basic School level was moribund in relation to addressing the real environmental issues of the Luangwa district. There was need, therefore, to re-shape the teaching of geography at Upper Basic School level so that pupils could actively be involved in issues of environmental protection if geography was to help towards addressing the environmental degradation which was being experienced in Luangwa district at that time and thereafter.

1.3 The Purpose of the Study

The overall purpose of the study was to find out the relevance of geography at Upper Basic School level to the needs of Luangwa district and, if not, to redesign the grades 8 and 9 geography curriculum in order to make it responsive in addressing environmental degradation of the district.

1.4 Study Objectives

The study was guided by the following objectives:

- To find out whether or not geography at grades 8 and 9 in the Luangwa district of Zambia contributed to the pupils' awareness of their local environmental problems.
- To investigate the views of the grade 9 learners and grade 9 school dropouts of Luangwa district concerning their participation in preserving and conserving of their local environment.
- To find out the views, opinions and attitudes of various key stakeholders of Luangwa district towards redesigning the Upper Basic School geography curriculum to address environmental degradation of the study area.

1.5 Research Questions

The research problem which manifested itself in form of geography being moribund was tackled through the following specific research questions:

- Did the type of geography teaching in use at that time at Basic School level of grades 8 and 9 in Luangwa district contribute in solving environmental degradation of the area?
- If it did not, would an alternative approach to the teaching of geography which focused on engaging pupils actively in addressing environmental degradation of their locality be of more relevance than the one in use by then?

1.6 Significance of the Study

This study is significant because of the following points:

- It might provide relevant information on how best geography teaching at the end of grade 9 level could assist in minimizing environmental degradation in various areas including those of Luangwa district of Zambia.
- It might provide relevant information on how best the teaching and learning of geography at upper basic school level, if re-designed could
- Effectively produce the type of learner stipulated in “Educating Our Future” (MOE, 1996).
- It might provide relevant information on how best the majority of learners who fail to proceed to high school level (i.e. grade 10 -12) may help to reduce environmental degradation as a result of a re-designed geography curriculum.
- In this way, a properly re-designed geography curriculum could be an asset in addressing the bigger problem of school dropouts in Zambia.

1.7 Operational Definition of Terms

There could be numerous meanings assigned to the term “Environmental Degradation” by various scholars, for example, MOE (2005: 3) defined environmental degradation as “any action or process that makes the environment less fit for human, plant or animal life”. However, for the purpose of this study, the term means willful reduction in respect by people for the physical, social as well as economic and political conditions needed to sustain human and non-human livelihood.

1.8 Scope of the Study

This study was confined to the evaluation and description of the views of various key stakeholders of school geography in the Luangwa district of Zambia concerning the need or otherwise of re-designing geography teaching to reduce environmental degradation of the study area.

1.9 Organization of the Dissertation

This dissertation is comprised of seven chapters. Chapter one presents the introduction along the following lines: background and statement of the problem, research questions, objectives as well as significance and delimitation of the study. This is followed by chapter two which gives the background of the study area, in terms of location, climatic features as well as human activities (the latter including reports by the media) of the study area.

Chapter three presents literature review concerning some of the environmental issues which mutually influenced each other from the global to the local levels of the Luangwa district. The chapter also gives the importance of geography and the development of curriculum in different countries of Africa. This is followed by Chapter Four which highlights the research methods which were used to collect data.

Chapter five presents the findings and discussion of the study. A re-designed, localized geography curriculum for Luangwa district follows this chapter. Finally, chapter seven presents conclusions and recommendations of the study.

CHAPTER TWO: LOCATION AND DESCRIPTION OF THE STUDY AREA

The purpose of this chapter is to describe the main features of the study area with respect to context. By context, in this case, is meant a complex of factors of the environment which support human and non-human life in Luangwa district, but also which themselves would be objects of potential abuse by people. The latter aspects that would impact on the environment include such things like population dynamism, human activities in the district and human-animal conflicts. It is hoped that the description provided will show a clear picture of the study area in respect of the proposed localized geography curriculum.

2.1 Location

Luangwa District is in the Lusaka Province of Zambia. The district is situated in the eastern part of the province about 320 kilometers from the capital city of Lusaka (LDPU, 2005). The area lies between latitude 15°00' and 15°45' degrees south and between longitude 29°15' and 30°31' degrees east (Svendson and Shezongo, 2005). Luangwa district is bordering Chongwe district in the west and north. To the east, the Luangwa River forms the boundary with Mozambique and to the South, the Zambezi River forms the boundary with Zimbabwe (See Figure 2). The study area covers an area of about 3500 square kilometers (Hudson, 2002), with a total population of 23,419 (Svendson and Shezongo, 2005). The study area is located in the low veld of Zambia, which is mainly a river valley, composed of the lower Zambezi and Luangwa valleys with altitudes ranging from 300 to 400 metres above sea level (Chikuma e tal. 1985 and Luangwa District Planning Unit, 2005).

2.2 Historical Background

Luangwa District, formerly known as Feira, was designated as a district in 1977 (Hudson, 2002, Luangwa District Planning Unit, 2005, Svendson and Shezongo 2005). Prior to that, it was under Rufunsa Rural Council with its headquarters at Chongwe. The time of belonging to Rufunsa Rural Council includes part of the colonial period (Hudson, 2002). The district has two indigenous tribes – Chikunda in

the south and Nsenga-Luzi in the north, and two indigenous chiefs, namely, Senior Chief Mburuma and Chief Mpuka. Today, there are a number of different immigrant languages spoken in the district. The District has 15 wards and 57 villages. According to Hudson (2002), the study area is one of the smallest and least developed districts in the country.

2.3 Relief and Drainage of Lungwa District

Luangwa district lies in the low veld, land below 900 metres above the mean sea level. The area is faulted by the Luangwa and Zambezi rivers (salati, 1995). The district is made up of hills such as Nyangongolo and Kasendeka hills to name but a few. Along the rivers there are alluvial flood plains where agricultural activities take place.

The district is drowned by two big rivers, Zambezi and Luangwa. Besides there are streams which includes, Kanga, Kalungu, Chamangolongwa, Mulambwa in Mburuma Chiedom and Rufunsa in Mpuka chiefdom.

2.4 Climatic Characteristics

The climate of Luangwa District is characterized by dry and warm conditions. It is a drought prone area with an annual mean rainfall of less than 815mm (Archer, 1971). In support of this, some scholars have argued that the mean annual rainfall received in Luangwa District ranges from 600 to 800mm (Chikuma et al, 1985, Ntalasha, 2005 and Luangwa District Planning Unit (LDPU) (2005). As a result of being located in a valley, the study area experiences high temperatures. For example, Svendson and Shezongo (2005) argues that the district experiences very high temperatures throughout the year, ranging between 25 degrees and 45 degrees Celsius with humidity levels of 60 to 70 percent, and has three fairly distinct seasons (that is, rainy, cool and hot seasons). Because of intense heat and isolation, the study area was regarded as a punishment station for indisciplined officials, during the colonial period, as the two factors of heat

and isolation were thought to provide a suitable environment for reflection on their mistakes (Hudson, 2002).

2.5 Vegetation

The vegetation of Luangwa district is partly influenced by the dry and warm climate. Based on field observations by the researcher, Luangwa district has a mixed type of vegetation. The dominant vegetation found in the area include Baobab trees, Mopane trees, Masau bushes, palm bushes, reed grass along the banks of the Luangwa River, Rufunsa and Kaunga streams. The vast part of the district comprises shrubs and bushes (see plates 1, 2 and 3). A number of scholars, for example, Mackel (1971), Naidoo and Bwalya (1995), and Ntalasha (2005) testify to this when they argue that the vegetation of Luangwa District is Mopane woodland (see figure 3). However, the Mopane woodland, though dominant in the area, tends to overlap in its distribution with the Munga vegetation. Munga is a local word referring to 'thorns' and, therefore, Munga vegetation is thorny in nature. This is so common in areas where the soils are relatively fertile for agriculture like Janeiro in Mpuka chiefdom. Besides the mentioned type of vegetation, Luangwa district has the following type of vegetation, Baikiaea forest along the Rufunsa river, Riparian forest on the banks of Zambezi river, Miombo woodland found in Kavalamanja area and north west of the district on boundary with Chongwe district.

PLATE 1: Vegetation Comprising Palm Bushes in Luangwa District

PLATE 2: Degraded Land along the Banks of Luangwa River



PLATE 2: Reeds Growing along the Bank of Luangwa River



are interspersed with outcrops and surface rocks. These types of soils are known as lithosols (Mackel, 1971). The same soils are also referred to as Rocky and rubble

(Mackel, 1971, Naidoo and Bwalya, 1995) (see figure 4). These soils are best suited for a permanent vegetation cover utilizable for wildlife or a few woodland products such as firewood. The soils in the study area are poor. Therefore, the type of soils and the climate partly influence the vegetation of the study area.

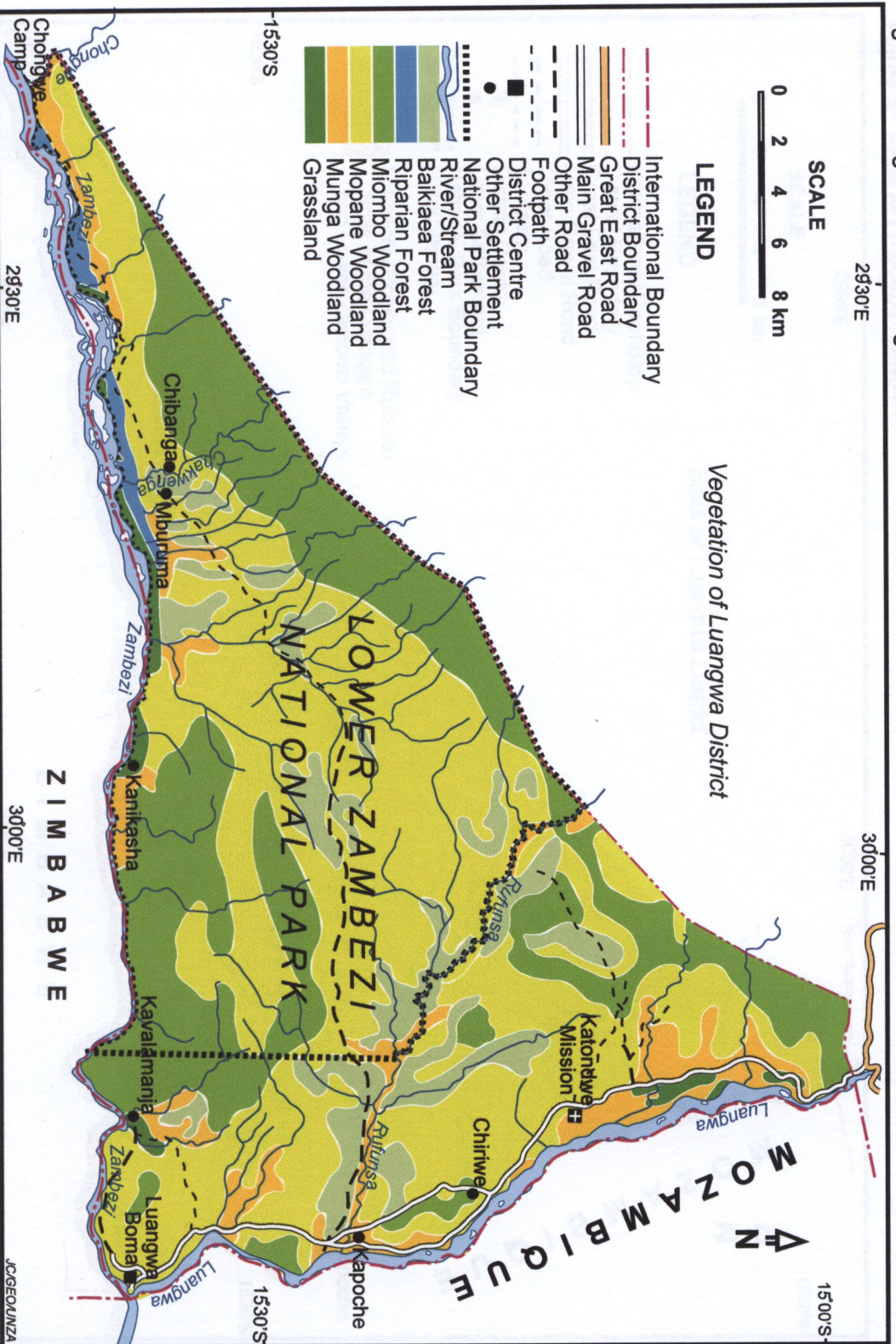
PLATE 3: Degraded Land along the Banks of Luangwa River



2.6 Soils

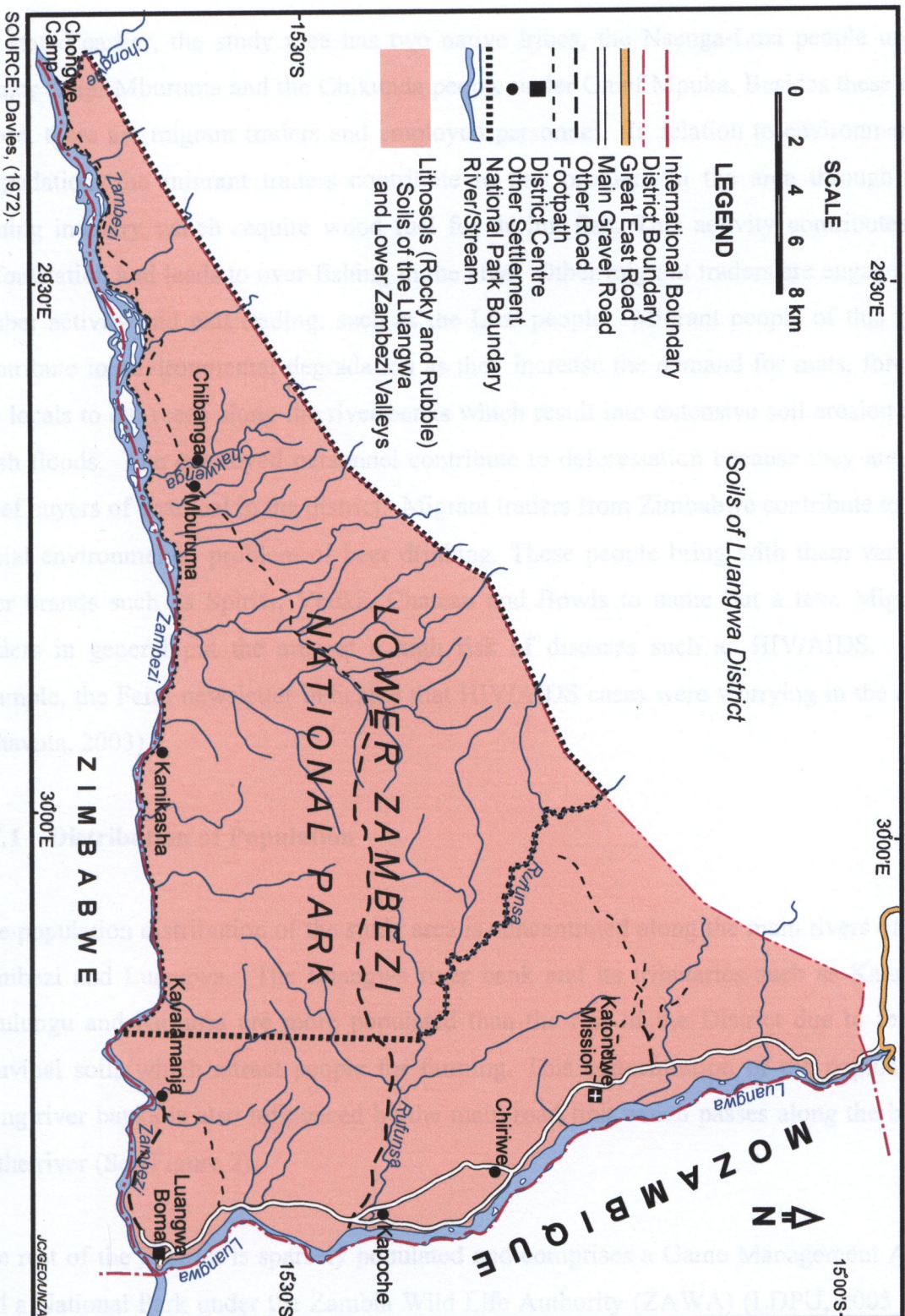
The soils of the study area are divided into two main types. There are soils found along the Luangwa River and its tributaries, and the other types which are found in areas where drainage is poor and hilly. The Luangwa River and its tributaries, such as the Kaunga stream, Rufunsa stream and Kaulungu to mention but a few, are covered by vertisols (Mackel, 1971). These soils are derived from sediments largely formed by colluvial and alluvial processes (Mackel, 1971). However, in parts of the Luangwa valley, where the drainage is poor, the soils tend to be harmorphic due to salt accumulation (Mackel, 1971). These soils are also known as solonetzic grey clays to sand loams. Luangwa District has also shallow to very shallow escarpment soils, which are intermixed with outcrops and surface rocks. These types of soils are known as lithosols (Mackel, 1971). The same soils are also referred to as Rocky and rubble

Figure 3: Vegetation of Luangwa District



SOURCE: Vegetation Map sheet 7, Surveyor General Lusaka, 1976.

Figure 4: Soils of Luangwa District



SOURCE: Davies, (1972).

2.7. Human Population

As stated earlier, the study area has two native tribes, the Nsenga-Luzi people under Senior Chief Mburuma and the Chikunda people under Chief Mpuka. Besides these two tribes, there are migrant traders and employed personnel. In relation to environmental degradation, the migrant traders contribute to this problem in the area through the fishing industry which require wood fuel for drying fish. This activity contributes to deforestation and leads to over-fishing in the area. Other migrant traders are engaged in timber activity and mat trading, such as the Lozi people. Migrant people of this type contribute to environmental degradation as they increase the demand for mats, forcing the locals to cut reeds along the river banks which result into extensive soil erosion and flash floods. The employed personnel contribute to deforestation because they are the chief buyers of charcoal in the district. Migrant traders from Zimbabwe contribute to the social environmental problem of beer drinking. These people bring with them various beer brands such as Spirits, Vodka, Chateau and Bowls to name but a few. Migrant traders in general put the area at a high risk of diseases such as HIV/AIDS. For example, the Feira newsletter indicated that HIV/AIDS cases were worrying in the area (Chavuta, 2003).

2.7.1 Distribution of Population

The population distribution of the study area is concentrated along the main rivers of the Zambezi and Luangwa. The Luangwa river bank and its tributaries such as Kaunga, Kaulungu and Rufunsa are more populated than the rest of the District due to fertile alluviual soils which attract people for farming. This concentration of the population along river banks is also influenced by the main road link which passes along the bank of the river (See Figure 2).

The rest of the District is sparsely populated and comprises a Game Management Area and a National Park under the Zambia Wild Life Authority (ZAWA) (LDPU, 2005 and Svendson and Shezongo, 2005).

2.7.2 Population Structure of the Study Area

The District has a small population of 21,990 people CS0, (2001) as cited by Luangwa District Planning Unit (LDPU, 2005). The annual growth rate between 1990 and 2000 was 1.1%. This means that if the growth rate had been the same from 2000 to 2004, then by 2005 the year when this research was conducted the population would have been around 23000 people. However, the Luangwa District Health Management Team (LDHMT) projected the population to be around 25,000 inhabitants in 2005 (LDPU, 2005). This made the District to be one of the most sparsely populated areas with an average of approximately 6.5 people per square kilometer (LDPU, 2005). The distribution on age, sex and dependency ratios for the whole District can be seen in the table over the next page.

Table 1: Distribution of age and sex of the total population

Age	Male	Female	Total
Less than 1 year	390	374	764
1 to 4	1,360	1,322	2,688
5 to 9	1,558	1,502	3060
10 to 14	1,250	1,239	2,484
15 to 19	952	920	1,872
20 to 24	714	804	1,618
25 to 29	629	695	1,324
30 to 34	544	510	1,054
35 to 39	409	424	833
40 to 44	290	267	557
45 to 49	197	213	410
50 to 54	202	223	425
55 to 59	149	162	311
60 to 64	149	227	376
65 to 69	130	139	269
70 to 74	99	99	198
75 to 79	69	48	117
80 to 84	23	30	53
85 and above	24	29	53
Totals	9,144	9,227	18,371
Medium age	15.0	16.0	15.5
Dependency Ratio	115	107.6	111.6
Youth Dependency	107.8	99.8	103.7
Adult dependency	8.1	7.8	7.9
Child / women ration		90.1	

Source: LDPU (2005)

As seen from table 1, the study area has a relatively higher population under the age of twenty years than for the other age ranges. This is evident with the high youth dependency ratio. This scenario of population structure is likely to cause negative implications on the social, economic as well as the political and physical environment. If such youths are not given proper education, in years to come issues of HIV/AIDS, early marriages, human- animal conflicts may rise in the area due to poverty.

2.7.3 Population Migration

As noted in item 2.6.0, the study area experiences both local and international population migration. Local migration occurs mainly due to exhaustion of agricultural land because of environmental degradation. When the land has been cleared it would be used for a certain number of years but due to erosion, especially fields on hill slopes, the top soils tend to be washed away leaving the field infertile. The fields along river banks, when cleared for some years, the rivers do sediment the fields or wash them away by water erosion. These factors force people to move from one village to another in search of land for farming. For example, people farming along the Luangwa River tend to migrate to the neighbouring country, Mozambique, for fields on the other side of the river. However, some farmers live in Zambia but have fields along the Luangwa riverbank on the side of Mozambique. This is an adaptation strategy by people to environmental degradation taking place in Luangwa District. However, this is not a sustainable way of solving environmental problems caused by degradation of the environment because as the population keeps on increasing, this adaptive mechanism would not stand the test of time. Hence, there is need for geographical education at school level to enlighten the people in the area on the implications of environmental degradation to the present and future generations of the District.

Besides local migration, outsiders mainly go there due to trade attractions and exploitation of timber, by the Lozi people. This further require the intervention of geography education to raise people's awareness of the implications caused by such immigrants in the area.

2.8 Land and Land Use

The land categories in the study area is divided into two, namely, traditional and state land. The district has a Game Management Area (GMA) that is managed by Zambia Wildlife Authority (ZAWA) (see figure 2). The state land (GMA) covers 60 percent of the total District area with the remaining 40 percent being traditional land (Svendson and Shezongo, 2005). The two are further subdivided into the following categories in terms of land use:

- (i) Trust land where settlements are restricted.
- (ii) Traditional land which is administered by the chiefs. To acquire land in this area one has to go through the chief for tenure.
- (iii) Resettlement Schemes, which was meant for retirees and other people who have interest in agricultural activities. The study area has so far one resettlement scheme, which is called Yapite Resettlement scheme situated on both sides of the Rufunsa River in Mpuka chiefdom.
- (iv) Commercial titled properties along the Zambezi River in the GMA.
- (v) The Game Management Area which is shared by three chiefs, namely, chief Mburuma, chief Mpuka and chief Mpanshya in Chongwe district.
- (vi) National Park: this area starts at Chipolo Rock approximately 5 kilometers west of Kavalamanja up to the confluence of the Zambezi and Chongwe rivers (LDPU, 2005). A scholar has argued that the main land use in the study area was ASH/HOE cultivation (Siddle, 1971). The District has further been classified under a very low potential agricultural area in Zambia (Siddle, 1971).

However, at the time of the study the various economic activities of the people of Luangwa District required educational measures at school which include the following:

2.8.1 Agriculture

The majority of the people in Luangwa District were small-scale farmers with land holdings ranging from 0.25 to 1.5 hectares per household (LDPU, 2005: 25). Farmers owned fragmented holdings mostly along the Zambezi, Luangwa, Kaunga and Rufunsa rivers. They also have holdings on the up land as a copying mechanism against crop damage due to flooding of the Luangwa and Rufunsa rivers. The total number of registered farmers in Mburuma and Mpuka areas was 3160 households during the time of this study (LDPU, 2005). The main food crop grown was maize despite the fact that maize was prone to drought. Therefore, there is need for geographical education at Basic School level, in order to assist the inhabitants on how to manage floods which were considered as a threat to farming. There is also need for some geographical education to assist the locals in understanding the implications of cultivating along catchment areas such as river banks and hill slopes because such practices contribute to environmental degradation in form of erosion. This, in turn, contributes to flash floods. The other issue was understaffing in the Department of Agriculture where the 3160 farmers are being serviced by only eight (8) extension officers (LDPU, 2005). Hence, geography at school level needs to assist in producing enlightened citizens who would enter the local society.

2.8.2 Fishing

This activity is also dominant in the study area: the two main rivers Zambezi and Luangwa sustain the community livelihood through fishing (See Table 2, on the next page).

Table 2: Fish Production, Consumption Trends in Luangwa District 2004

Item	Details of item	Quantity
Standard	Fish consumption per person a day	100 g
Population	District	25000
Current situation	Available amount of fish per month	6,795 kg
Optimum level	Fish production per day	1,550 kg
Existing production	Fish per day	226.5 kg
Capacity of production	Number of fish farmers, fish folks and consumers	20,670
Deficiency	Amount of fish	1,323.5 kg
People with inadequate access	People without fish	4330
Percentage	People without fish	17.3%

Source: LDPU, 2005

2.8.3 Gender and Fishing

This industry is dominated by womenfolk who specialize on trading fish stocks. In contrast, the menfolk are dominant on the fish production side. However, this sector requires interventions of geography education at Basic School level because the common method of preserving fish was to dry it by smoking. This method is a threat to the environment as trees are cut for firewood. The other issue has to do with over fishing mainly due to the use of wrong fishing methods. The communities use nets with small mesh sizes, such as mosquito nets (Svendson and Shezongo, 2005: 27). The people in the area, therefore, need geographical education in order to educate them on how to conserve fish and avoid using wrong methods for catching fish in the area.

2.8.4 Tourism

The study area comprises 60 percent of the area being considered as a Game Management Area (GMA). There are many tourist attractions, which are made up of cultural and natural attractions (such as wild animals). Wild animals include, elephants, lions, buffaloes; crocodiles, and hippos just to name but a few. Some historical sites

include, *Nyamfiti* meaning the place where suspected wizards and witches were thrown in to die. Also the Baobab tree near the confluence of the Zambezi and Luangwa river at Feira lodge, which was once used by slave traders as a resting place. Furthermore, traditional ceremonies such as the Mbambala of Nsenga-Luzi and Dantho of Chikunda people provide tourist attraction as well. The industry creates employment to the local people in form of cooks and village scouts, for example. However, this activity is threatened by a high rate of poaching, inadequate wildlife police officers in camps and the problems of Human-Animals conflicts. All these actions have implications on the environment, therefore, this require geographical education as a deliberate measure at Basic school level to address such problems.

2.8.5 Human Impact on Vegetation

The District has a relatively abundant forest cover with various tree species such as Mukwa and Mopane which are potential commercial wood products being exploited for timber and charcoal. There are also non-wood products such as river bank reeds and palms, from which reed-mats, baskets, hats and other various craft products are made. The majority of the communities in Luangwa District depend on vegetation products for their livelihood, through:

- i) Weaving of baskets and reed-mats
- ii) Fishing, where fishermen use dug out canoes for their fishing activities.
- iii) Pit sawyer operating as a co-operative from 2004, which exploits timber at commercial level. In 2004, about 38m³ of timer was sold to Lusaka (LDPU, 2005).
- iv) Charcoal burning; charcoal burners find market for their products at the Boma, Sub- Boma, schools, as well as clinics and the hospital. This activity

has been noted to be increasing at such an alarming rate due to the lack of Hydro Electricity Power in the District.

These forest – based activities require measures through geographical education at Basic School level to address the resulting environmental implications which comprise floods, poverty, deforestation due to charcoal burning, bad agricultural practices viz shifting cultivation and river bank cultivation (Svendson and Shezongo, 2005).

2.9 Literacy Situation in Relation to Environment in the District

The district experiences low school attendance by girls. This is the main cause of illiteracy in Luangwa District (LDPU, 2005). This low attendance by girls is due to early marriages of the girls. The girls are required to help in fields or to do household chores, especially during the growing season. However, boys may also be taken out of school in order to go fishing or in craft making. This illiteracy leads to resistance to change and, thereby, to the low, adoption levels of new farming methods that could improve production (LDPU, 2005: 28). The implication of this illiteracy is that the local community in Luangwa District practices inappropriate methods of fishing, and bad farming methods which lead to environmental degradation of the area. Therefore, there is need to use the agency of geography education at Basic school level to contribute in reducing environmental degradation.

2.10 Luangwa as Reported by the Media

There are a number of environmental issues that the media has been reporting about Luangwa District. The media has much influence on the community opinion in a wider dimension of the environment such as political, economic as well as social and cultural aspects. It is for this reason that environmentalists like Katete argued that one need not have complex textbooks, but rather, any source of information coming through the media would be appreciated by learners and teachers (Katete, 2002: 7). Therefore, media

reports on Luangwa District would be of vital use for teaching and learning concerning environmental issues affecting the area. According to the Curriculum Development Centre (CDC, 2003:6) the role of the media includes the following:-

- To inform and educate citizens on issues of governance. The radio, television, cinema and newspapers are seen as instruments for informing and educating the people and helping them to form opinions.
- To promote public debate by providing a forum for the expansion of views and opinions of both government and the people on matters of public interest, such as environmental issues.
- Setting the agenda:- the media decides topics on behalf of the public. Consequently, people see the world through the eyes of the media and this, in turn, influences people's opinions about issues.

Since its inception, The Post Newspaper has been covering a number of environmental issues such as deforestation, desertification and human animal conflicts. The study area experiences a number of other environmental issues, in Luangwa district, such as early marriages, beer drinking, poverty, lack of sustainable source of power and issues concerning suicides. It was reported that people in Luangwa district demonstrated against the government due to water shortage and electricity black out which the area was occasionally experiencing (The Post Thursday, March 24, 2005).

The electrical power problem in the area contributed to the increased demand for charcoal and firewood, which, in turn, resulted into deforestation of the area around hill slopes, leading to soil erosion and flash floods. Lack of power also draws back the development of tourism, agriculture and fishing industry in the area. There is also the issue of vulnerable children in society. According to The Post newspaper (June, 2004) the District Commissioner of Luangwa commended the Tigwirizane family project, an affiliate of the Christian Children Fund (CCF), for supporting the vulnerable people in the area through sponsoring education in pre-school, Basic schools, and High schools

(The Post, Wednesday June 23, 2004). This project helped to alleviate poverty in communities, which was an environmental issue. The media in one of the papers reported, "Luangwa cops arrest 4 villagers for forcing girl 14, into marriage" (Post, Wednesday November 24, 2004). This is an environmental problem which was mostly encouraged by migrants from Mozambique. Some parents in the study area tended to force their girl children into early marriage even after being sensitized under the Programme for the Advancement of Girl Child Education (PAGE). Other issues covered by the media included, the worrying cases of HIV/AIDS and suicide cases. For example, it was reported in 2003 that a science teacher at Luangwa High School committed suicide after a drinking spree a situation which was raising concern among residents in Senior Chief Mburuma's area (Feira Newsletter, 2003). This had been a major environmental concern in the area. In 2003 three suicide cases were reported. When the researcher did field observation, four suicide cases did happen in the same area. There were also occasional reports of crocodiles killing fishermen in the same area.

The other issue noted was that land in the area fell under two categories, that is, the traditional and state land. Human activities in the district would, by implication, require educational measures in geography at Basic School level. They include the following; early marriages, HIV/AIDS, bad farming practices, over fishing, poaching, deforestation, gender and the environment, and issues of illiteracy in relation to resource management in the area.

This chapter has shown the relevance of media reports concerning the environmental issues being experienced in the study area. From these reports, issues of beer drinking, suicide cases, HIV/AIDS issues, forced early marriages for young girls, and lack of sustainable power supply in the area were issues of importance which were rarely found in common textbooks used at basic school level. Therefore, media reports would be of great value in designing of the localized geography curriculum for the area. At the time of the study, there were no textbooks which have as much information on Luangwa district as what had been reported by the media. The media decided topics on behalf of

the public, consequently, people saw the world through the eyes of the media and this in turn, influenced people's opinions about environmental issues. Therefore, in the localized geography curriculum, pupils should be expected to read newspaper articles written about the district. From these articles, the curriculum would promote debate, and pupils would express views on environmental issues that affected their area.

CHAPTER THREE: LITERATURE REVIEW

This chapter will focus on reviewing literature which is considered to be relevant to environmental concerns of Luangwa District. Such relevant literature will be in relation to global, regional as well as national and local levels. Luangwa district is interconnected to all these levels in a reciprocal manner. It is, therefore, vital to address them as important factors. The study will further review literature concerning curriculum performance in Africa in general and Zambia in particular, and geography education's strategic position in the school curriculum to address environmental concerns. The review will also contextualise involvement of the community in curriculum development in order to attain a sustainable environment at both the local and Global level.

3.1 Global Environmental Concern

The environmental problems at local level lead to global issues. Therefore, there was need to investigate issues pertaining to global level if a localized curriculum was to be designed in Luangwa district. It was felt that the literature from global level was of great value for a geography curriculum in terms of how they solve environmental issues at global level and how it would be contextualised to a local level in this case Luangwa.

As early as 1864 in *Man and Nature*, George Perkin Marsh called attention to a growing global need for environmental protection (Commonwealth Secretariat, 1998). Marsh emphasized that humans were making global and often permanent and disastrous changes to the environment. However, the world only started to open its eyes with the occurrence of environmental disasters, such as the vastland degradation caused in the United States of America by over farming and drought during the 1930s, and the Minimata Bay tragedy in Japan in 1953, where mercury was discharged into a river (Commonwealth Secretariat, 1998).

Arising from environmental problems mentioned on page 31, in the 1960s and 1970s, the world became acutely aware of the need to protect the environment. For example, Fien and Tilbury (1999) as cited by Tilbury et al (2002:1) state that

Our vision is a world in which there are many opportunities to learn about sustainable development. A world, where a skilled population makes informed decisions in their home, community and working lives and in their leisure activities. A world where people understand and take responsibility for the impact they have on the quality of life of other people, locally and globally.

Therefore, in the most recent centuries, awareness about the importance of a globally sustainable development as a common responsibility for all the countries of the world has developed, including Zambia. For example, in 1980, the International Union for the Conservation of Nature (IUCN) now, the World Conservation Union, the United Nations Environment Programme (UNEP) and the World Wildlife Fund, now World Wide Fund for Nature (WWF) published the World Conservation Strategy in which they defined Sustainable Development in terms of ecology (Commonwealth Secretariat, 1998). These three organisations view of development was an ecological approach which did not refer to economic growth. Since environment and development are not separate challenges, this approach was found to be flawed because it ignored environmental effects which come as a result of economic development. Due to the failure of the above mentioned organisations to define the concept of Sustainable Development, the World Commission on Environment and Development (also known as the Brundtland Commission) was formed in 1983 and it redefined sustainable development. In its final Report, *Our Common Future*, published in 1987, the World Commission defined sustainable development as “Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” (Zieba, 1996:1, Commonwealth Secretariat, 1998:11). This approach of defining sustainable development is viewed as an integrated approach to development. Environment and development are not separate challenges but linked. This is so because it was felt that development couldn't subsist on a deteriorating resource base; the environment could not be protected when growth leaves out the costs of environmental destruction. The

Brundtland Commission Report of 1987 managed to put strategies for sustainable development as outlined below over the next page:

- Conserving and enhancing the natural resources base through waste management, cleaner technology, use of substitutes such as alternative sources of energy etc.
- Reorienting technology and managing environmental risks.
- Merging environmental issues and economics in decisions-making. Environment and development are no longer opposites. They are inter-related and must be considered to be complementary.
- Enabling a sustainable level of population.
- Meeting the essential needs (jobs, food, energy supply, water, health care, education, sanitation) of most of the world's population.
- Changing the quality of growth. The aim is to achieve improved distribution of income, equity, reduced vulnerability to economic crisis and, more or less, to make growth less dependent on energy and materials.
- Reviving economic growth in developing countries as a means of meeting basic needs. After all, economic growth is a prerequisite for environmental protection in developing countries.

Following the Brundtland Report of the World Commission on Environment and Development, the Summit in Rio de Janeiro accelerated the process of awakening the world to the urgency of sustainable development and secured the beginning of a process of international cooperation on development and environmental issues (Tilbury et al, 2002). The Earth Summit Conference of 1992 was the largest gathering of world leaders

in history, which was convened to address urgent problems of environmental protection and socio-economic development. This Summit produced the Agenda 21 – (a 300 – page document) that outlined global strategies for cleaning up the environment and encouraging environmentally sound development. Agenda 21 has been a blue print on how to make development socially and economically sustainable, and contains strategies for preventing environmental degradation and for establishing a basis for sustainable ways of life on the planet into the twenty-first century. Agenda 21 also identified nine major groups as partners with governments in the global implementation of the Rio de Janeiro agreements. They are: women, farmers, young people, trade unions, business and industry, local authorities, scientists, indigenous people, and NGOs working in environment and development (Commonwealth Secretariat, 1998).

Although the Earth summit achieved a massive reap in global awareness of the need for environmental protection, and some consensus about future action, there were disputes between the wealthy industrialized nations, for example Western Europe and North America, and poorer developing countries in Africa, Latin America, the Middle East and parts of Asia. It was found out that, in general, poorer countries were reluctant to jeopardize their economic growth with environmental restrictions urged upon them by richer, developed countries, unless they received increased financial aid, which they claimed would help make environmentally sound growth possible (Commonwealth Secretariat, 1998). However, those at the Earth Summit saw the need to tie the achievement of environmental sustainability with overcoming the interdependent problems of poverty, illiteracy and militarism (Tilbury et al, 2002). While interest in and concern about the environment remains high, and some advances have been made, there are still major environmental problems facing future generations. For example, we are still faced with a polluted and damaged atmosphere.

This literature pegged at global level shows that in order to achieve sustainable development with respect to environmental degradation, there is need to have people making informed decisions at home. When people make informed decisions concerning the protection of their environment, then, globally sustainable development will be

achieved. The above noted Literature has also shown that there is need to involve indigenous people, local authorities, women, farmers and the young people in issues of environmental protection. In this vein, the Luangwa district which experiences some of the environmental issues (like the ones mentioned at global level) such as soil erosion, deforestation and human-animal conflicts would do well to draw experiences from the cited literature in developing a localized geography curriculum that would involve the input of local authorities, women, the indigenous knowledge and indeed the participation of grades 8 and 9 school dropouts in society. There is, therefore, need to link local environmental issues to those of the global environmental concerns when teaching geography.

3.2 Regional Environmental Concern

There is need to review regional literature in order to assist in developing a localised geography curriculum of Luangwa district. It was hoped that literature from regional level, would be of use to contextualise it to local level in this case Luangwa. Achieving sustainable development from a Global level is not an easy task; the issues underlying sustainable development are complex. For example, it was noted at the 1992 Earth's Summit that, despite achieving a massive reape in global awareness for environmental protection, there were disputes between the wealthy industrialized nations and poorer developing countries. Hence, there is need to consider the Regional aspect when tackling environmental issues, since different regions perceive their environmental problems differently and would, therefore, provide different solutions to these problems. In this, regard, this section reviews how countries in the Southern African region to which the Luangwa district belongs handles its environmental concerns.

Information from various regions on how they handle environmental issues would also be reviewed in order to assist in the formulation of a suitable, localized geography curriculum for Luangwa district. We present the North American region next for a start.

3.2.1 North America

North America is one of the regions which has a long history concerning conservation of their environment.

Therefore, this study decided to review literature concerning how American handle the environmental issues, as it was vital to apply the same experience of the American region in environmental issues to Luangwa in this case.

3.2.1.1 A Case of United States of America

The United States of America has been making great progress in protecting the environment in the last 30 years based largely on a variety of regulatory measures (Zieba, 1996). For example, federal and state governments set standards, issue permits for pollutant discharges, and then inspect, monitor and enforce standards set for each environmental statute (Zieba, 1996). In 1993, President Clinton created the President's Council on Sustainable Development (PCSD). One of the goals established by the PCSD was to "create full opportunity for citizens, businesses, and communities to participate in and influence the natural resource, environmental, and economic decisions that affect them" (Zieba, 1996:2). Such a collaborative decision making process in that country ensured better decisions, created more rapid change, and promoted more sensible use of human, natural, and financial resources. That approach had helped to create a widely held ethic of stewardship which encouraged individuals, institutions and corporations to take responsibility for the economic, environmental, and social consequences of their actions. In North America, the transition to sustainability was happening from the bottom up, as countless people and organisations responded to the crises of their times by modifying the way they lived and worked. Larger organisations were being transformed as changes rippled through them (Wilson 1996). A number of organisations dealing with environmental issues in North America were created, for instance, "Albuquerque's environmental story: Towards a sustainable community", was created to help students in Albuquerque, New Mexico relate compassionately to their local, natural and human environment. Another organisation called Hidden Springs dealt with the

residential community of Idaho. This organisation based its actions upon eight principles which aimed to protect the natural environment, preserve rural character and farming traditions as well as preserve the quality of life, increase diversity and achieve traditional design for neighbourhoods and homes (Wilson, 1996). These strategies in North America assist to minimize environmental problems that the region faced, such as pollution, soil erosion, and degradation including the depletion and contamination of groundwater, deforestation, desertification and loss of species (Wilson, 1996). In view of this literature, a number of organizations do also exist in Zambia. But environmental degradation is on the increase. It is for this weakness that this study will try to contextualize the organization strategies into a localized location for Luangwa district.

3.2.2 Europe

This section tries to review the literature in Europe on how they handle environmental issues and see how the data could be of use in the case of Luangwa district.

3.2.2.1 A Case of Austria

Europe as a continent has been much involved in issues of environmental protection after defining the concept of sustainable development in the Brundtland commission's, Our Common Future in 1987. Since then, the United Nations Commission for Europe issued a declaration on Sustainable Development in 1990 (Zieba, 1996). Some European countries, such as Austria, have been in the forefront in advocating for environmental protection. For example, the International Youth Federation for nature studies and conservation was founded in Salzbrug, Austria in 1956 (Commonwealth Secretariat, 1998). It advocated for the interests of youth environmental groups. This organisation sought to organize and encourage all that might increase the knowledge, understanding and appreciation of nature and awareness of environmental problems among young people throughout the world. This was in order to promote the commitment of youths to the principles of environmental conservation and to stimulate young people to voluntary action for the protection and enhancement of the environment

and for the natural use of the Earth's resources (Commonwealth Secretariat, 1998). With respect to this study it is, therefore, important for geography teaching and learning at grades 8 and 9 levels to involve youths in issues of environmental protection and preservation in their localities. It may also be advised for the youth of Luangwa district to innovate networks with the other people throughout the world through organizations such as the International Youth federation of Austria. It is important to consider the Austrian strategies of encouraging youth in environmental issues through localized curriculum as this would have small a direct impact on the local environment.

3.2.3 Africa

This section highlights how environmental problems in other countries in the African region where Zambia belongs have been, or, are being tackled.

3.2.3.1 A Case of Zimbabwe

Most of the countries in the Sub-Saharan region of Africa were involved in environmental protection programmes. A number of countries in this region had been introducing the concept of community-based development and, in particular, community based wild life management utilization. The purpose of this programme was to improve the co-operation of local communities in natural resource preservation. For example, in the beginning, Zimbabwe approached wildlife management through centralized co-ordination and control of preserved areas known as National Parks (Commonwealth Secretariat, 1998). This approach proved futile because it worked against the direct economic interests of local communities. In 1984, a change in the approach to wildlife management commenced because of the government's awareness of two factors stated below:

- On the one hand, communities were suffering extensive losses due to the effects of wildlife poaching.

- On the other hand, ecological and economic conditions appeared more suitable for the maintenance and exploitation of wildlife resources by the local community. These factors necessitated the launch of the project called campfire to address the problems of communal resource ownership by means of:
 - a) A more equitable allocation of natural resources, and
 - b) Placing a value on natural resources.

This project involved community participation directly in the management of wildlife and enabled them to receive identifiable benefits from these resources. The community benefits were realized through being given money from Safari hunting and eco-tourism to protect the wildlife from illegal hunting, and they regarded wildlife management as a financially attractive land use option (Commonwealth Secretariat, 1998). The case of Zimbabwe applies well to the environmental issues that exist in the Luangwa district where community participation was equally needed to alleviate problems arising from human animal conflicts. Community participation as a concept would be of relevance to the re-designing of the geography curriculum.

3.2.3.2 A Case of South Africa

In South Africa, too, a growing awareness of the country's environmental problems had led to public calls for environmental education. For example, in 1985 those who were involved in environmental education from the conservation agencies and organizations as well as schools, Universities and elsewhere, came together to form the Environmental Education Association of Southern Africa (EEASA) (DEA, 1989). In 1989, the then Department of Environmental Affairs (DEA) developed a white paper on Environmental education and there was Government's Green paper on the environment (DEA & T, 1996). It drew its attention to capacity building and a holistic integration of environmental concerns into all forms of education and awareness building.

South Africa's most recent white paper on education and training states unequivocally that environmental education,

Involving an interdisciplinary, integrated and active approach to learning, must be a vital element of all levels and programmes of education and training system, in order to create environmentally literate and active citizens and ensure that all South Africans, present and future, enjoy a decent quality of life through the sustainable use of resources (DOE, 1995).

The department further observed that in South Africa, education was conventionally a vehicle for the introduction of learners into society, teaching them a selection of knowledge that society had developed, skills that would help them make a living in that society, and values to uphold that society in a form in which they find it. Environmental Education was used to attain ecological sustainability, which drew them to start farming their land, boosting their economy and dealing with the issue of garbage management in different ways. This, again, underscores the importance of community participation in issues of environmental and economic use of resources from which Luangwa can take a leaf.

3.2.3.3 Environmental Concern with Respect to Zambia

This section highlights the efforts Zambia has been making since independence towards achieving sustainable development.

Since 1965, there has been a growing concern for sustainable development and care for the environment in Zambia. Between 1980 and 1990, Zambia experienced serious economic difficulties which adversely impacted on the social and economic scenario, leading to accelerated environmental degradation (WWF, 1999). During this period there had been lack of co-ordination between the various implementing institutions resulting in duplication of efforts. As the Minister of Tourism and Natural Resources observed in 2002, despite a number of institutions working towards addressing various environmental issues, most of the efforts were fragmented (Matiba and Muwowo, 2002).

It was against this background that the government adopted the National Conservation Strategy (NCS) in 1985 as the principle policy document guiding the sustainable use of the country's natural resources (WWF, 1999). Following the National Conservation Strategy (NCS), the Ministry of Environment and Natural Resources was created in 1991. Through this ministry a number of statutory instruments aimed at safeguarding the environment were enacted. For example, some of the major enactments and institutions which were put in place, included the NCS document. The strategy concentrated on the environment and resource management aspects of development. The emphasis was placed on development threats to the environment and the central role of natural resources in enhancing development. From this initiative, the Luangwa Integrated Resource Development Project (LIRDP), now called the South Luangwa Area Management Unit (SLAMU) was created. The agency aimed at encouraging community wildlife utilization and multiple land use in the Luangwa valley.

The SLAMU project in the Luangwa valley allowed the local communities to manage resources. They were also allowed control over decisions related to income. This generated the following activities:

- Tourism and safari hunting.
- Rural development activities in the protected area or surrounding buffer zones which generated employment.
- Creation of jobs to local people in the areas of tourism, wildlife and park services as well as in commercially run cropping or hunting schemes.
- Creation of markets for local handcraft and produce (Commonwealth Secretariat, 1998).

In 1990, the Environmental Protection and Pollution Control Act (EPPCA) was enacted as a further development from the NCS and to facilitate its implementation. The objective of EPPCA was to protect the environment, in general, and to control pollution, in particular. This consequently saw the establishment of the Environmental Council of

Zambia in 1992 to execute the provisions of the Act. The ECZ plays advisory, regulatory, consultative, co-ordination and informational roles on all environmental issues in the country so as to protect the environment, control pollution, and ultimately provide for the health and welfare of people, animals and plants (WWF, 1999). The ECZ has been involved in the following areas; land use planning, natural resource management, environmental impact assessment, waste management, as well as education and communication. Following the Earth's Summit in June 1992, Zambia endorsed Agenda 21 Plan of Action and other Rio de Janeiro agreements. This saw the birth of the National Environmental Action Plan (NEAP). It was adopted by the government in 1994. Its objective was to review and integrate environmental concerns into the social and economic development process of the country. As a result of these efforts made towards environmental concerns in the country, the Daily Mail Newspaper of 16th December, 1991 carried the following topic "stop forest destruction" where the Minister of Environment and Natural Resources, Kelly Walubita, sounded a warning that immediate and drastic measures should be taken to check the rapid rate of deforestation in which the country was losing about 300 000 hectares of forest annually (Daily Mail 16/12/91) in McGivern (1992). The issues of environmental concerns were being repeatedly covered in the media of Zambia. For example, Central Province Permanent Secretary Patrick Kashinka sounded a warning that if forest reserves were not protected, the rain system would be affected and this would devastate Zambia's economy (Post. Thursday, May 15, 2004). Furthermore, the Minister of Luapula province Kennedy Sakeni observed that there was some serious deforestation in the Bangweulu Swamps (Post Thursday May 12, 2005). He noted that deforestation on Mbabala and Chishi islands was acute and proved to be a complex problem for the areas because people were having difficulties in preparing food. There were still a number of environmental problems in Zambia at the time of this study, despite frantic efforts which were being made to address them. For example, the Ministry of Education (MOE, 2004:3) stated that "Zambians today demonstrate very little respect for their environment. At best we ignore our environment and at worst we willfully deface and destroy it". This was so because we lived in a throw – away society. Both in urban and rural areas the amount of rubbish produced by each person was a lot. People threw away

paper, glass, plastic, metal, textiles careless. This contributed to some environmental concern and this study would try to find the best ways to address environment issues which could not be addressed despite many organizations involvement in environmental awareness.

Luangwa district, in particular, experienced the environmental problems stated in this study which included suicide cases, early marriages and soil erosion to mention but a few. It is, therefore, important to find solutions through basic school geography curriculum, as Luangwa is not an island.

3.4.0 Causes of Environmental Problems in Luangwa District

The section has looked on how value system, poverty and limited education led to environmental degradation. The section discusses the causes of the environmental problems in general which in turn will be compared to the ones existing in the study area.

3.4.1 Value System

There are a number of factors leading to environmental problems in the world at the Global, Regional as well as National and Local levels. Only selected factors will be discussed in this chapter. The social environment, which consists of the systems that groups of people have organized to satisfy their needs, has an effect on the physical environment (Commonwealth Secretariat, 1998). The social environment include the following: skills, all man-made structures, all means of agricultural, industrial production, all tools, all means of transport and communication and all social activities (families, religion, values, law, education, economics and politics). Value systems are cardinal in environmental issues. This is so because in some traditional values systems, some societies do not destroy or deplete the resources in the natural environment. The Commonwealth Secretariat (CWS) (1998) cited North American, Amazonian Indians and Australian aborigines, who held the belief that they did not own the land, but that

they had to protect it. Also some groups of people in India believed that the trees in the forest were gods. As a result they protected all the trees (CSW, 1998). Furthermore, the WWF (1999) acknowledged that cultural taboos, for example, put restrictions on the use of certain plants, animals or areas. This helped to curb the depletion of natural resources considered important for continuation of the larger community (WWF, 1999).

However, other societies do not hold the same beliefs about their natural environment. People in such societies tend to see the living and non-living elements in their environment as resources to be used rather than to be protected. They may be unconcerned about their environment (WWF, 1999). This lack of concern, embodied in the value system of a society, leads to environmental damage. In the case of Luangwa district one lesson from the above literature is that it is not only education that would solve environmental issues of Luangwa, but the value system of the local society also needs to compliment the efforts of the education system in the area. This study, moreover, has deliberately incorporated the social environment in its learning activities which utilize the social environmental dimension within the proposed scheme of work in item 6.2.

3.4.2 Legislation and the Environment

Some Literature shows that the environment is also affected by the existence or non-existence of appropriate legislation. The quality of existing laws and the extent to which they are enforced matter a lot. If the laws exist, but are weak or not enforced, degradation is also likely to occur (Commonwealth Secretariat, 1998). Therefore, there was need to have appropriate laws and institutions responsible such as the Environmental Council of Zambia, to enforce these laws. However, at the local level, local authorities such as councils must be in the forefront in making people follow the stipulated laws in order to protect the environment.

In the case of Luangwa district, there was need in this study to involve local authorities from the Councils when formulating the localized curriculum, as well as key education officers who interpreted and enacted legislation at local levels.

3.4.3 Poverty and the Environment

The World Commission on Environment and Development (1987) observed that our world has more hungry people today than ever before in human history (CWS, 1998:9). The low standard of living manifests in form of low incomes, inadequate housing, poor health, limited or no education, high infant mortality, low life expectancy, and a general sense of hopelessness and despair among the majority of people in developing countries.

Poverty lessens people's capacity to use natural resources rationally (Commonwealth Secretariat, 1998), and as a result it intensifies the pressure on the environment. Poor people are unable to meet their own needs, and tend to be forced to exploit natural resources for income or for their own use. For example, forests may be exploited for food, fuel or pastures for fodder, and ponds and rivers for water and fish. The Commonwealth Secretariat (CWS) (1998) acknowledges that poverty has been registered as a stumbling block to sustainable development. UNEP (2002) noted that poverty was both a cause and a consequence of environmental degradation. Poverty impedes the ability of the poor to recover from such events as droughts, floods or desertification that caused havoc in many African Countries. This study deliberately incorporated the issues of poverty under social challenges and the environmental aspects have been in the localized curriculum of Luangwa in part A of chapter six (6).

3.4.4 Limited Education and the Environment

Some scholars still argue that education is very important in environment protection. For example, Capra et al (1995) argued that the reasons for destroying nature were our ecological illiteracy, or our ignorance of the principles of ecology. This view is further acknowledged by Haltingh (2002) who argued that there is a wide agreement among development practitioners that education has an important role to play in leading to development that was sustainable. Education entailed empowering individuals and groups to participate in sustainable development (Haltingh, 2002). DEAT (1999) as cited by Haltingh (2002) identified seven interdependent strategic goals for sustainable

development and among them was one which promoted the education and empowerment of South Africa's people, as well as one which increased their awareness of, and concern for environmental skills, values and commitment. Haltingh (2002) argued that in agenda 21, Education was considered critical for promoting sustainable development and improving the capacity of people to address environment and development issues. Therefore, Education is cardinal in environmental protection. It is for this reason that the second goal of the Millenium Development Goals (MDG) is attaining education for all (The Post, Thursday May, 2005). Choongo (2004), also stated that the MDGs target the attainment of environmental sustainability by the year 2015 through interventions that could reverse environmental degradation. As noted earlier in chapter two of this dissertation that the illiteracy in Luangwa district leads to people resisting to change whereby most of the people practices in appropriate methods of fishing, bad methods of farming, forcing girl child in early marriages all these lead to environmental degradation in the study area. This situation requires empowering the people with geographical knowledge to reverse this trend.

3.5.0 Strategic Position of Geography Education in Promoting Environmental Literacy

Geography as a subject which is being taught as a compulsory discipline at Upper Basic School level therefore, this study sought to investigate the importance of geography with respect to reducing environmental issues which were being experienced at the time of this study in Luangwa district.

Many scholars have acknowledged that education in general is capable of preparing environmentally enlightened citizens. This also applies to geography education. Harvey and Holly (1981) wrote that the purpose of geography included the following:-

- To further people's knowledge
- To help solve major social problems and
- To gain a conceptual understanding of people's organisation of space.

Clayton, (1929:48) argue that “Geography is a live and practical subject”. This is so because geography deals with real issues and the teaching should always have the ring of reality in it (Jones, 1929). Therefore, as a real and practical subject, Geography education which deals with the real society requires real knowledge to achieve sustainability. Williams (1976) contended that geography dealt with the real world, of which one learnt best through one’s boots or bare feet. As a subject, geography education needs to satisfy certain conditions if it is to perform its function in education. The subject matter must be felt to be real and must be based on knowledge of the actual physical and social environments. When the tripartite aspects of geography are considered, namely, the real, scientific and human elements, then the subject will perform its purposes. Because of the values that geography education conveys, Professor Berry stressed the need to modify school geography so that pupils should be taught an appreciation of their environment and the relation of physical and human factors (ZGA, 1967). Geography education, if well articulated in the curriculum, would be used as a strategic subject in solving both physical and social environmental problems. Geography education is value laden. Some of the values that Geography education could instill in pupils include those mentioned in the next subsections.

3.5.1 Nurturing Democratic Citizens

Geography in schools seeks to train future citizens who would be able to imagine accurately the interaction of human activities and their topographical conditions (Williams, 1976). Palmer (1995) as cited by Huckle and Sterling (1996) argued that Geography encourages children in schools to develop a questioning attitude to receive wisdom and to contribute to the development of democratic citizens. It was further observed by Wickenberg et al (2004) that geography from the 1970s had been assisting in various ways to upgrade people through assisting them to their economy by using the environment appropriately as well as introducing the conservation of different natural resources. This concurs with Tobedza and Mc Cough (2002) who stated that the purpose of education was that of producing an enlightened and participant citizenry. (Kent, 1996). Geography as a subject is able to promote some systematic reflection in

environmental ethics. In this way Geography promotes democracy and citizenship, where pupils tend to debate on issues of the environment.

This study to implement the aspects mentioned above, the localized geography curriculum developed in chapter six incorporated issues to do with democracy, and the use of questioning technique in order to encourage environmental ethics and solving environmental issues locally.

3.5.2 Promotion of Cultural Knowledge

Geography education plays a major role in developing the culture of citizens. I.A.A.M (1958) noted that geography education in schools incorporates both the “utilitarian” and the cultural aspects when it is dealt from the cultural and humanistic viewpoint. Geography education deals with cultural values because, with the spread of literacy, development of communities in all their aspects, the insistent world problems that confront citizens are learnt through geography. Kent (1996) observed that there are profound changes in the food we eat, how we speak, dress, how to relate with other communities Nowadays, people live in a complex web of interacting cultures and sub cultures of families, gender, peer-group, ideological convictional, political communities and ethnic and local traditions. In such a situation, it is the role of geography education to assist young people to explore the diversity in young people’s lives in order to place youth identities such as gender, ethnicity, disability and sexuality (Kent, 1996). This study deliberately did incorporate issues concerning gender, HIV /AIDS and cultural aspects in order to address the above mentioned environmental problems. This is reflected in chapter six (6).

3.5.3 Enhancing Sustainable Societies

Tobedza and Mc Colaugh (2002) noted that the government of Swaziland recognized that many problems and solutions had their roots in local activities, hence, the government’s policy had to advocate that all education should be designed to inculcate a

love for the land. The research findings of the Environmental council of Zambia in the year 2000 on the State of the Environment report in Zambia indicated that reducing the number of illiteracy levels would not only reduce poverty levels but also lessen the negative impact of human activity on natural resources (Matiba and Muwowo, 2002). The three issues of education, poverty and environment are interlinked (Commonwealth Secretariat 1998, Matiba and Muwowo, 2002). Therefore, Geography education, whose importance is not urged by Geographers only but many educationists of standing, experience would play a major role to attain a sustainable society. For example, Norwood (1943) as cited by Williams (1976:84) argued that geography was more important than foreign language or science, as important as these were, for a simple reason “that an intelligent person must understand something about the real world and the country and the district in which he/she is set to live his/her life”. As much of the work in geography comes within the direct experience of pupils, and most of its knowledge is closely relevant to their development both as individuals and as members of society (Williams, 1976). Geography education, if well taught, could contribute to achieving a sustainable society. In order to make geography education contribute to a sustainable society, a localized geography curriculum was formulated for Luangwa in chapter six. This curriculum introduces direct experience of pupils and its geographical knowledge in this curriculum is closely relevant to pupils and society of Luangwa.

3.5.4 Contribution to Knowledge and Skills

It is difficult to isolate a set of skills applicable only to Geography, but the International Geographical Union (I.G.U) (1996) argued that skills which help to develop graphicacy were a vital contribution made from the study of geography education. This was also acknowledged by Burton (1984) who indicated that the key element in the work of physical geography is the development of “graphicacy”, including motor skills of hand and eye coordination. He further argued that spatial information couldn't be really understood or communicated by verbal or numerical means. Graphicacy involves interpretation of graphic, photographic and cartographic information. The skill of graphicacy is not only fundamental to the understanding of geographical ideas but it has

place in the general education of all pupils (Burton, 1984). Besides graphicacy Burton (1984) outlined other important types of knowledge developed through learning geography. Among these were:-

- (i) Awareness of social environment and political space were, in the context of people/land relationships, children see around them a link to the dominance or conflict of different groups.
- (ii) Geography also develops aesthetic and creative knowledge,
- (iii) It promotes linguistics through discussion, role-play, simulation and through data Collection in the field by interview schedules and questionnaires. Williams (1984) observed that geography curriculum made four contributions to the education of pupils aged 5 to 16 years and these were: Graphicacy, world knowledge, international understanding and environmental awareness. This study incorporated environmental issues experienced in the study area in the broader perspective. The environmental issues have been included with view of the four components of the environment in chapter six.

3.5.5 Contribution to Environmental Conservation

Literature has shown that geography education plays a significant role in environmental conservation. Fien (1985) wrote that the goals of geographical education were for students to become aware of the role of the environment in shaping their perception and feelings and how in turn, their environmental feelings, attitudes and consequent actions influence the environment. The skills of classifying information, solving problems and making decisions about various environmental questions are of geographical importance. Geographical skills which teach pupils to express their likes and dislikes about the environment in the locality are vital (Hackle and sterling, 1996). Therefore, pupils must be exposed to environmental context, and that the environment may be more or less conducive to developing higher levels of competence for pupils (Liben and

Downs, 1991). However, it is unfortunate, as Fien (1985) observed that most geography courses fall short of this goal as too little attention is paid to student's personal and affective responses to the environment. This is so because factual knowledge and skills are oriented towards examinations syllabus and these examinations rarely probe the affective domain. This contributes to environmental problems in most places. For example, Fien (1985) cited Slater (1977) in her paper "the convenience of environmental ignorance" who argued that the separation of environmental knowledge and values has produced a mental imbalance that has "cost us our landscape." And that the deterioration of the environment is the result of our "miss-educating a generation of consumers" who have learnt to talk about the poor conditions of the environment, but fail to understand the role they play in its creation and destruction. Therefore, if geography is well taught, it could play a vital role in addressing environmental concerns at the global, regional, national and district levels. The study in the localized geography curriculum has incorporated most of the environmental issues that affect Luangwa. It has also tried to provide a frame work to allow the teachers and pupils to develop divergent attitude when teaching and learning of geography.

3.6.0 School Curriculum in Africa

This section was included in this study to assist in the development of localized curriculum of Luangwa district. By trying to review some curriculum models and see how they could be contextualised in the situation of Luangwa district.

Since the attainment of political independence, most African States realized that the education systems which they inherited from their former colonial powers were not relevant to most of the needs of the independent nationals (Phiri, 1987). For example, Rodney (1972:246) quoted Dr. Kofi Busia who made the following admission;

At the end of my first year at secondary school (Mfantipim, Cape Coast, Ghana), I went home to Wenchi for Christmas vacation. I became painfully aware of my isolation. I understood our community far less than the boys of my own age who had never been to school. Over the years as I went through college and University I felt increasingly that the education I received taught me more and more about Europe and less and less about my own society.

In view of the situation quoted by Rodney (1972) above, Ologue e tal. (1979) argued that if British and French Geography wrote about and taught the geography of their tropical empire with empirical interests uppermost in their mind, then we really have no excuse for not teaching and writing the kind of geography that would serve our National interests foremost. This means that geographers should not just tag on to what some people might describe as the mainstream of geography by teaching what is in the standard text books and international journals (mainly British and American) which, by pure accident of history, are available to us (Ologue e ta.l. 1979).

With reference to Zambia, Simukoko (1977) also observed that the education system bore no relevance to the needs and the problems of the pupils and societies in rural areas for which they were planned. This situation contributed to pupil's failure to solve environmental problems of their local areas. Leong (1983) noted that human ignorance and mismanagement in the land use greatly accelerated soil erosion and impoverishment. Education is very important if well taught, as it may equip disadvantaged youngsters to break through traditional barriers, thereby contributing to the organisation of the unorganized community (Thompson, 1981). In order to assist the pupils at Basic school level, realize environmental issues which were being experienced in the study area, the study sought to develop a localized geography curriculum. The teaching of geography topics in the designed curriculum, the questioning method had been selected in order to help the attitudes of pupils to be changed as they enter the society at end of Upper Basic School level.

3.6.1 Curriculum Development in Search for Relevance

In order for education to be relevant, the knowledge to be imparted to pupils must be closer to the local environment, education should be an exposure to, and facilitate participation in the day-today business of living. Education must be life itself as it is lived by members of the local society. This can be achieved through allowing pupils the experience of living with and observing things in society as well as doing things with other members of society (Simukoko, 1977). Because of need for a relevant curriculum

in African states, curriculum reform has been a dominant feature in an effort to achieve greater community relevance in schooling because of the belief that traditionally imported curricula tended to interpose a cultural barrier between the child and his/her community, which meant that on leaving school the child found it difficult to re-integrate into the people among whom the child was to spend his/her life (Thompson, 1981). The process of developing geography curriculum has been going on in both English and French speaking countries. It is still going on though, to some extent, it is hindered by costs and technical difficulties of material production.

In trying to decolonize and achieve greater relevance of the curriculum, many models have been produced which describe the process of curriculum development. For example, scholars such as Taba (1962) argued that curriculum is developed sequentially, Wheeler (1967) saw curriculum development as a cyclical process, Kerr (1968) emphasized the interactivity of curriculum development, which involve Instructional planning and instructional implementation. Slater and Spice (1980) as cited by International Geographical Union (IGU) (1996) developed an alternative model of curriculum development which emphasized the importance of personalities and interpersonal interaction. This was further developed by Fien in 1980, who developed a humanistic model of curriculum development which focused on the learners existing knowledge, beliefs; experiences and interests, rather than external objectives, as the starting point for developing a curriculum (IGU, 1996).

In Australia, Cordington (1987) as cited by International Geographical Union (1996), developed a model known as the "perception-environmental" interaction model of curriculum development which attempted to describe a creative tension between the competing priorities of individual interests and personalities of members of the syllabus committee, on one hand, and the perception of groups and individuals in the wider community, on the other hand.

3.6.2 A Case of Zambia

Curriculum development in Zambia is traced from 1883 when Christian Missionaries in the country provided western education to Africans. The period from 1883 to 1963 essentially provided education for the smooth implementation of the aim of Missionaries such as to prepare African pupils to read the Bible written in English and for local educated Africans to evangelize the communities. The arithmetic and practical components of the education system was to benefit the missionaries who wanted human power such as shop stewards to assist them in the construction of mission stations (Chondoka and Manchishi, 1999). Most trained human power during this period such as clerks, storekeepers and Artisans came from outside the country, mostly from Malawi.

Since independence in 1964, the curriculum has passed through three phases. These are 1964-1974, 1975-1989 and 1990-1999. One of the major problems that the new nation at independence faced was inadequate human resources. This prompted the need to change the school curriculum to suit the aspirations of the new Nation. The principal change involved putting the contents of the curriculum and methods of teaching in the contexts of Zambia. However, despite all these reforms, the curriculum was still found to be Bookish, theoretical and examination oriented and prepared few students for a limited number of white collar jobs, while leaving the majority of school leavers without the necessary life skills (Chondoka and Manchishi, 1999). Kelly (1986) observed that the cultural invariants introduced under colonialism still persisted within the education system and apart from a few half-hearted attempts to add a little Zambian content to a few syllabi no deep thought had been given to the construction of a curriculum which gave cognizance to those unique Zambian variables which should form the basis of a relevant Zambian educational system. According to Namafe et al (2001: 17) "in terms of the learning achievement of school pupils, Zambia appears to be a nation at risk". The overall conclusion seems inevitable namely, that all levels of learning achievements are low right across the country, in all grades and in all curriculum areas. Very little learning of the type expected by society is occurring in Zambian school (Namafe et al 2001:17). It is for this reason that Namafe et al (2001) argued that, by projection, there

was likely to be very little learning of geographical knowledge, skills and attitudes by pupils across Zambia from grades 8 to 12.

3.6.3 The Contextual Relevance of the Study towards Upper Basic School Geography Pupils of Luangwa

This study and its localized geography curriculum belongs to the “most significant curriculum review” according to Namafe’s (2006 : 2) classification. This is so because, the study did not only alter the context of the then geography curriculum in use in Luangwa district at the time of the study, but also the method by which it was to be taught. The role of the teacher in order to implement the curriculum designed in chapter six (6) of this dissertation, may have to change completely in this regard and in view of this, some kind of in-service as well as pre-service teacher training may be required to be provided to accompany the designed localized geography curriculum for Luangwa.

3.6.4 A Responsive Basic School Geography Curriculum

Geography strategies in the study area are needed which involve organisations, persuasion and action to facilitate the needed societal transformations. Zelinsky (1973) as cited by Harvey and Holly (1981) suggested, there is need to apply geographic knowledge and expertise to the solution of future problems in conjunction with a necessary transition of society. In order to achieve such an objective, there was need to have a relevant curriculum that would cater for the needs of the pupil and the society in which schools were located. Ocitti (1974) felt that the local area, apart from bringing a sense of realism in the classroom and realization of the practical significance of the geography education subject, served as a basis for comparisons and contrast when learning about areas pupils could not visit. Local geography is a springboard for the study of the elements of geography of other parts of the world. The local area must be integrated with other aspects of the geography syllabus. The geographical elements or concepts found in the local area should precede to study similar elements of other regions of the world (Ocitti, 1974). In this regard, the Curriculum Development Centre

(CDC) (2005) contended that introducing a local curriculum component to the core curriculum would enhance the relevance of the curriculum, and by so doing the teaching and learning of geography education would be more responsive to environmental issues. As Luangala and Simuchimba (2002) revealed, teachers' views on the local curriculum in Mumbwa cited farming first and foremost; and they also suggested an anti-poaching campaign through lessons and other activities in schools. The local curriculum would assist parents, pupils and the local community to feel that formal education is strongly linked to their day today life. This was also observed by Wickenberg et al. (2004) where they argued that in order to motivate pupils to learn about caring for their environment, it was necessary for pupils to start with experiencing their natural environment. Geography education must relate meaningfully to the environmental problems which are being faced by a number of people (Oloque et al. 1979). It must seek to influence people, their affairs and, matters of the moment and if possible, those of the future.

It has been noted that Global problems are given prominence at the expense of local environmental problems. Tilbury et al. (2002) argued that to a child who has never left a place like Luangwa district or his/her village, where only one or two buses pass each day, addressing the issues of vehicular or industrial pollution will only encourage memorization. Only when students begin to understand their local environment will some action be generated to address their own situation. This will ultimately help restore the global environment (Wickenberg , 2004).

3.6.5 Community Involvement in Curriculum Development

The first responsibility for the education of a child rests with the parents who conferred life on that child and, by extension, with the community of which the family is a part (MOE, 1992). Therefore, teachers must demonstrate respect for the knowledge and skills of the local society. All learners come to school equipped with numerous acquired understandings, and the process of learning informally continues on a daily basis. In the same vein, parents and other members have numerous skills and solid local knowledge base. It is, therefore, important for teachers to have a deep awareness and interest in the characteristics of the local community in which they work. There is need for school and

formal learning institutions to coexist with the local community (CDC, 2001). Pupils can be organized to learn by discovery in the local environment and parents must be involved in the education of the child. Members of the community should never be looked down upon merely because they lack formal education. Parents may have considerable skills and competencies that the teachers may lack (CDC, 2001). The schools should draw on the local skills and resources available in the community for their education activities. For example, by calling on traditional storytellers for classes in the local language, by using local skills in the teaching of crafts, or by having local experts talk of activities that are important for the economic life of the community (MOE, 1992).

However, it is sad to note that for too long, villagers have been treated as illiterate, ignorant people as well as identified as recipients of development projects (Tilbury et al., 2002). Their latent talents, leadership and organisation capabilities had not been given space and recognition to grow and expand. This situation made it not easier to sustain the knowledge developed somewhere and forced upon the pupils as a teaching material. As the Ministry of Education argued that local communities were still marginalized at the level of policymaking, planning and curriculum development (MOE, 1992). In order to address environmental issues, the local communities must be involved, as Chipi a member of the Mumbwa community in 2002 said “in my local language we believe if the parents are well behaved then the children must be better behaved; meaning that children learn more from their parents and emulate their parents either good or bad work in life” (Mitaba and Muwowo, 2002:2). It is vital for parents and the local community to get involved in the education of their children if the issues of environmental degradation have to be addressed at the global, regional, as well as national and district levels. As WWF (1999) argued environmental degradation is, most importantly, due to lack of recognition, understanding and use of indigenous knowledge, technology and practices.

The relevance of this reviewed literature with respect to Luangwa is that, it has been established that countries such as the United States of America emphasized on creating

full opportunities for their citizens by creating an ethic of stewardship, which encouraged citizens to relate compassionately to their local, natural and human environments. It has been further observed that sustainability was happening from the bottom-up. This assisted citizens of the U.S.A to minimize problems like soil erosion and deforestation which were also common in the study area. While other countries such as Cameroon, Austria and South Africa involved young people of schools in issues of environmental protection, there were other countries, such as Zimbabwe, where there was much emphasis on community participation in environmental issues. The experiences from these countries could be of use to Luangwa district for the development of a localized geography curriculum that would involve young people such as Grade 9 dropouts and, indeed, the local community in issues of environmental protection.

This chapter has also shown that in re-designing a localized geography curriculum, there was need to involve all strategic partners in order to achieve environmental sustainability. These partners included local authorities, indigenous people, worker, and school pupils. There was need to create an ethic of stewardship among the citizens, and education needed always to adopt the bottom-up approach where the local area, that is, home environment must be taught before teaching global environmental issues. When the curriculum covered local issues, eventually people would be in a better position to reciprocally apply the knowledge from the local level to the global, national and regional environmental stages.

CHAPTER FOUR: RESEARCH METHOD

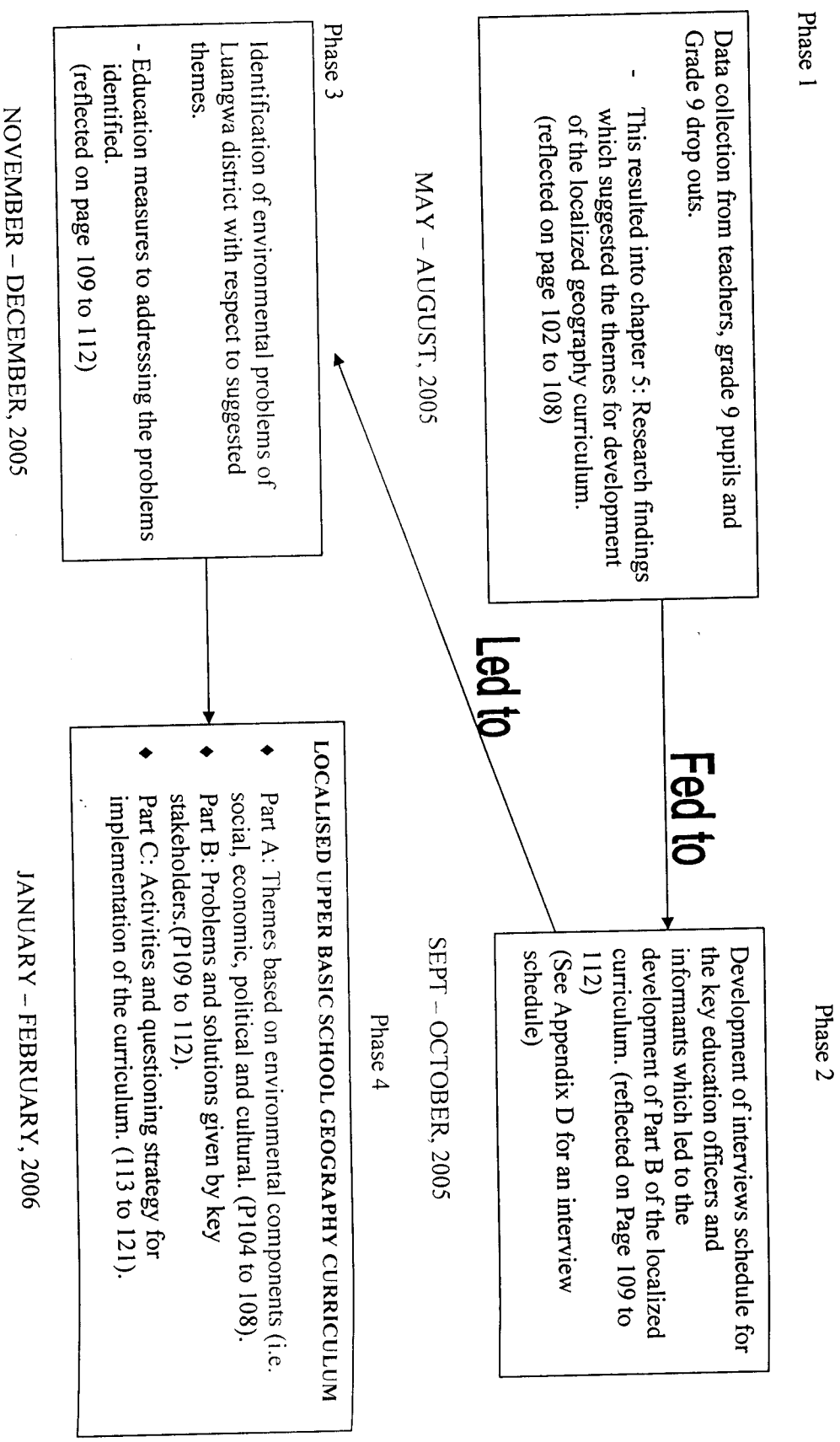
This chapter describes the research methods used to collect data.

4.1 Study Design

This study is evaluative and descriptive in approach. Qualitative and quantitative techniques were used to organize and analyse data. The conceptual framework of this study was in the area of “community studies,” in general and localized curriculum in particular. This conceptual framework portrays the relationship between school curriculum and environmental awareness of the study area. At first the study divided the study area into two zones, A and B, based on the two chiefdoms. From these two zones, five (5) wards were randomly selected. Then a population of 120 grade nine drop outs from the 5 wards was used as a target population for study. Using the ration of sample to the total population in the five (5) wards, a sample of 35 respondents was arrived at. The 14 teachers were selected using simple random. The study further selected 4 basic schools randomly from a total of 10 schools, a total of 155 population of grade 9 pupils was established in the 4 basic schools chosen .using simple stratified random sampling procedure, 40 pupil respondents were selected. The study gathered views of the key stakeholders of school Geography in Luangwa District. At first, the study tried to evaluate the contribution which the then Geography curriculum at the Basic school level of Grades 8 and 9 was making in addressing issues of environmental degradation which were being experienced in the study area. The study gives a description of the gathered views from respondents. As a matter of first step. After it was established in a kind of evaluation that the Upper Basic School geography curriculum fell short of satisfactorily addressing environmental concerns of Luangwa district, the next stage of data collection involved key educational decision makers drawn from the various sectors of Luangwa district. The objective in this second step was to extract central topics of an environmental nature which would form a basis for a proposed geography curriculum at grades 8

- 9 levels. Parts, A, B and C appearing on (pages 104 - 121) were designed in using this systematic procedure of processing data from one point to the next in order to create something of immediate use in form of a proposed curriculum. The whole process is diagrammatically illustrated by using the following diagram on the next page.

FIGURE 5: SYSTEMATIC OF DATA COLLECTION AND PROCESSING IN THE FORMULATION OF LOCALISED UPPER BASIC SCHOOL GEOGRAPHY CURRICULUM FOR LUANGWA DISTRICT.



4.2 Choice of the Study Area

When carrying out this research, the Researcher considered a number of factors. These comprise the following:

- The area that is shown in figure 6 was chosen because it experienced environmental degradation. This degradation affected, in turn, the social, economic as well as natural and political settings of the local people.
- Due to financial constraints, the researcher decided to carry out this research in Luangwa district because it was easy to collect data using a bicycle as he could not use other modes of transport which were costly.
- The researcher's employment was in the study area. Therefore, costs of accommodation, food and others were minimized. Furthermore, the researcher had seen with his own eyes the local people being constrained by perpetual environmental degradation which was being experienced in the study area.
- The researcher was also very familiar with the local language of the study area. This made it easy to communicate with the local respondents who had little formal education.

4.3 Period and Process of Data Collection

The collection of data was done from the month of May to August 2005. As noted in item 4.1 after the data was analysed, and all interviewed respondents felt there was need to reform the then existing Geography teaching and learning in the study area, the researcher then administered an additional interview schedule to gather more data from key education officers of Luangwa district occupying different offices. This was done in the month of November 2005. The data gathered in November was used to formulate or redesign the Geography curriculum in order to

make it responsive to the identified environmental issues of the study area. Therefore, all in all, data was collected and processed consecutively in three separate but interrelated tasks which fed into each other.

4.4 Data Collection Techniques

In this study, two kinds of data, namely primary and secondary were obtained.

4.4.1 Secondary Data

Secondary data was obtained from both published and unpublished literature. The researcher obtained this type of data from the main library of the University of Zambia, the Curriculum Development Centre (CDC), the Environmental Council of Zambia (ECZ), Commonwealth Youth Centre near the University of Zambia library, to name but a few. Materials were also collected from symposium papers, internet web sites and Government policy documents.

4.4.2 Primary Data

Primary data was obtained using structured questionnaires administered to teachers and Grade 9 dropouts in Luangwa District. A grade 9 learning activity questionnaire was also administered to grade 9 pupils. The purpose of this learning activity was to find out geography pupils ability to apply the geographical knowledge acquired at the end of the Upper Basic School level, in this case Luangwa district. The study further administered an interview schedule to different key education officers of various departments in Luangwa district. The purpose of this exercise focused on key education officers was to establish the main environmental problems experienced in the study area by education officers and what education measures they had to reduce such problems at the time of the study and thereafter. Before administering the questionnaires, the researcher carried out a field survey. This was done to collect the target

population of Grade 9 pupils from sampled schools and the target population of Grade 9 dropouts from the 5 wards selected. This method also helped the researcher to physically see the various human activities in the area, to take photographs of relevant activities and also to infer how the activities contributed to environmental degradation which was being experienced in the study area. In order to formulate a localized Geography curriculum for the district, the researcher employed community group discussion methods in order to get in depth views from respondents on what they felt needed to be included in the redesigned curriculum.

4.5 Study Population

The study population was made up of 120 male and female Grade 9 dropouts in the sampled 5 wards of the district, 155 Grade 9 pupils from four (4) sampled basic schools, and 18 Geography teachers and heads of departments.

4.6 Study Sample

A total of 100 respondents were selected in this study. This comprised 40 Grade 9 pupils taking Geography (20 girls, 20 boys) and 35 Grade 9 drop outs (15 females, 20 males). The remaining 25 respondents comprised 14 Geography teachers and 11 key informers from different departmental offices of Luangwa district and local leaders. Mason and Lind (1990) argued that for a sample to be representative, it has to be 10 percent or more of its population. In this study, the samples represented 25.8 percent pupils, 29.2 percent grade 9 dropouts and 77.8 percent teachers of Geography. In this regard, the sample of this study was representative.

4.7 Sampling Technique

The study employed proportional stratified sampling method to ensure adequate representation of the district. The district was divided into two (2) Zones based on chiefdoms and wards, that is, Zones A and B (see figure 6). From Zone A, three (3) wards and from Zones B, two (2) wards were selected using simple random method. The study further selected four (4) basic schools of Luangwa district. The names of the basic schools were Kaunga, Chiriwe, Katondwe and Mwavi. Then a simple random selection of pupils' names was used to arrive at the required sample of pupils and Grade 9 dropouts from the wards. The ratios of 1:4 and 1:3.9, that is, sample population to target population of Grade 9 dropouts and grade 9 pupils respectively, were used to select respondents (see table3 and 4). The remaining 25 respondents comprised 14 teachers who were obtained randomly and 11 respondents who were selected purposively.

Table 3: Grade 9 pupils sampled in Luangwa district by the ratio of 1:3.9.

Basic school	Total Number of Pupils per School	Sample population by gender		Total Sample
		Boys	Girls	
KAUNGA	35	5	4	9
CHIRIWE	16	2	2	4
KATONDWE	30	4	4	8
MWAVI	74	9	10	19
TOTAL	155	20	20	40

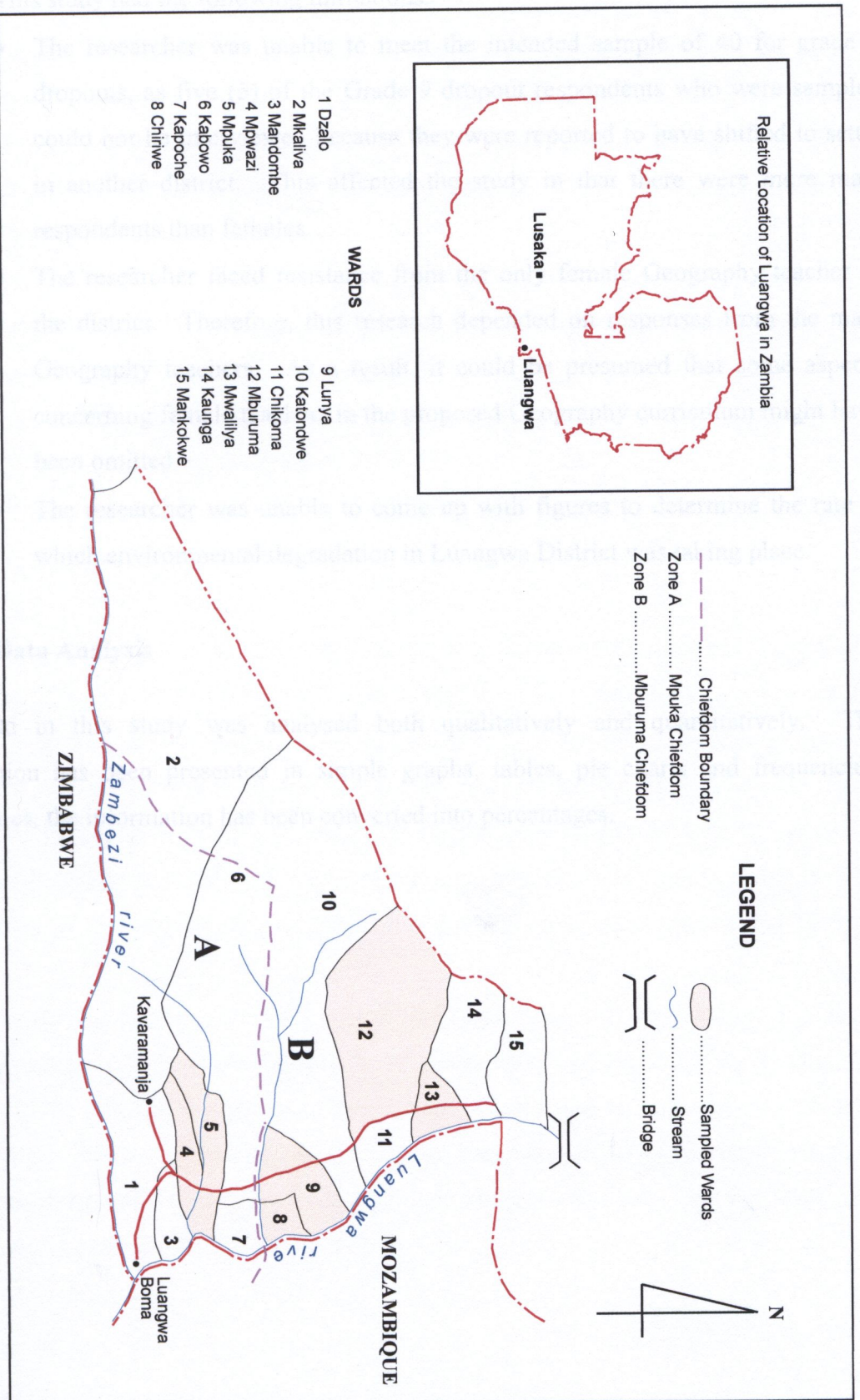
Table 3 shows the schools which were sampled in Luangwa district and the number of respondents by gender from each school.

Table 4: Grade 9 dropouts sampled in Luangwa district by a ration of 1:4

Wards	Total Number of Respondents per Ward	Sample population by gender		Total
		Female	Male	
PWAZI AND MPUKA	16	5	4	6
CHIRIWE	18	3	2	5
LUNYA	18	3	3	6
MBURUMA	42	7	7	14
MWALILWA	42	4	5	9
TOTAL	120	20	20	40

Table 4 shows the target population from each of the sampled wards and gender representation of the sample obtained.

Figure 6: Wards where Grade 9 dropouts respondents were sampled of Luangwa District



SOURCE: LDPU (2005)

4.8 Data Limitations

This study had the following limitations:

- The researcher was unable to meet the intended sample of 40 for grade 9 dropouts, as five (5) of the Grade 9 dropout respondents who were sampled could not be interviewed because they were reported to have shifted to settle in another district. This affected the study in that there were more male respondents than females.
- The researcher faced resistance from the only female Geography teacher in the district. Therefore, this research depended on responses from the male Geography teachers. As a result, it could be presumed that some aspects concerning female teachers in the proposed Geography curriculum might have been omitted.
- The researcher was unable to come up with figures to determine the rate at which environmental degradation in Luangwa District was taking place.

4.9 Data Analysis

The data in this study was analysed both qualitatively and quantitatively. The information has been presented in simple graphs, tables, pie charts and frequencies. Sometimes, the information has been converted into percentages.

CHAPTER FIVE: RESULTS AND THEIR INTERPRETATION

This chapter presents the views of various key stakeholders of Upper Basic School Geography in Luangwa District these included; teachers, parents, heads and pupils. It discusses in detail the findings of this study. The main focus is to bring out the position of all such stakeholders concerning the issue of redesigning the then Basic School Geography curriculum in order to make it responsive to environmental degradation that was being experienced in the District.

The chapter begins by presenting the Geography teachers' profile in terms of its quality and then it proceeds to present the general findings, item by item. The findings will help to assess whether or not the research objectives of the study have been addressed and, finally, to give direction to the study.

5.1 Profile of Geography Teachers

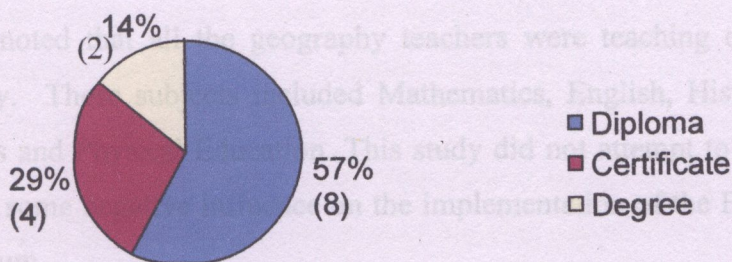
The quality and effectiveness of an educational system partly depends heavily on the quality of its teachers (MOE, 1996). It means, therefore, that the success of the Basic School Geography curriculum in Luangwa District, in this case, depends partly on the quality and effectiveness of the Geography teachers of the area. They are the key persons in determining the success of the Upper Basic education system's goals. The educational and personal well being of children in schools of Luangwa district hinges crucially on the competence, commitment and resourcefulness of teachers (MOE, 1996).

Due to the key role that teachers play in the implementation of educational goals, this study sought to investigate the quality of Geography teachers in Luangwa District. In order to do this, the following elements were investigated in connection with the said teachers: - levels of education of Geography teachers, length of teaching in Luangwa district, preferred teaching methods and their views on the then existing basic school Geography curriculum.

5.1.1 Teachers' Professional Qualification

This study sought to investigate teachers' level of education in Luangwa because these are prime implementers of the teaching and learning process in education. It was necessary to assist in evaluating the performance of the then geography curriculum in Luangwa district. Since omitting teacher's level of education would have made this study not knowing the main factors contributing to various flaws that this study has revealed with regard to the upper basic school geography curriculum.

Figure 7: Professional Qualification of Geography Teachers of Luangwa District



From Figure 7, it is noted that, of the 14 Geography teacher respondents, the majority, (57 percent) were Diploma holders, 29 percent were certificate holders and 14 percent were Degree holders. From these findings, the study shows that Luangwa District has more Geography teachers who are Diploma holders compared to certificate and Degree holders respectively. Therefore, on the issue of quality and effectiveness with regard to the implementation of the Basic School Geography Curriculum, Luangwa District is relatively in a better position than it was observed by the (MOE, 1992), that basic schools usually had lower qualified teachers. This is so because at Grades 8 and 9 levels, the minimum qualification required for one to teach these grades is a diploma certification. However, there was still need to encourage teachers with certificate qualifications to upgrade their standards. As stated by the Ministry of Education (MOE, 1996), the caliber of teachers and of the teaching profession is of paramount importance.

It is for this reason that geography teaching requires well-trained teachers. To this effect, IAAM (1958) argued that when Geography is taught by skilled teachers, pupils avoid hasty and mistaken conclusions based on ignorance or prejudice, as such skilled teachers would help to give pupils sympathetic understanding of the environment and activities of peoples in widely different regions.

In view of the importance of teachers, Luangala and Simuchimba (2002:1) indicated that

literature in the field shows that for any curriculum reform to bear fruit, it needs the support of the cohort of teachers who are to implement it.

Therefore, redesigning the curriculum of Geography in Luangwa District required the support of teachers, who should also be of good quality and effective, as stated by the Ministry of Education (1996).

During this study, it was noted that all the geography teachers were teaching other subjects besides Geography. These subjects included Mathematics, English, History, Religious Education, Civics and Physical Education. This study did not attempt to find out whether or not this had some negative influence on the implementation of the Basic School Geography Curriculum.

5.1.2 Length of time that the Geography Teachers had taught in the District

This study also sought to investigate the period that the geography teachers had been teaching in the district. This was done to know teachers' experience of the environmental degradation which was taking place in the area. This, in turn, was to assist evaluate to whether or not their teaching had any impact on attempts to raise the level of awareness to these problems (See Table 5):

Table 5: Length of Time which the Geography Teachers had taught in the district.

PERIOD IN YEARS	RESPONDENTS	%
1	1	7.1
2 -3	2	14.3
4 – 6	6	42.9
7 and above	5	35.7
Total	14	100

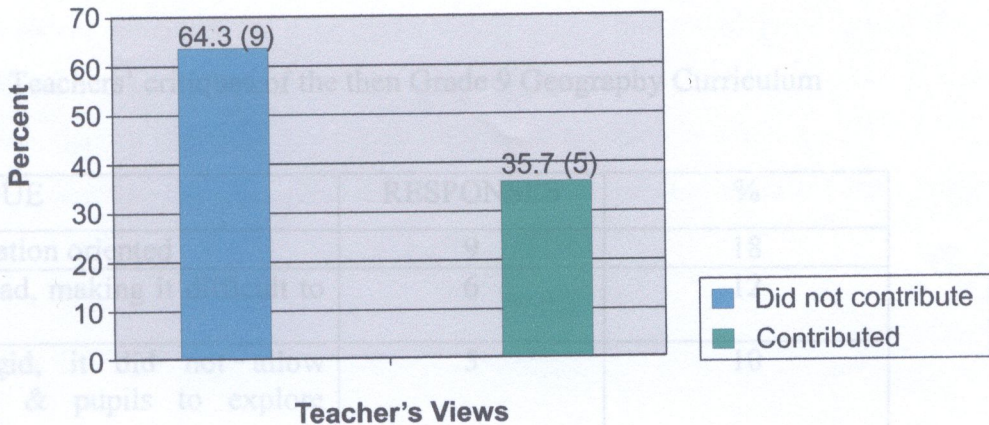
As Table 5 shows, of the 14 teachers sampled in Luangwa District, 7.1 percent of them were found to have taught geography in the district for a period of one year, 14.3 percent taught in the district for a period of two to three years, 42.9 percent taught in the area for a duration of between four to six years and the remaining 35.7 percent taught in the area for seven years and above. From these results, most of the teachers had taught for more than one year in the district. Therefore, they were expected to have been in a good position to know the environmental problems, which were being experienced in the area. These same teachers were supposed to have been in a better position to know whether or not the curriculum of geography, which was being taught at that time, contributed in raising the level of awareness towards environmental degradation of the area. This aspect of teacher's understanding will be brought out in the following pages.

5.2 Contribution of the then Existing Geography Curriculum in Addressing Environmental Issues and Preparation of Pupils for Life in Society

A number of studies have shown that the teaching of geography in Zambian schools at both basic and high school levels contributed very little to the learning achievement expected of them by the Zambian society. For example, Namafe, et. al. (2001) concluded that very little learning of the type expected by society was occurring in Zambia's schools. In view of this, this study sought to find out from teachers of Luangwa District whether or not the basic school geography curriculum had any impact on minimizing environmental problems that were being experienced in the area. For the findings refer to Figure 8.

5.3 Teachers' Criticisms of the then Existing Grades 8 and 9 Geography Curriculum in Luangwa

Figure 8: Teacher's views on the teaching and learning of Geography in Luangwa



According to Figure 8, the majority (64.3) percent of the teachers expressed that the then existing geography curriculum did not prepare pupils in environmental protection matters of the study area. The reasons were that it was too theoretical and examination-oriented, and it neglected the teaching of local environmental issues as they were taught broadly from national and global levels. There was also the issue of time allocation. The time of teaching geography was found not to have been enough, that is, three (3) periods per week of 40 minutes each which discouraged teachers from using suitable teaching methodologies such as field trip and discussion. This resulted into teachers putting more emphasis on lecture method, giving notes and explanation methods in order to cover the examination syllabus.

However, 35.7 percent of the 14 teachers felt that the curriculum prepared pupils with survival skills to fit in society. The reasons were that topics covered general aspects that also existed in Luangwa District. The results of this study match with what other scholars expressed about the school curriculum in Zambia. For example, Chondoka and Manchishi (1999) observed that the school curriculum had been too theoretical and examination oriented. This seems to have been the major flaw in the then curriculum.

5.3 Teachers' Criticisms of the then Existing Grades 8 and 9 Geography Curriculum in Luangwa

Teachers were asked to give their own critique of the then geography curriculum used in Luangwa District. Their criticisms are tabulated in Table 6.

Table 6: Teachers' critiques of the then Grade 9 Geography Curriculum

CRITIQUE	RESPONSES	%
Examination oriented	9	18
Too broad, making it difficult to cover.	6	12
Too rigid, it did not allow teachers & pupils to explore local issues.	5	10
It lacked practical / too theoretical.	10	20
It lacked life skills for pupils to survive in society.	5	10
The objectives did not match with the content.	2	4
Some topics were not necessary to a Zambian child e.g. farming in Australia.	5	10
Formative assessment was not considered for final results.	4	8
Current issues such as AIDS & population are not covered adequately.	4	8
Total	50	100

As seen in Table 6, the sampled geography teachers of Luangwa district were asked to give criticisms to the then existing Basic school geography curriculum. The main criticisms by teachers on the teaching and learning of geography in Luangwa district were; 20 percent of the teachers felt that the then geography curriculum lacked practicals as it was too theoretical in nature, 18 percent indicated that the geography curriculum was mainly examination oriented, 10 percent cited the following hiccups of the

curriculum; it was too rigid because it did not allow the teachers and pupils to explore local issues, it also lacked life skills for pupils to survive in society after school life, there were topics that teachers felt were not necessary to a Zambian child, example given, farming in Australia which teachers felt was not supposed to be taught to grade nine pupils. Also 8 percent of the teachers, observed that the then geography curriculum did not consider formative assessment of pupils in the final examination results as they felt this aspect reflected the real performance of an individual pupil unlike the final examination. Further, 8 percent of the teachers' responses cited weaknesses in the then curriculum that it did not cover current issues adequately such as HIV/AIDS and population, and that the objectives did not much with the content of the then geography curriculum.

5.4. Pupils' Attitude to Learning Geography

Having looked at the teachers' views this research sought to investigate grade 9 pupils' attitudes to learning geography in Luangwa District. The results are shown below in table 7.

Table 7. Grade 9 Luangwa Pupils' Attitudes to Learning Geography

PUPILS' ATTITUDE	RESPONSES	%
Like Geography	38	95
Dislike Geography	2	5
TOTAL	40	100

According to Table 7 above, of the 40 grade 9 pupils sampled from the basic schools of Luangwa District, 95 percent liked learning Geography while 5 percent did not like learning Geography. Reasons advanced for this picture are given next in item 5.5

5.5. Reasons for Pupils' Attitudes to Learning Geography

The respondents were further asked to give reasons for their attitudes to learning Geography, which are shown in Table 8 over the next page.

Table 8: Grade 9 Luangwa Pupils' Reasons for their Attitudes to learning Geography

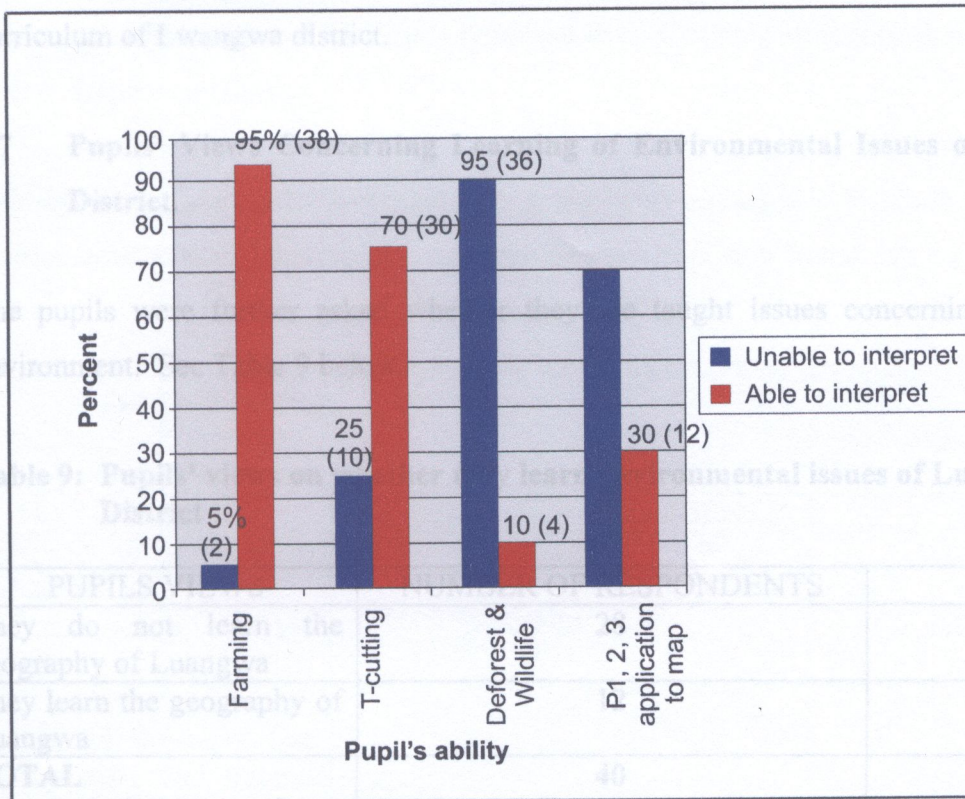
REASONS	RESPONSES	%
Teachers teach it well	2	5.0
Feel geography would help them in considering nature and farming.	20	50.0
Geography provides skills to use in society.	8	20.0
Geography would assist them know their future.	3	7.5
Geography is too difficult to understand	2	5.0
TOTAL	40	100.0

Table 8 shows that, of the 40 pupils interviewed, 5 percent liked geography because it was well taught by the teachers, 50 percent felt that the subject was able to assist them in conserving nature and improving farming methods. However, 5 percent of the respondents observed that geography was too difficult to understand and, because of this, they did not like the subject. Based on these results, the study reveals that the majority of grade 9 pupils (95 percent) liked learning geography in Luangwa District. This is because of its strategic position in providing knowledge to pupils which was of relevance to their environmental settings as clearly observed from their own views.

5.6. Pupils' ability to Interpret and Apply Environmental Issues to the Map of Luangwa.

This research further tried to investigate from the then grade 9 pupils whether or not they were capable of applying environment issues to the map of Luangwa. The results are shown in Figure 9 on the next page.

Figure 9: Grade 9 pupils ability to interpret & apply environmental issues to the map of Luangwa



As seen in Figure 9 above, of the 40 grade 9 pupils sampled in Luangwa district, the majority (95 percent) found it easier to identify what was happening in picture one (see appendix C) where people were cultivating the land. This scenario was observed also in picture two of appendix C, where a person was cutting trees which clearly related to *chitemene* farming system mainly practiced in North-Western province of Zambia. However, the majority of pupil respondents (90 percent) failed to discern deforestation, which affected wild life in picture three of appendix C. This research further sought to investigate whether or not pupils were able to relate the impact that the actions in the three pictures had to the local environment of the study area. The findings as shown in figure 9, the majority (70 percent) of pupil respondents revealed that they had little ability to apply the geographical knowledge gained from school at the end of grade 9 level, for the benefit of the society, in this case Luangwa district. The implications of these findings are that geography teachers at upper basic school level in Luangwa

district contribute very little and fell short of achieving the objectives of the Ministry of Education (MOE, 1996: 5), which aims at producing a learner capable of participation in preservation of the ecosystem in one's immediate and distant environment". Therefore, these results encouraged this study to re-design the Upper Basic School geography curriculum of Lwangwa district.

5.7 Pupils' Views Concerning Learning of Environmental Issues of Luangwa District.

The pupils were further asked whether they are taught issues concerning the local environment. See Table 9 below.

Table 9: Pupils' views on whether they learn environmental issues of Luangwa District

PUPILS VIEWS	NUMBER OF RESPONDENTS	%
They do not learn the geography of Luangwa	28	70
They learn the geography of Luangwa	12	30
TOTAL	40	100

From Table 9, the majority of the grade 9 pupils in Luangwa district disclosed that they did not learn about environmental issues of the district. This was also seen through pupil's failure to interpret the problems, which were shown in the pictures in relation to reality what was taking place in the District. This scenario was acknowledged by one of the Head teachers of Luangwa district who expressed that "local environmental issues were not taken seriously because the focus was on the examinations and not teaching pupils what was not going to come in the final examinations, the teachers taught pupils for them to pass the examinations and not about their future in the society" (Per. Com. Mwala, 24/07/05). Therefore, it was worth to conclude that the then geography being taught at Basic School level did not take the local environmental issues seriously, this in turn produced pupils who failed to contribute in reducing environmental problems

through using the geographical knowledge gained while in school. The subject was being seen as an examinable subject and not a utility subject for pupils to survive in society.

5.8 Constraints faced by Pupils from the then Geography Curriculum in Luangwa District

The study also sought to investigate the main constraints grade 9 pupils of Luangwa district faced in their learning of geography. See the responses in the Table below.

Table 10: Constraints faced by Pupils from the then Geography Curriculum of Luangwa District.

CONSTRAINTS	NUMBER OF RESPONDENTS	%
They found it hard to understand map reading.	15	37.5
The curriculum was too broad.	11	27.5
They found it hard to understand concepts like deforestation and natural resources.	6	15
They had problems in understanding topics like fishing, tourism, power & population.	3	7.5
The curriculum was mainly exam oriented.	5	12.5
TOTAL	40	100

As seen from Table 10 above, the grade 9 pupils were asked on what constraints they encountered with the then geography curriculum. The results show that 37.5 percent of the pupils cited map reading as the main topic giving them problems, 15 percent of the sampled pupils faced problems in understanding concepts such as deforestation, natural resources, while 7.5 percent of the pupils interviewed cited problems of understanding topics such as tourism, fishing, power and population. The results have indicated that the

main problem faced by pupils of Luangwa district was that teachers of geography in the area were not putting more emphasis on the teaching of Maps. There was also need for teachers to take it serious in teaching of maps and concepts in the subject of geography. If pupils fail to understand concepts such as deforestation, then they would not participate actively in the conservation of the local environment. Hence, the environmental degradation being experienced in the study area could continue if the teaching of geography at upper basic school level is not checked in order to make it appropriate to environmental issues of Luangwa.

5.9 Involvement of Grade 9 Dropouts in Reducing Environmental Degradation in Luangwa District

As alluded to, earlier on, very little learning expected of the society is occurring in most Zambian Schools. It was in the same vein that this study tried to find out whether the geographical knowledge gained at Grade 9 level made the grade 9 dropouts realize the environmental issues that affected their district and whether they contributed to solving some of these environmental issues. For responses obtained refer to table below;

Table 11: Involvement of Grade 9 Dropouts in Environmental Protection and Conservation in Luangwa District

PARTICIPATION	RESPONSES	%
INVOLVED	13	37.1
NOT INVOLVED	22	62.9
TOTAL	35	100

Table 11 reveals that, of the 35 Grade 9 dropouts respondents, the majority (62.9 percent) were not involved in issues of environmental protection. While the minority of respondents (37.1 percent) were being involved through agricultural programme which were experimented in the district. It was also revealed that those respondents, who participated in environmental protection, did it because they were motivated with relief

food. The food encouraged them in doing conservation farming locally known as *GAMPANI*.

Reasons given by Grade 9 dropouts for not being involved in issues of environmental protection in Luangwa include the none existence of programmes encouraging conservation of nature; and the local community's resistance to change which means that the knowledge which the grade 9 dropouts gained from school would not be accepted by the local society due to their culture. It was further disclosed that poverty was making them not to participate actively in conserving of the environment, as most of the resources for their livelihood was derived from the environment. This contributed to over fishing, deforestation and so on. The majority of the grade nine dropout respondents argued that their failure to participate in reducing environmental degradation was due to the fact that, during their basic school education, as pupils they never learnt issues pertaining to Luangwa. While other respondents attributed their failure to conserving the environment to the poor results obtained at grade 9 level as they considered themselves as failures in life. It was further revealed that teachers were teaching using past papers and pamphlets mainly for examinations, and that Luangwa district was not fully covered in the content of the then existing geography curriculum.

The results presented from teachers and Grade 9 dropouts clearly show that the Basic school geography curriculum relatively did not contribute in reducing environmental degradation in Luangwa District due to the reasons already discussed in this chapter.

5.10 Teaching Methods of Geography

There are several approaches used to teach geography which assist to stimulate and involve the learners in environmental issues. The teaching of geography requires teachers not to teach within the constraints of the traditional school but to provide instructions in settings beyond the traditional confines of formal classroom. Since geography education stresses the acquisition of skills in identifying, investigating and solving environmental issues, this study sought to ask both teachers and Grade 9 pupils

what teaching methods were preferred in teaching and learning of Geography in Luangwa district, (See the Tables 12 and 13 on the next page).

Table 12: Geography Teaching Methods Preferred by Geography Teachers of Luangwa District

METHODS	RESPONSES	%
Lecture	7	15.6
Discussion	11	24.4
Simulation	3	6.7
Giving notes and explanation	7	15.6
Question and Discovery	10	22.2
Role play	6	13.3
Fieldwork	1	2.2
Total	45	100

As seen from the Table above, of the 14 Geography teachers interviewed in Luangwa district, the majority, (24.4percent) preferred using discussion method in teaching Geography, 15.6 percent gave notes to the pupils and later explained the notes to them, while 2.2 percent preferred Fieldwork method. The results have revealed that the commonest method, which was in use in the area at the time of study, was discussion method, while the most rarely used method was field trip. Meaning that pupils had no opportunity to experience the actual environmental issues in their learning.

Table 13: Geography Teaching Methods Preferred by Pupils from Schools of Luangwa District.

METHOD	RESPONSES	%
Question and Answer	24	17.9
Field trip	5	3.7
Picture	21	15.7
Problem solving/Discovery	13	9.7
Discussion	31	23.1
Role Play	0	0
Simulation	0	0
Giving notes and Explanation	40	29.9
Total	134	100

The grade 9 pupils were asked to choose the type of geography teaching methods from a list of them, as seen from Table 13, of the 40 pupils sampled, 29.9 percent of pupils responses liked the giving of notes and explanation method, while 15.7 percent were in favour of picture method and 3.7 percent preferred field work. However, when teachers were asked to indicate which methods were being used most, they cited lecture method, giving notes and explanation, and discussion method. The reasons for this was found to be time factor. Lecture method assisted teachers to cover the syllabus in time and made pupils ready for the examination. Fieldwork and picture methods were rarely being used. The reason for not carrying out fieldwork was the aspect of time allocation in a week. Teachers were expected to use three periods in a week, which was 120 minutes per week. Based on these findings, it was clearly seen that the time allocation at basic school level was not enough to use a variety of teaching methods. Therefore, to use methods that involved pupils in observing the problems which took place in Luangwa District, such as field work, there was need to have more time allocated to Geography teaching. Gerber (2003) observed that there were still some countries where at high school and junior levels, Geography as a subject had fewer numbers of periods. Zambia is one of the countries where Geography had been reduced in the curricular with the subsequent loss in class period load.

There is need to have more time in order to expose pupils to the real environmental degradation taking place in their areas. From the results, there was a clear indication that teachers in Luangwa relied most on giving notes to pupils than using more appropriate methods that could contribute to pupils' awareness of their environments. This seemed to be one of the reasons why the pupils were unable to apply their geographical knowledge to the pictures in appendix C, with respect to the map of Luangwa and environmental degradation, which was taking place in the study area.

5.11. Human Activities Contributing to Environmental Degradation

This study also tried to investigate what Human activities in Luangwa district contributed to environmental problems. This information is provided in (Table 14 on the next page).

Table 14: Main Human Activities of Luangwa District identified by both Teachers and Grade 9 dropouts as contributing to Environmental Degradation in the area.

ACTIVITY	TEACHERS		GRADE 9 DROP OUTS	
	Responses	%	Responses	%
Poor farming practices	7	26.9	27	32.1
Poor fishing methods	1	3.8	26	31.0
Indiscriminate cutting of reeds & palm trees	2	7.7	4	4.8
Bush fires	4	15.4	-	-
Deforestation	6	23.1	20	23.8
Charcoal burning	6	23.1	7	8.3
Total	26	100	84	100

From the above Table, of the 14 teachers sampled in the study area, the majority (26.9 percent) teacher responses identified charcoal burning and poor farming practices as being the main factors leading to environmental degradation in the area while 23.1 percent of the teachers' responses mentioned deforestation as the contributor of environmental degradation and 15.4 percent expressed that bush fires were the other human activities that led to environmental degradation. A further 3.8 percent of teachers mentioned bad fishing methods as contributing to environmental degradation. These methods involved people using mosquito nets to catch fish while others used poison. The problem of over fishing was also noted by Svendsen and Shezongo (2005) who expressed that over fishing contributed to low production of fish in the district.

In comparison, 32.1 percent of the Grade 9 dropouts, respondents, identified poor farming practices taking place in the District as the main activity leading to environmental degradation. 31 percent cited poor fishing methods and 23.8 dropouts indicated severe deforestation on hill slopes, while 4.8 percent expressed that indiscriminant cutting of reeds and palm trees were the other human activities acceralating environment degradation. From these findings, this study has shown that poor farming practices, charcoal burning, deforestation, poor fishing methods and bush fires were the major human activities leading to environmental degradation in the study area.

5.12. The Main Environmental Problems in Luangwa District

This study further sought to investigate the main environmental problems that are faced by the local people in the area. This was important as it was to assist evaluate to what extent the teaching of Geography at Basic School tries to address these problems.

Table 15: Observed Environmental Problems in Luangwa District by Teachers and Grade 9- Drop Outs.

ENVIRONMENTAL CONSTRAINTS	TEACHERS		GRADE 9 DROP OUT	
	Responses	%	Responses	%
Drought	8	28.5	27	42.8
Poor soils	2	7.1	4	6.3
Floods	2	7.1	2	4.8
Wild animals	1	3.6	3	8.6
Soil erosion	4	14.3	21	33.3
Low fish production	1	3.6	3	4.8
Inadequate market	-	-	3	4.8
Severe heat	4	14.3	-	-
Desertification	1	3.6	-	-
Mismanagement of land	1	3.6	-	-
Waste disposal	1	3.6	-	-
Air and water pollution	2	7.1	-	-
Poaching	1	3.6	-	-
Total	28	100	63	100

As Table 15 above shows, of the 14 teachers and 35 grade 9 drop outs sampled in Luangwa District on the issue of environmental problems being experienced by the locals, the findings show that the majority (28.5 percent) of teachers and 42.8 percent grade 9 dropouts expressed that drought had been a major environmental problem in the area. It has been observed that 14.3 percent of the teachers rated soil erosion and severe heat to be the second environmental problems faced by the people, while Grade 9 dropouts felt that soil erosion was the second environmental problem that people experience in the area. However, the lowest (3.6 percent) observed environment

problems by teachers included; waste disposal, desertification, wild animals, low fish production and mis-management of land by the locals.

On the other hand, 6.3 percent of the Grade 9 dropouts mentioned the problem of poor soils, 4.8 percent identified inadequate market and wild animals as being the problems that they encountered in their daily living. A further 3.2 percent indicated floods, and low fish production as being a problem. While 33.3 percent of the grade 9-drop outs expressed that soil erosion posed an environmental problem in Luangwa district as this led to loss of fertile land for farming. From these findings, there was clear indication that the major environmental problems experienced in Luangwa district were drought, poor soils, floods, soil erosion human-animal conflicts, poverty, severe heat, and air and water pollution. However, the intensity of these problems varied with locality. For instance, in Mpuka Chieftdom, the problem of wild animals tended to become more severe because in that area there were plenty of elephants that destroyed crops for people. Floods affected all the people in the district. Luangwa being a drought prone area had resulted in having most of the farmers carrying out their farming activities along Luangwa river and its tributaries such as Rufunsa and Kaunga, and these rivers experienced floods during the rain season. These floods according to Svendson and Shezongo (2005) were intensified by human activities that destroyed the vegetation along the rivers, causing flash floods. The people who dumped things in the rivers caused the problem of waste disposal and there were few pit latrines in the area. Further people, especially, those selling opaque beer, caused this problem, as they had no rubbish pits to dump the empty containers after beer had been consumed.

5.13. The Contribution of Local Culture in Addressing Environmental Degradation of Luangwa District

Literature has shown that the traditional value system of a respective area plays a major role in the protection and preservation of the environment. For example the Common Wealth Secretariat observed that the value systems of some societies do not destroy or deplete the resources in the natural environment, as they live more or less in harmony with their environment, as part of their eco-system. In this vein, this study decided to

investigate the aspect of the local culture to establish whether or not it assisted in reducing environmental degradation in the study area.

Subsequently, Grade 9 dropouts were asked to give their opinions on whether the local culture for the study area contributed to minimizing environmental problems that were being experienced in the area. The majority (94.3 percent) of the respondents expressed that the local culture did not contribute in reducing environmental degradation. The reasons that were given for the failure of the local culture in reducing environmental degradation included among others, poverty, as most of the natives survived on cutting trees and non- wood products such as palm trees, reed grass for making baskets, hats and mats. The other factor was that the local people survived through shifting cultivation, which in turn destroyed vegetation on catchment areas and hill slopes. Further, the local culture lacked traditional value aspects that would have discouraged people from destroying the environment. In this case it was worth to conclude that since the local value system did not have features to assist the local people to respect the environment, there was need for geography education, at Basic School level and the media materials to assist the local people by cultivating love towards environment.

From these findings, it was logical to conclude that Geography teaching in Luangwa District lacked practicals; it was examination oriented and too theoretical. These noted aspects defeated the purpose of Geography, as the subject is a live and a practical one. (Clayton, 1929: 48). Geography teaching is supposed to deal with real issues and its teaching must always have the ring of reality in it (Jones, 1929). Williams (1976) argued that there were certain conditions to be satisfied if Geography was to perform its function in education. Among them is that Geography matter must be felt to be real for if not so, then it was of little value. Unless the knowledge taught was of actual physical facts it simplifies no sound basis for future activities. Geography must be real, scientific and human, when these three conditions are fulfilled geography performs better its function. In order to make geography a practical subject and make it perform, Ocitti (1974) suggested that the local area, apart from bringing a sense of realism in the classroom and realization of the practical significance of the subject geography, it serves, as a basis for comparison and contrast when learning about areas pupils cannot

visit. In this case, geography teaching in Luangwa district was found to be too theoretical, as the main emphasis of teaching was the extraction of information from common textbooks for pupils to pass examination.

Having presented the findings from teachers, pupils and grade 9 dropouts in Luangwa district. The study, at this point tried to address the two research questions based on the data presented and these were: 1. Did the type of geography teaching being in use at that time at basic school level of grades 8 and 9 in Luangwa district contribute in solving environmental degradation of the area? And 2. If it did not, Would an alternative approach to the teaching of Geography which focused on engaging pupils actively in addressing environmental degradation of their locality be of more relevance than the one in use by then?

5.14. Contribution of the then Existing Upper Basic School Geography Curriculum in Addressing Environmental Issues of Luangwa

Literature shows that geography is the study of the environment as the home of human kind (James and Martin, 1972). The term environment is being used by so many people in different professions such as politicians, economists, the media, scientists just to name but a few. This entails that the subject of geography in teaching it, needed to unify all activities of human beings in relation to the physical environment. In this case, geography education is supposed to deal with all forms of political, economic, social, cultural and physical environmental issues of Luangwa district.

Clayton (1929: 48) argued that 'Geography is a live and practical subject.' As it deals with real issues such as political, cultural, economic and physical aspects of the environment and therefore the teaching must always have the ring of reality in it (Jones, 1929). Geography as a practical and practical subject, deals with the real society, which requires practical knowledge to be used in the day-to-day life in order to achieve sustainability. The importance of geography education was acknowledged by not just geographers alone but also by many scholars of standing experience. For example, Norwood (1943) cited by Williams (1976) argued that Geography education was more

important than foreign language or science, important as these are, for a simple reason “that an intelligent person must understand something about the real world and the country and the district in which he /she was set to live his/her life.” The utility value of Geography education has been further supported by Wickenberg et al (2004) that Geography from the 1970s had assisted to find various ways for people to upgrade their life and their economy by using the environment appropriately as well as conservation of different natural resources. Further, Kent (1996) observed that from Geography education we expect to prepare young people for the world of work, economic independence, so as to enable them live constructively as responsible and culturally tolerant members of their communities, in diverse and rapidly changing society.

However, as reflected in Table 7, the majority (95 Percent) of grade 9 pupils in Luangwa district had a positive attitude towards learning Geography as they felt that the subject would provide them with skills to use in society and to conserve natural resources. Having this vision these pupils were expected to participate in addressing the environmental problems presented in Table 15. It was hoped that after acquiring the geographical knowledge, Grade 9 pupils and Grade 9 dropouts were supposed to participate in minimizing the identified environmental problems in Luangwa district. On the contrary, this study, as depicted by Figure 8 the majority of geography teachers in Luangwa district (64.3 percent) indicated that the then geography curriculum at grades 8 and 9 did not contribute in addressing environmental problems experienced in the district. The reasons were that it was mainly examination- oriented, not practical and did not consider teaching local issues of the district.

The study has further shown in table11, that the majority (62.9 percent) of the grade 9-drop outs in the district were not involved in the preservation and protection of the environment. These Grade 9 drop outs also blamed the curriculum for their failure to participate in environmental conservation as they argued that the then geography curriculum was examination oriented, lacked practicals, and did not teach local environmental issues. These, coupled with poverty, and community resistance to change had made them fail to contribute in addressing environmental issues of Luangwa district.

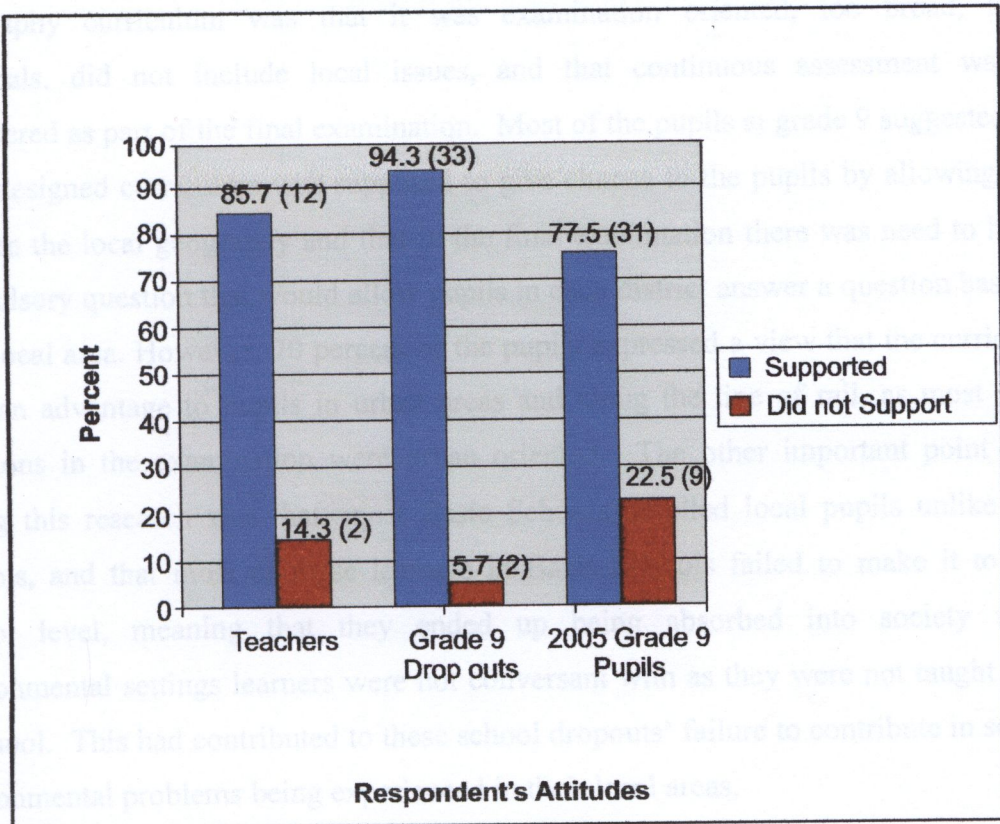
According to the results presented in figure 9, it was seen that 70 percent of the grade 9 pupils in school during this study failed to relate what they learnt in classroom to the reality in society. Most of them failed to relate effects of deforestation to wild animals, and the environmental problems induced by farming on riverbanks and hill slopes in the area. When presented with the map of Luangwa district, most of the grade 9 pupils (70 percent) were unable to identify places on the map where deforestation and farming had to be discouraged or rather not allowed to take place. Most of them blamed their failure on the then geography curriculum in use at basic school grades 8 to 9 level that it did not equip them with the local geographical knowledge of Luangwa district. The findings of this study did agree with the findings of other scholars on the position of the geography teaching. For example, Fien (1985) observed that most geography courses fall short of the goals of Geographical education, which is aimed at students to become aware of the role of the environment in shaping their perception and feelings and how, in their turn their environmental feelings, attitudes and consequent actions influence the environment. This was because too little attention was paid to students' personal effective responses to the environment. He further noted that factual knowledge and skill were oriented towards examination syllabuses and these examinations rarely probe the affective domain. This has contributed to environmental problems in most places (Fien, 1985). Further, Fien (1985) as cited by Slater (1977) who described in her paper entitled 'The convenience of environmental ignorance', where he argued that the separation of environmental knowledge and values had produced a mental imbalance that "cost us our landscape." This had led to the deterioration of the environment like in the case of Luangwa district, as a result of the mis-educating a generation of consumers of the environment, but failed to understand the role they played in its creation and destruction. Some scholars, like Ocitti (1974), and Ologue et al (1974) maintained that to make geography contribute to the local environment such as that of Luangwa, teaching of the local geographical aspects needed to precede the study of similar elements in others regions of the world. This would give the practical significance of the subject of Geography and would assist parents, pupils and the local community in general to feel that formal education was strongly linked to their day –to –day life. This would also motivate pupils to learn about care for their environment because they would

have had a real experience of it (Wickenberg, et al, 2004). Therefore, based on the findings of this research and literature, it has been established that the then Geography curriculum in use at Basic Schools Grades 8 to 9 levels in Luangwa District had little impact on addressing environmental problems. This meant that there was need to redesign the then geography curriculum for the study area as it failed to address local issues, and the curriculum emphasized much on the importance of the examination at the expense of preparing pupils for adult-hood life in society.

5.15 Prospects for the Alternative Geography Curriculum in Response to Environmental Issues of Luangwa

The focus of this study was to investigate re-designing of the geography curriculum at Basic School Grades 8 and 9 levels, if it failed to address environmental problems being experienced in the study area, (see Figure 10 below).

Figure 10: Grade 9 pupils and Grade 9 dropouts' attitudes to Re-designing the then Upper School Geography Curriculum



The geography teachers, Grade 9 pupils and grade 9 dropouts of Luangwa district were asked if they were in support to the idea of redesigning the Basic school geography curriculum for Luangwa district. The majority of the respondents, 85.7 percent teachers, 94.3 percent grade 9 dropouts and 77.5 percent grade 9 pupils were in support of reshaping the then geography curriculum at Basic School level of grade 8 and 9. They expressed that the curriculum needed to be redesigned in order to make it responsive to the local environmental problems that were being experienced in the study area. This study shows similar results to what other scholars found on the issue of Basic School curriculum reform. For example Luangala and Simuchimba (2002) acknowledged that teachers in central province were in support of the curriculum reforms, which were happening in the Ministry of Education. Further, Namafe et al (2001) carried out a research to find out the views of teachers and grade 9 pupils concerning Curriculum reshaping. The results also showed that all these stakeholders were receptive to the redesigning of the Basic geography curriculum. The main reasons cited by teachers, grade 9 pupils and grade 9 dropouts for changing the then existing Basic School Geography curriculum was that it was examination oriented, too broad, lacked practicals, did not include local issues, and that continuous assessment was not considered as part of the final examination. Most of the pupils at grade 9 suggested that, the redesigned curriculum was supposed to give chance to the pupils by allowing them to learn the local geography and that in the final examination there was need to have a compulsory question that would allow pupils in each district answer a question based on their local area. However, 70 percent of the pupils expressed a view that the curriculum gave an advantage to pupils in urban areas and along the line of rail, as most of the questions in the examination were urban oriented. The other important point noted during this research was that, most Basic Schools enrolled local pupils unlike High Schools, and that most of these learners in Basic Schools failed to make it to High School level, meaning that they ended up being absorbed into society whose environmental settings learners were not conversant with as they were not taught while in school. This had contributed to these school dropouts' failure to contribute in solving environmental problems being experienced in their local areas.

5.16 The Preferred Topics in Luangwa District

Having obtained the views of all respondents on the issue of re-designing the basic school geography curriculum, the respondents were asked to suggest topics to be included in the localized curriculum of Luangwa district. For responses recorded, refer to Table 16 below.

Table 16. Geography Topics Preferred by Teachers, Grade 9 Pupils and Grade 9 Dropouts to be included in the local curriculum of Luangwa District.

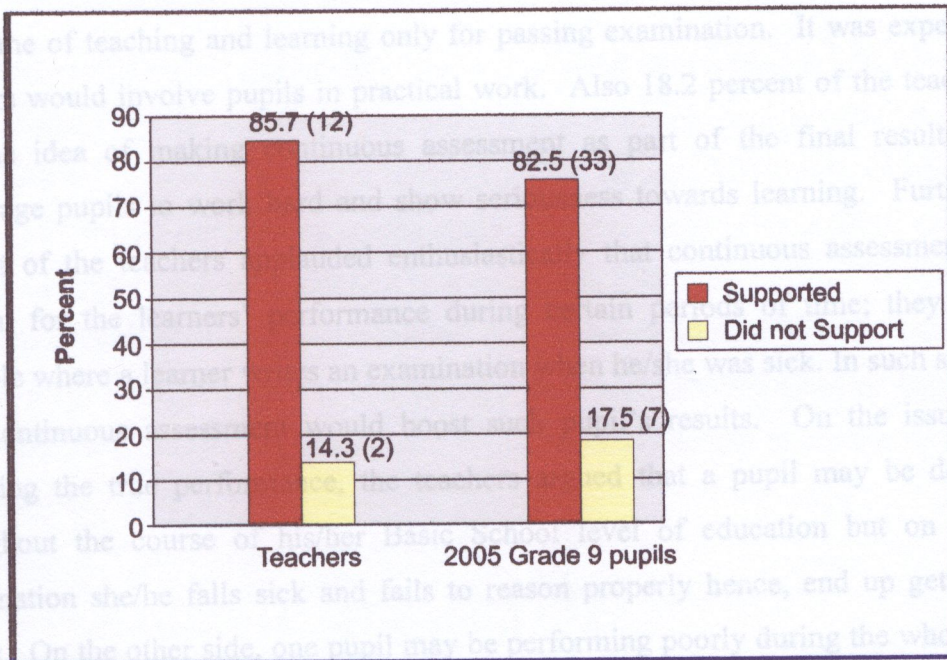
TOPICS	TEACHERS		2005 GRADE 9 PUPILS		GRADE 9 DROP OUTS	
	RESPONSES	%	RESPONSES	%	RESPONSES	%
Agriculture	6	16.7	34	22.8	31	14.0
Env. Management	5	13.9	28	18.8	29	13.3
Climate	6	16.7	13	8.7	26	11.9
Veg. & forestry	5	13.9	17	11.4	18	8.0
Population studies	4	8.3	12	8.0	17	7.8
Tourism	1	2.8	21	14.1	20	9.8
Cultural issues	2	5.5	5	3.4	11	5.0
Fishing	3	8.3	19	12.8	21	9.6
Floods	1	2.8	-	-	25	11.5
Settlements & Land use	2	5.5	-	-	14	6.4
Energy	2	5.5	-	-	-	-
Political issues	-	-	-	-	6	2.7
Total	36		149	100	218	100

According to Table 16, the preferred topics by teachers, grade 9 pupils and Grade 9 Dropouts included: agriculture, Environmental management, climate, vegetation and forestry, population studies, fishing, and cultural issues. Other topics such as floods, political issues, energy, settlements and land use were least preferred by all the categories of respondents.

5.17 Continuous Assessment to Add to Final Examinations Results

The study sought to determine the views of respondents about continuous assessment as being part of the final examination results at grade 9 level. See Figure 10 for responses.

Figure 11: Teachers and grade 9 pupils' view on Making Continuous Assessment as part of the Final examination at Upper Basic school level.



According to Figure 11 above, majority of the respondents, teachers (85.7 percent) and grade 9 pupils (82.5 percent) strongly felt that continuous assessment should be considered as part of the final examination results. The findings in figure 10 agree with what other researchers on this issue came up with, that, continuous assessment needed to be added to the final results at Basic school level. For example, Luangala and Simuchimba (2002) indicated that teachers in Central Province felt that it was fairer to the learner than being assessed in just one brief instance; for if the learner had a problem on the day of the examination, then continuous assessment could boost his or her grade.

5.18 Reasons for Continuous Assessment to be Part of Final Examination Results

Of the 14 Geography teachers interviewed, 18.2 percent felt that continuous assessment reflected the true performance of the learner than the final examination which is written just for a period of two (2) hours. 15.9 percent of the teachers also argued that continuous assessment when added to the final grade 9 results would assist reduce malpractices experienced during the examination period as pupils would have known their position and work hard. In addition, 25 percent of the teachers indicated that adding continuous assessment to the final subject because this would assist to remove the syndrome of teaching and learning only for passing examination. It was expected that teachers would involve pupils in practical work. Also 18.2 percent of the teachers felt that the idea of making continuous assessment as part of the final results, would encourage pupils to work hard and show seriousness towards learning. Further, 22.7 percent of the teachers applauded enthusiastically that continuous assessment would account for the learners' performance during certain periods of time; they cited an example where a learner writes an examination when he/she was sick. In such situations, then continuous assessment would boost such pupil's results. On the issue of not reflecting the true performance, the teachers argued that a pupil may be doing fine throughout the course of his/her Basic School level of education but on the final examination she/he falls sick and fails to reason properly hence, end up getting poor results. On the other side, one pupil may be performing poorly during the whole course but on the final examination he/she comes across the so-called leakage and he/she performs extremely well. In such situation, they argued that continuous assessment would be relied upon to know whether a certain candidate had a leakage during the examination or not.

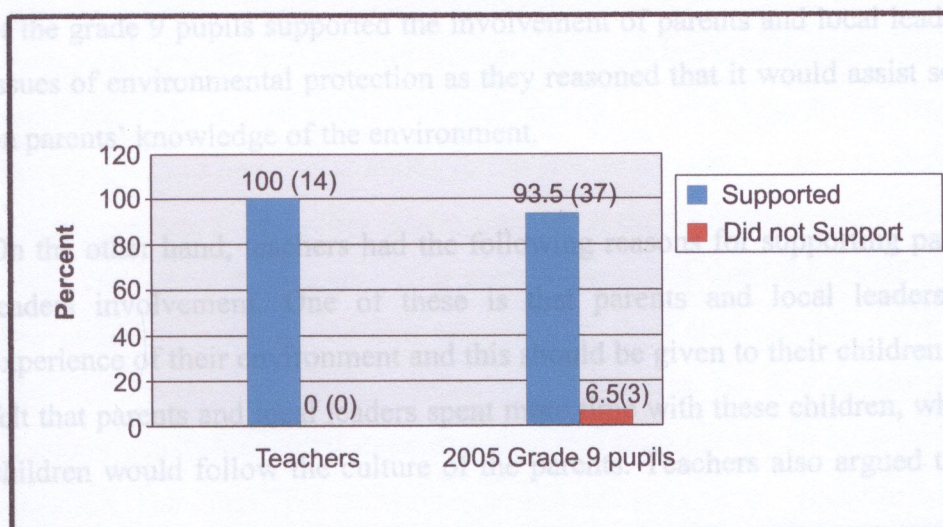
In case of grade 9 pupils, 19.5 percent of the respondents gave their reasons for supporting continuous assessment to add to the final examination results, because they felt that it would assist pupils perform better and that it reflected the true results of a particular pupil, 29.3 percent of them expressed that examination did not reflect true

pupil's performance, and 24.4 percent said that it would assist pupils to be prepared before writing the examinations. A further 26.8 percent of pupils supported that continuous assessment should be part of the final examinations as this would give teachers an opportunity to teach pupils about their local geography, in this case, that of Luangwa district.

5.19 Parents' and Local Leaders' Involvement in Teaching of Local Environment Issues

Harako, (1997) argued that 'there is need to have education against the disruption of the public space' that is education whose effort is to link school community-based education and attempt to develop a greater sense of locally relevant knowledge which may not only inform long-life learning among adults, but also encouraging students to see their school learning as directly relevant to a better life. Literature has also shown that " if parents are well behaved then the children must be better behaved; meaning that children learn more from their parents and emulate their parents either good or bad in life", (Mitaba and Muwowo, 2002: 2) In this regard the study sought to capture views of the teachers and pupils in Luangwa district. See Figure 12

Figure 12 Teachers and Grade 9 pupils' views on concerning Community Involvement in Environmental Issues



From Figure 12, the majority of the respondents (100 percent) of the teachers supported the idea of parents being involved in teaching their children on environmental protection in Luangwa district and 95.3 percent of the 40 Grade 9 learners were in support of the idea of parents and local leaders being involved in teaching environmental issues of the area.

5.20 The Reasons Why Parents and Local Leaders Should be Involved in Teaching their Children Issues of Environmental Protection

Of the 40 grade 9 pupils interviewed, 20 percent supported the idea of involving parents and local leaders in teaching issues of environmental protection as they reasoned that this would assist to protect and preserve the local environment. They also felt that the parents and local leaders knew better about their environment than teachers, and therefore, their involvement would assist in minimizing environmental degradation being experienced in the area. The majority, (33.3 percent) respondents supported the idea of local leaders and parents' involvement saying that the move would make it easier for children to understand environmental issues when taught in geography at school. As schools will supplement the geographical, knowledge that pupils have acquired from their parents. Further, 10 percent grade 9 pupils supported the idea because they believed that parents spent more time with children than in school. This would assist to produce children who were environmentally enlightened from their home. 16.7 percent of the grade 9 pupils supported the involvement of parents and local leaders in teaching issues of environmental protection as they reasoned that it would assist schools to build on parents' knowledge of the environment.

On the other hand, teachers had the following reasons for supporting parents and local leaders involvement. One of these is that parents and local leaders had a better experience of their environment and this should be given to their children. Teachers also felt that parents and local leaders spent more time with these children, which meant that children would follow the culture of the parents. Teachers also argued that the parents

and local leaders are the ones who were mostly affected by environmental degradation and that they had more influence on their children.

Table 17: Grade 9 dropouts' views of how a re-designed Geography Curriculum would Contribute to solving environmental degradation in Luangwa.

SUGGESTIONS	NUMBER OF RESPONSES	%
There was need of introducing adult education in Luangwa	34	23.1
The subject of Geography must be more practical.	27	18.4
Each district must have its own syllabus & local issues must be included in the final examination.	31	21.1
The emphasis of geography teaching should be on environmental issues.	20	13.6
Geography clubs should be formed	13	8.8
Field trip must be encouraged in Basic schools.	22	15.0
Total	147	100

Grade 9 dropouts were requested to suggest what they expected the re-designed geography curriculum was to include in order to address environmental problems which were experienced in the district.

From the Table 17, of the 35 grade 9 dropouts interviewed, 23.1 percent were in support of introducing adult education in Luangwa District if the re-designed curriculum was to contribute reducing environment degradation. The reason for introducing adult education was to have these adults in the area assist address environmental degradation being experienced. The other reason was that if the adult community was educated they would know how to conserve their environment, and thus, they would in turn educate their children on the importance of protecting their environment. They also gave the reason of shortage of extension services in the district and that the resistance to change by adults which was being experienced at that moment would be solved through adult education. The other 18.4 percent suggested that geography needed to be more practical

if it was to contribute to the solving of environmental degradation. 21.1 percent of the respondents suggested that each district in Zambia was supposed to have its own syllabus and their local issues included in the final examination. The reason behind this suggestion was that it would encourage pupils to know their district properly and in turn contribute to developmental activities of their district. It was also felt that nowadays all basic schools enroll local pupils who at the end of grade 9 level, the majority were being absorbed in that same local community therefore, there was need for them to learn the area they spent most of their life in. On the issue of the examinations, respondents argued that if a compulsory question was included in the examinations that required each pupil to answer from his/her district experience, it would assist pupils pass the examination, besides it would assist pupils to develop into good citizens as they would be able to provide solutions to the problems encountered in their respective areas. The topics which respondents felt could be answered by each district included cross cutting topics such as HIV/AIDS, environmental issues and population studies. The respondents pointed out that emphasis of geography teaching was supposed to be on the environmental issues in a wider dimension. These respondents further suggested that the formation of geography clubs in schools be encouraged in order to provide a forum for pupils to discuss issues, which affected them in their local environments. From Table 17, the respondents felt field trips should be encouraged at Basic School level. The reasons being that field trips would assist the pupils see for themselves environmental problems in the area and in turn provide solutions based on reality but not just reading material from the usual common text books in classroom.

5.21 The Role of Key Stakeholders in the Re-Designed Geography Curriculum

In line with the aim of this study, the researcher decided to find out from the teacher respondents what role School Administrators, District Education Board Officers, teachers, parents, and local leaders would play in the implementation of the localized geography curriculum of Luangwa district.

In response to this, the interviewed teachers of Luangwa district gave the following views: Firstly, that geography teachers should be involved in implementing the curriculum by using more effective methods to explain local concepts. Secondly, teachers were expected to be resourceful and be involved in the writing of teaching and learning materials such as pamphlets, on the local geography. The District Education Board officers were expected to promote the idea of localized geography curriculum through funding the activities of the resource centres to produce materials for the curriculum. The District officers were supposed to supervise schools through the standards and evaluation wing. This wing was to ensure that formative assessment was implemented in schools. It was suggested that the school management were to support teachers when taking pupils out for field trips.

In addition, schools were urged to encourage in- service training locally and supervise teachers. The parents and local leaders were supposed to cooperate with schools by, among other ways, providing the needed information when called upon.

This chapter has shown that geography teaching at Upper Basic School level of (Grade 8 and 9) in Luangwa district contributed very little in addressing issues of environmental degradation which were being experienced in the study area. Furthermore, the findings revealed that all the key stakeholders in the teaching and learning of geography in the area were in support of re-designing the then geography curriculum which was being used in the area. The study has also shown the weaknesses of the then geography curriculum, for example, by not being practical oriented and, concentrated on examinations materials. Local issues were not taught to pupils and that the issue of continuous assessment (that is, formative assessment) was not considered as significant in the selection of pupils to the High School level. The chapter has further established that teachers, grade 9 dropouts and grade 9 pupils supported the idea of involving parents and local leaders in teaching environmental issues. There was also a clear indication that the local culture in the area did not address environmental issues and that there was need to consider introducing Adult education if geography in the district was

to contribute fully to addressing local environmental degradation experienced in Luangwa district.

The next chapter presents a proposed localized geography curriculum for Upper basic schools of Luangwa district. The chapter is subdivided into three parts, that is, part A, which brings out the main themes suggested by teachers, grade 9 pupils and grade 9 school dropouts. These themes have been categorized according to the main components of the environment, which included the physical, social, political and economic dimensions. Then part B, explains the main education solutions provided by key stakeholders of Luangwa district. Finally, part C, elaborates the questioning method which teachers were expected to use in view of producing a learner as stipulated in the policy document called “Educating Our Future” MOE (1996:5). The questioning method suggested here is expected to assist attaining the objectives of the Ministry of Education as stated in chapter one page 3 of this dissertation.

CHAPTER SIX: PROPOSED LOCALISED CURRICULUM FOR GRADES 8 AND 9 OF LUANGWA DISTRICT, ZAMBIA

This chapter presents an action plan in the form of a localized geography curriculum for Luangwa district. This is to alternative geography curriculum to the then existing curriculum in Luangwa, as it was found that, there was very little contribution it made towards addressing local environmental issues.

6.1. Introduction

It is often difficult to obtain information and analyses for grades 8 and 9 geography coming directly from key education officers of strategic departments in Luangwa District.

In this proposed booklet, an attempt to redress this situation in a small way by providing expert information from key education officers regarding selected themes. This is a localized curriculum for Luangwa District in the sense that the information used to formulate this curriculum was first obtained from geography teachers, grade 9 pupils of the year 2005 and grade 9 dropouts from Luangwa District and the information presented embraces local issues of the study area. These respondents selected themes to be included in teaching geography education in the study area. This was done during the survey conducted by the researcher in part A of this study (shown on pages 104 - 108). Based on these themes, an interview schedule was administered to key education officers in the study area, who provided education solutions to be included in the geography curriculum and this was done in part B of the study (shown on pages 109 - 112). In this case, all the information presented here is entirely based on Luangwa District. The curriculum introduces local issues to be covered in both grades 8 and 9 in the teaching and learning of geography education in Luangwa District.

The curriculum in part A is presented as a scheme of work from which teachers would select topics they wish to teach in grades 8 and 9. Part B, presents the format of how

the topics should be covered in the curriculum when teaching. Part C (shown on pages 113 – 122) presents the questioning techniques which may be used to achieve the intended objectives of attaining a sustainable environment in Luangwa district through geography.

Part A of this chapter has used subtitles from the Natural, Social as well as Political and economic spheres of life. Because it tried to bring out all the main components of the environment. The term environment in this study was considered as a cross cutting issue based of which not a single discipline could tackle the environmental issues independently. Though geography as a discipline has in chapter two, Figure 1, proved its value to unify all environmental issues as, an educational subject. The environment has many central components (see appendix E). This is what is called the new and broader definition of the environment. Part B provides solutions from key education officers of Luangwa district who include; teachers, heads of different department from different professions.

Part C of this chapter employed a “questioning technique”. Here it should be noted that part C focused on the questioning technique because it can be applied to all levels of instructions and all types of pupils (that is both fast and slow learners) (Orlich and Callahan, 2001). This strategy is also able to stimulate critical thinking among the pupils and when divergent techniques of questioning are used, it builds the confidence of children with learning difficulties. All in all the questioning technique was deemed useful to this study as it could assist pupils to have critical thinking, gain confidence and above all, develop evaluative, reflective and positive attitudes and values when dealing with environmental issues. Therefore, part C was to play a major role in trying to address the Ministry of Education aims stated in chapter one of this dissertation on pages (2 - 4).

6.2 PART A: LOCAL ISSUES (TOPICS) OF LUANGWA DISTRICT IN A SCHEME OF WORK

ENVIRONMENTAL DIMENSION	GRADE 8	GRADE 9
NATURAL	<p>PHYSICAL AND CULTURAL FEATURES OF LUANGWA</p> <ul style="list-style-type: none"> ➤ Relief of Luangwa ➤ The influence of relief on development. ➤ Drainage ➤ Natural resources of the area. ➤ Conservation of these resources. ➤ The confluence of the Luangwa and Zambezi rivers <p>VEGETATION AND FORESTRY OF LUANGWA</p> <ul style="list-style-type: none"> ➤ Main trees ➤ Uses of forests ➤ Threats to forests ➤ Importance of conservation of forests. 	<p>ELEMENTS OF THE CLIMATE OF LUANGWA</p> <ul style="list-style-type: none"> ➤ Temperature ➤ Rainfall ➤ Rainfall variability ➤ Rainfall Reliability ➤ Humidity ➤ Sunshine ➤ Positive and negative effect of heat on Human activity. <ul style="list-style-type: none"> ➤ Human influence on climate.
SOCIAL	<p>POPULATION OF LUANGWA</p> <ul style="list-style-type: none"> ➤ Structure ➤ Distribution ➤ Factors influencing population distribution in the district. ➤ Migration and Reasons for migrations in the district. <p>CULTURE AND PEACE IN LUANGWA</p> <ul style="list-style-type: none"> ➤ Attitudes and values ➤ Respect, acceptance and tolerance. ➤ Concepts: peace, harmony, love, justice, conflict. 	<p>POPULATION OF LUANGWA</p> <ul style="list-style-type: none"> ➤ Family planning and development. ➤ Fertility rate and women status. ➤ Cultural influence on family planning. ➤ Population growth ➤ Impact of population growth on family, District and Nation. ➤ Population growth and the district resources (i.e carrying capacity).

- Use of Respect, Love, Harmony, Stewardship in relation to environment.
- Forms of conflicts in Luangwa (i.e human animal conflict).
- Human-flood conflict.
- Causes of conflict.
- Measures to handle the conflict.

- Population policies of the world and their relationship to Luangwa.

SOCIAL CHALLENGES OF LUANGWA

- Definition of social challenges: (i.e issues of concern in the district).
- Child abuse
- Child defilement
- Child neglect
- Child labour
- Teenage pregnancies.
- Gender and participation
- Drug abuse/substance abuse.
- Cause of social challenges.
- How to address social challenges.

POVERTY IN LUANGWA

- Causes
- Effects
- Measures to alleviate poverty.

SETTLEMENT AND LAND USE IN LUANGWA

- Distribution of settlement
- Distribution pattern
- Factors influencing settlements in the district.

		<ul style="list-style-type: none"> ➤ Impact of settlement on catchment areas. ➤ Impact of settlement on wild life. <p>CULTURAL ISSUES OF LUANGWA</p> <ul style="list-style-type: none"> ➤ Cultural aspects promoting harmony, respect, love in the district. ➤ Traditional ceremonies. ➤ Traditional ceremonies and environment. ➤ Importance of cultural Associations in the district (e.g Nsenga. Luzi/Chikunda cultural association. ➤ Culture and Environmental Sustainability.
POLITICAL	<ul style="list-style-type: none"> ➤ Democracy ➤ Influence of politics on social, economic and cultural development in the district. ➤ Community involvement in policy making. ➤ Youth involvement environment issues. 	<ul style="list-style-type: none"> ➤ Concepts of political will in Luangwa ➤ Gender and politics ➤ Types of leadership in Luangwa <ul style="list-style-type: none"> - Political - Civil - Traditional ➤ Role of leaders in environmental issues.
CROSS CUTTING ISSUES	<p>MEDIA REPORTS ON LUANGWA</p> <ul style="list-style-type: none"> ➤ HIV/AIDS issues ➤ Suicides issues ➤ Human-animal conflicts ➤ Problems of power ➤ Poverty 	<p>ENVIRONMENTAL MANAGEMENT OF LUANGWA</p> <ul style="list-style-type: none"> ➤ Sustainable development with respect to social, political as well as natural and economic environments.

	<ul style="list-style-type: none"> ➤ Developmental issues (i.e communication) ➤ Illiteracy issues ➤ Early marriages ➤ Substance abuse (i.e beer) ➤ Effect of substance abuse. 	<ul style="list-style-type: none"> ➤ Floods ➤ Drought ➤ Community Resource Boards ➤ Fish farming ➤ Bee keeping ➤ Conservation farming ➤ Luangwa as a boarder town: (HIV/AIDS, early marriages and environmental degradation).
		<ul style="list-style-type: none"> ➤ Impact of settlement on catchment areas. ➤ Impact of settlement on wild life.
ECONOMIC	<p>LAND USE IN LUANGWA</p> <ul style="list-style-type: none"> ➤ distribution of settlements <p>pupils to use map of the district to identify different land use.</p> <p>Concept of land Tenure in Luangwa.</p> <ul style="list-style-type: none"> ➤ Value of land in Luangwa ➤ Land fragmentation ➤ Impact of fragmented land use. <p>MEDIA REPORTS ABOUT LUANGWA</p> <ul style="list-style-type: none"> ➤ Impact of power on water supply. ➤ On social, economic. 	<p>AGRICULTURE IN LUANGWA</p> <ul style="list-style-type: none"> ➤ arable farming ➤ Livestock farming ➤ Market gardening ➤ Agro-forestry ➤ prospects for irrigation ➤ Conservation farming ➤ Concept of diversification. ➤ Impact of Agriculture on the environment. ➤ Political influence on agriculture. <p>FISHING IN LUANGWA</p> <ul style="list-style-type: none"> ➤ Importance of fish ➤ Fisheries in the district ➤ Types of fish ➤ Methods of fishing. ➤ Impact of fishing on the environment. ➤ Trends of production (charts)

		<ul style="list-style-type: none"> ➤ Impact of fish trade in Luangwa. <p>Human-Crocodile conflict in fishing. Prospects for fish farming</p> <ul style="list-style-type: none"> ➤ Problems of fishing in Luangwa. <p>COTTAGE INDUSTRY IN LUANGWA</p> <ul style="list-style-type: none"> ➤ Definition ➤ Factors influencing the industry. ➤ Importance of the industry on the district. ➤ Measure to promote the industry. ➤ Gender involvement in cottage industry. <p>TOURISM IN LUANGWA</p> <ul style="list-style-type: none"> ➤ Attractions ➤ Cultural ➤ Natural wild life ➤ Types of tourism ➤ Foreign ➤ Local. <p>LOCAL COMMUNITY INVOLVEMENT IN LUANGWA</p> <ul style="list-style-type: none"> ➤ C.R.Bs. ➤ Benefits of tourism to community. ➤ Threats to tourism in the district. ➤ Constraints to development of tourism. ➤ Measures to boost the industry.
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6.3 Part B: General Format for Topics of Localised Geography Curriculum

The key education and other officers of Luangwa district were asked to provide information based on problems that they had been observing during executing their duties in the area, and what was the possible future for Luangwa with respect to the main topics outlined in this part of chapter six. The purpose of part B as compared with part A and part C was that this part contains information provided by the key educational and other officers of Luangwa, while part A provided topics which were suggested by grade 9 pupils, geography teachers and grade 9 school dropouts in chapter 5 of this dissertation. Part C, gives the methods and questioning techniques teachers would use in teaching the content of the Localized geography curriculum. The four key questions appearing at the top of the matrix on the next page came from the interview schedule for the educational officers of various departments of Luangwa (see appendix D). The topics of agriculture, fishing as well as population and gender which appear in part B were specifically selected out of the rest because they were the main areas which contributed and experienced degradation at the time when this study was carried out.

TOPICS	1 During executing their duties what problems have been observed by the local district officers?	2 How did the identified problems in NO.1 come about?	3 What educational solutions existed to the identified problems?	4 What is the future for Luangwa with respect to the main topics in the far left column?
AGRICULTURE <ul style="list-style-type: none"> • Importance • Crops (i.e. improved varieties of seeds.) • Crop diversification • Conservation farming. • Agro-forestry. • Livestock farming • Cooperatives • Government support. • Influence climate Agriculture. • Impact of traditional values on agriculture. • Issues of land degradation. • Women participation 	<ul style="list-style-type: none"> -Illiteracy -Poverty -Low women participation in developmental issues. -Inadequate community participation due to top-down approach. -people concentrate on traditional methods. 	<ul style="list-style-type: none"> -Low levels of education inadequate diversification. -Top-down approach community used. -Too much dependency on the physical environment. -Developmental issues are mainly imposed on locals 	<ul style="list-style-type: none"> -Prioritize agricultural education. -Parents and local leader's involvement in agricultural education of children. -Crop diversification. -Livestock keeping. -Non Governmental Organization Support. 	<ul style="list-style-type: none"> -High irrigation potential. -Fish farming to be promoted. -Bee keeping must be encouraged. -There are fertile alluvial soils for agriculture. -Discourage poor farming practices on hill slopes and river banks. -Women must be involved in decision making.
FISHING <ul style="list-style-type: none"> Types of fish Importance of fish in the area. Methods of fishing. Problems faced with fishing industry. Trading of fish and diseases. Impact of fishing on environment. Importance of fish ban. 	<ul style="list-style-type: none"> Fish ban not implemented in the area. Poor Trans-boundary Management. Poor fishing methods. Sedimentation or siltation of rivers due to agriculture on river banks. Low levels of education of fishermen. 	<ul style="list-style-type: none"> Illiteracy Over cultivation along river banks. The district is at risk of HIV/AIDS due to so many traders in the area. People and crocodiles compete for little fishes on the river. 	<ul style="list-style-type: none"> Promote fish farming Discourage poor fishing methods. Encourage trans-boundary resource management by three countries through ZIMOZA Project. 	<ul style="list-style-type: none"> High potential for fish farming. There is need to encourage fish ban to allow fish breed.

Potential of fishing farming in the area.	Inadequate storage facilities. Decline in fish production. People killed or injured by crocodiles.			
POPULATION				
Population structure.	People settling in G.M.A	Luangwa river is not closed for fish during breeding period.		
Distribution				
Migrant traders and personel	Fish traders migrant put the district at risk of contracting diseases such as	High poverty levels encourage early marriages.		If the population growth is not checked, there will be high environmental degradation.
Impact of population on the environment.				
Early marriages	HIV/AIDS as more	Low levels of education among the local society.	Promotion of girl child education through sponsoring girls.	There will be shortage of land for farming.
Family planning issues.	migrant traders in fish come to the area. Early marriage is due to traditional customers	Cultural values in the area are for pronatalists policies. Low status of women.	Punish parents who force their young girl children into marriage.	There is need to encourage farming planning in the area.
GENDER				
Define gender equity and equality.	Inadequate of women participation in decision	Low status of women. Traditional	Pupils must be taught about Attitudes and values with	To Develop there is need to encourage girl child education

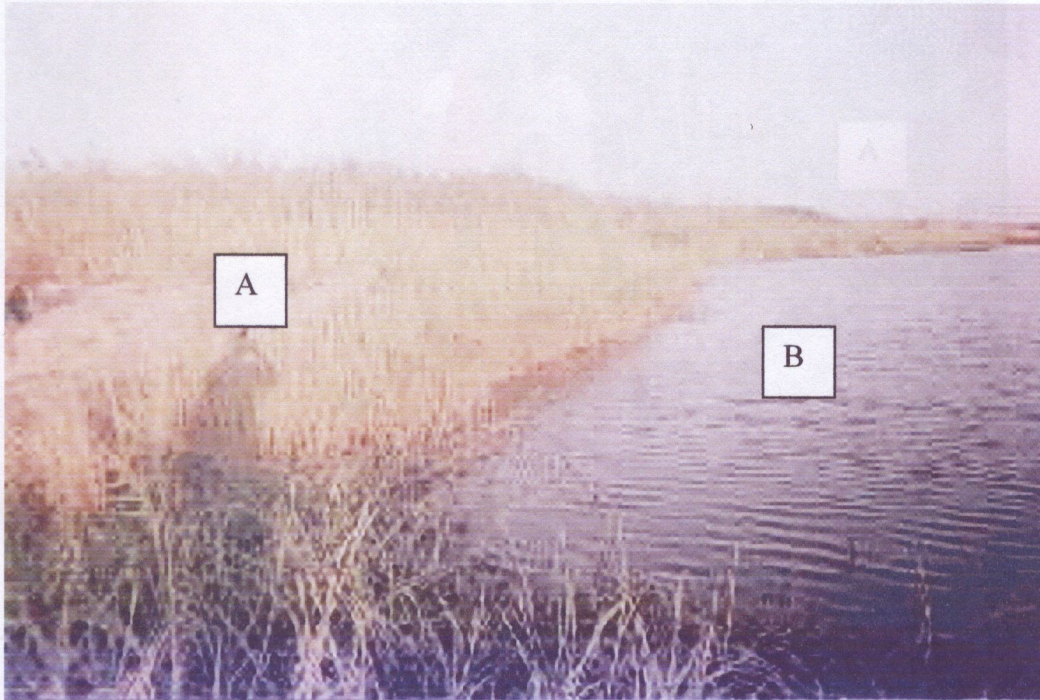
Teach pupils socialization in relation to gender role	making in agriculture, family planning, issues of HIV/AIDS	values that women must be on must be the receiving end from men.	respect to human rights, farmers, responsibility, self-reliance, peace and understanding, Tolerance, cooperation.	Pupils should be taught human rights with respect to Women/girl/children.
Gender policy compare and contrast gender issues in traditional and Modern society.	Most of the farming work is done by women.	Low education levels for women.	Form community groups to sensitize the community on HIV/AIDS.	There is high degree Of people contracting HIV/AIDS due to a Number of migrant from Lusaka to Buy fish.
HIV/AIDS Define HIV/AIDS	Inadequate support from males for children due to matrilineal belief.	Men are not actively involved in discussing issues of HIV/AIDS with wives.	Pupils need to be taught on the causes, dangers of HIV/AIDS.	People should be involved in behavioural change Activities.
Factors exposing people to HIV/AIDS.	People attach traditional beliefs to HIV/AIDS.	Parents die due to HIV/AIDS related diseases.	More NGOs to come to the aid of people, especially the Vulnerable.	
Measures of prevent the spread of HIV/AIDS.	High levels of orphans in the area.	Break up of extended family values leave orphans not cared for.		
Impact of HIV/AIDS at local levels.	Few people go for VCTs	Stigmatization discourages people to know their status with respect to HIV/AIDS.		
Pupils to identify organizations dealing with HIV/AIDS and their roles.	High levels of poverty contribute to HIV/AIDS			
	Low levels of male participation in issues of HIV/AIDS.			

**PART C: Activities and Questions that Contribute to the Development of
Luangwa District based on the Themes in Part B**

This part of the chapter provides a guide to teachers on how the themes outlined in Part A and Education solutions provided in Part B of this chapter could be implemented through the use of the “Questioning Techniques”. The rationale behind the inclusion of this part in chapter seven has been fully explained in the introduction part of the chapter. The topics of agriculture, tourism and social challenges were chosen as these were suggested by the teachers, grade 9 pupils as the most dominant economic activities in the study area that needed educational measures if sustainable development was at all to be realized in the area.

TOPIC	GRADE 8	GRADE 9
AGRICULTURE	<p>a) Do you think agriculture is important in Luangwa District.?</p> <p>b) How do you think the Right to education is central to development of agriculture in Luangwa?</p> <p>c) What impact might agriculture have on physical, economic social environments of Luangwa.</p>	<p>a) Identify how the different types of farming in Luangwa would contribute to environmental sustainability.</p> <p>b) Discuss how political economical, social and physical environments influence development of agriculture in Luangwa.</p> <p>c) What sustainable measures could be introduced to promote agriculture as a future activity of Luangwa?</p>
TOURISM	<p>a) From the map of Luangwa District, identify areas where farming and settlements are not needed.</p> <p>b) With reference to tourism, what conflicts exist among the local peoples?</p> <p>c) Explain what measures you would put in place to minimize the conflicts identified.</p>	<p>a) Discuss why tourism should be encouraged in Luangwa District.</p> <p>b) What role should the local community play in promoting Eco-tourism in Luangwa?</p> <p>c) In your opinion what would be changes necessary to realize a sustainable future for the community through involving them in protecting and conserving the environment in the study area?</p>

PLATE 4: SHOWING A RIVER BANK IN LUANGWA



Grade 8

Grade 9

- a) What is in the photo above?
- b) Identify the importance of the resource above to the people of Luangwa.
- c) Why do you think people should be discouraged to cultivate along section A in the photo?

- a) What is the value of section B in the photo to the people of Luangwa.
- b) What environmental problems are associated with sections A and B?
- c) What measures should be introduced to solve the problems identified.

UNDERGRADED REED VEGETATION ON LUANGWA RIVER BANK



Grade 8

Grade 9

- a) What is in the plate above?
- b) Identify the importance of the resource above to the people of Luangwa.
- c) Why do you think people should be discouraged to cultivate along the catchments areas in Luangwa?

- a) What is the value of vegetation in the plate above to the people of Luangwa?
- b) What environmental problems are associated with section A which led to section B?
- c) What measures should be introduced to solve the problems identified in the plate above?

PALM VEGETATION IN LUANGWA DISTRICT



Grade 8

Grade 9

- a) What is in the plate?
- b) What is its value?
- c) Identify the cultural value of the vegetation in the above plate.

- a) What Natural, Economic as well as Political and Social value has the vegetation in the above plate?
- b) Name one industry that benefits from vegetation in the above plate?
- c) What do you think would the threats to the vegetation in the above plate?

DEGRADED BANKS ON LUANGWA RIVER



Grade 8	Grade 9
<p>a) Compare the plate where there is palm vegetation and the one above and explain what you see</p> <p>b) What human activities contributed to what is seen in the plate above?</p> <p>c) What education measures should be provided to the people of Luangwa to minimize the seen environmental degradation in the plate above?</p>	<p>a) Why do you think people should respect the environment in regard to the plate above?</p> <p>b) Explain how the concept respect would be used in the plate above.</p> <p>c) What type of environmental degradation is happening in the above plate?</p>

6 • HOME NEWS

THE POST, Wedne:

FOUR elderly people of Kakaro village in Chief Mphuka's area in Luangwa have been arrested for forcing their 14-year-old grade four pupil at Kakaro Basic School to get married to a Mozambican fisherman, a decision she resisted.

Luangwa cops arrest 4 villagers for forcing girl 14, into marriage

Luangwa police officer-in-charge, assistant superintendent Rosemary Musole who is also a member of the District Gender and Equity Committee confirmed to ZIS that the four elderly people of one family have been arrested and detained for forcing the girl into marriage.

Musole named the four as Pauline Banda, Winfrida Banda, Abraham Tembo and the girl's mother Sakai Tembo.

police Victim Support Unit after the minor was beaten by her relatives for refusing to get married to a Mozambican fisherman, who had as payment, given them K20,000 and a goat.

Musole further said the four would appear in court for child abuse and molestation as soon as a Lusaka based magistrate visits the district.

She added that 11 similar cases have been received from Kakaro village, saying the committee will ensure that all parents perpetuating

early marriages are brought to book.

And Luangwa District Education Standards Officer (DESO) Liberatus Longwa who was found at the police station told the four people that they should take advantage of the re-entry policy of government by ensuring that their children go to school.

Longwa said it was sad that parents were forcing their girl-children into early marriage even after being sensitised under the Programme for Advancement of Girl

Education (PAGE) on the importance of educating the girl-child.

Meanwhile, Luangwa district commissioner, Kenneth Chipungu has appealed to parents and guardians to take education seriously especially that government was offering free education from grade one to seven.

Chipungu said government was committed to educating all the people in its effort to

eradicate poverty. And government has decided to move the pontoon at Shikaheta ferry point on

Lusentwa River in Chongwe to Chiava Ferry point on the Kafue River at Kafue because the pontoon is lying idle.

Lusaka Province permanent secretary Lillian Kapula disclosed this in Chongwe yesterday and said the pontoon would be replaced with a barrier bridge.

Kapula said the pontoon has been lying idle about 10 years ago when it was brought to the ferry point could not be up because it was too big used on the river.

She said the pontoon would be moved to Kakato to help address problems being experienced at Chiava ferry point of constant breakdowns current pontoon. - ZIS

OPAQUE BEER BREWERS ASSOCIATION OF ZAMBIA

	Grade 8	Grade 9
SOCIAL ENVIRONMENTAL CHALLENGES	<p>a) What main points is the article making?</p> <p>b) What type of abuse was identified in the article?</p> <p>c) Is it in order for the police to arrest the parents of the girl? (give reasons)</p> <p>d) Name an organisation which promotes girl education in Luangwa district?</p>	<p>a) What does the concept gender and equity mean from the article?</p> <p>b) What factors do you think make parents force girls into early marriages from the article?</p> <p>c) Why is early marriage discouraged in the article?</p> <p>d) Who should decide for the marriage of the girl in the article?</p> <p>e) Why is education for girls being encouraged in Luangwa district.</p>

f) Suggest what the community should do to minimize the social issues in the article?

THE POST, Thursday March 24, 2005

Luangwa hit by power and water shortage

By McDonald Chipenzi and Brighton Phiri

LUANGWA district has had a shortage of water and electricity since Thursday last week, acting district commissioner Henry Ngoma has disclosed.

And Luangwa residents on Monday demonstrated against the water supply shortage and power failure that had hit the area, disrupting the full council meeting that was taking place at the time.

Meanwhile, Lusaka Province minister Patrick Ngoma expressed his disappointment with ZESCO's delay in connecting Luangwa district to the national grid.

In a telephone interview from Luangwa yesterday, Ngoma said both power engines in the district had broken down on Thursday leaving the entire district in a blackout.

"The situation is bad. The problem we have here is that when we have no power, we have no water also. This is because the water pump ceases to work when there is no power, thus creating water shortage in the district," Ngoma said.

He said residents had chanted slogans against the MMD government and carried placards at the civic centre, almost disturbing the full council meeting.

The demonstrators included members of the business community and ordinary members of the district.

Ngoma said it was sad that ZESCO had not started the project to connect Luangwa district to the national grid, despite launching it a few months ago.

"As far as Lusaka Province administration is concerned, K3 billion was given to ZESCO for the project, but they keep on giving excuses for delaying the project," Ngoma said. "Why launch the project when you are not ready for it?"

Ngoma said he had met energy minister George Mpombo on Monday to discuss the matter and he had been assured that the ministry would address his concerns.

He said people in Luangwa district needed hydro-electricity to boost their fish industry, tourism and agriculture sectors.

Ngoma said Luangwa had the potential to eradicate the persistent hunger situation with the availability of hydro-electricity.



Mpombo

	Grade 8	Grade 9
POWER IN LUANGWA	<ul style="list-style-type: none"> a) Why did the people decide to demonstrate in the article? b) Who decides to supply power in the article? c) What type of power is used in the area mentioned in the article? d) Why did the media include the man in the photo. 	<ul style="list-style-type: none"> a) What environmental problems would increase in the area due to lack of sustainable power supply? b) Identify economic activities that require the supply of power in the area. <p>What environmental issues would power solve in the area?</p>

6.4 CONCLUSION

This chapter has presented an action plan in a form of a proposed localized Curriculum which aims to engage Grades 8 and 9 geography pupils in issues of environmental protection of the Luangwa district. The purpose of constructing the Curriculum was to improve the geographical knowledge, skills, and attitudes of students' as well as to enhance their ability to find meaning in life. It is hoped that this process could contribute to development at all levels of communities which interact with the Luangwa district. The communities mentioned here include the local, national as well as the regional and global communities. This study revealed that the National Based Curriculum in Zambia failed to make an impact on the local environmental issues that Luangwa district experienced. According to the Bible, the New International Version (NIV), in Luke 16: 10 "whoever can not be trusted with very little can also not be

trusted with much, and whoever is dishonest with very little will also be dishonest with much. (International Bible Society, (1984: 739). By projection, the then geography curriculum in Zambia did not contribute significantly to minimizing environmental problems experienced in Luangwa district, which is a small area. Therefore, there was very little learning achievements that the core curriculum made across the nation. In this regard, this proposed curriculum for Luangwa district has been formulated to supplement the contribution of the core national curriculum.

CHAPTER SEVEN: CONCLUSION AND RECOMMENDATIONS

This chapter presents a summary of all the chapters in this study. The summary given is, firstly, in form of concluding statements. It ends by making recommendations based on the findings of the study.

7.1 Conclusion

Some of the major conclusions of this study are as follows:

- 7.1.1 In Chapter One and Two, for example, the study has highlighted a number of environmental issues affecting the area, which has included HIV/AIDS, forced early marriages for girls, Human/Animal conflicts, to name but a few. The study has further demonstrated the relevance of media reports on Luangwa as being useful materials for teaching environmental issues of the study area. The use of media reports would be very important, as there are very few textbooks with educative information about the study area.
- 7.1.2 The study has also shown that the Basic School Geography curriculum in Luangwa district did not adequately prepared pupils for life in society. The reasons noted included, amongst others, that the curriculum was examination – oriented, lacked practicals and it did not cover local environmental issues. As a result, both the Grade 9 school dropouts and pupils contributed very little to addressing environmental issues of their immediate localities.
- 7.1.3 The study further reveals that the local value system in the study area lacked cultural characteristics in form of deliberate respect for the environment. As the local community resisted change to sustainable development. This scenario made Grade 9 school dropouts to feel not being accepted by the local society .Based on the researcher's views, it seemed that the feelings of the local people were that if parent sent a child to school, that child was not supposed to live with the locals after completing grade 9 level as they were then expected to look for white collar

jobs. Therefore, those who failed to make it to High School level developed a “failure syndrome” which made them not to participate freely in making decisions to the benefit of the study area.

- 7.1.4 The study also discovered that all consulted key stakeholders to school Geography in the study area were in support of re-designing the then existing Upper Basic School geography curriculum on the grounds that it did not provide pupils with knowledge that was necessarily for tackling the environmental issues affecting the area.
- 7.1.5 The study indicated that the local community in Luangwa district needed to be involved in planning for education of their children. This finding is also supported by the reviewed literature which showed the gaps that the then geography curriculum has as it failed to address local environmental issues in its implementation.
- 7.1.6 This study further established that the Geography curriculum at Upper Basic school level did not include concepts of environmental management of Luangwa district, such as floods, conservation farming, agro-forestry and so on, all of which were very vital in the management of the environment of the study area. This aspect was discerned from the suggested solutions provided by key education officers of various strategic departments of Luangwa.

7.2 Recommendations

- 7.2.1 This study on page 74 reveals that some topics were not relevant to the Luangwa situation, arising from this, it is recommended that the Curriculum Development Centre (CDC): should consider removing irrelevant topics from the existing geography curriculum, such as farming in Australia, and increasing the time allocated to Geography to allow teachers to consider teaching local environmental issues like those of Luangwa district.

- 7.2.2 The study on page 79 revealed that some pupils found it difficult to understand concepts such as “Deforestation”. Arising from this, this study recommends for further Research to systematically find out the impact of language in the implementation of Geography teaching at Basic school level, as this could be one of the factors leading to the then existing products of Upper Basic school, at the time of the study to have no impact in minimizing the local environmental issues of the study area.
- 7.2.3 This study on page 81 established that pupils learn very little local issues. Arising from this it recommended that Teachers of geography in Upper Basic schools should always strive to use the local environment as a laboratory in teaching Geography. When pupils are made to learn about their immediate environment, they would be able to apply that knowledge and skills to national, regional and global levels. Teachers should use “deductive” methods in approaching environmental issues, by which is meant that teaching should be bottom – up approach (that is from local level to national and global levels).
- 7.2.4 The study on page 83 has shown field work is not commonly used as a teaching methodology in Upper Basic School. Arising from this, it recommended that geography field-work reports produced by High School pupils should be stored, to be used as data base for teaching grades 8 and 9 levels.
- 7.2.5 This study on page 95 found out that examination malpractice, and teachings being too examination oriented is due to lack of integrate continuous assessment to final examinations results. Arising from this, it is recommended that the Examinations Council of Zambia should find ways and means of how to make the teaching of Geography more practical and assist pupils who fall sick pass by integrating continuous assessment at Grade 9 level as this will reduce help cases of leakages as well as becoming fairer to pupils who fall sick during examinations as their continuous assessment would be considered.

- 7.2.6 The study on page 98 found out that pupils were in support to the creation of clubs in school to provide additional time from that on the school time table for dealing with environmental subjects. Arising from this, it is recommended that University of Zambia department of LSSE (Geographical Education) should be urged to use its influence to have Geographical Education Association to open clubs in schools.
- 7.2.7 This study on page 98 revealed that districts should use locally available teaching materials. Arising from this, it is recommended that District Resource Centres should be well stocked with various educational facilities such as printing equipment like computers, Internet to assist in publishing local materials for teaching in basic schools and should also have libraries to stock media reports where schools would go and borrow for learning purposes. Besides, the high school geography field work reports which are of good quality on local issues should be stored, to act as data base for teaching grades 8 and 9 levels.
- 7.2.8 This study on page 99 found out that the examinations are urban oriented, arising from this, it is recommended that the Examinations Council of Zambia (ECZ): should develop ways on how to set a compulsory question based on cross cutting issues in order to avoid the tendency of examinations being urban biased as this was found to be disadvantaging students in rural areas like Luangwa.
- 7.2.9 This study on page 100 found out that the District Education Board officers would play a vital role in implementing the re-designed localized geography curriculum. Arising from this, it is recommended that the MOE should encourage education standards officers at district, provincial and national level to assist implement localized curriculum, in this case Luangwa.
- 7.2.10 This study on page 100 reveals that P.T.A. and DEBS office would play a vital role in formulation of localized curriculum. Arising from this, it is recommended that P.T.A. and DEBS Office: should be more involved in the implementation of

a district curriculum like the one formulated for Luangwa district in this study and lobby for support from the government through the Ministry of Education to make localized curriculum compulsory for each district in Zambia, as this would make people appreciate the values of their local environment.

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APPENDIX A: Questionnaire for Geography Teachers in Luangwa District

Dear Respondent

You have been purposively selected as one of the respondent to this study whose primary purpose is to assist gather data which would be of help to re-shaping of the teaching of geography at Basic School level, so that pupils are actively engaged in issues of environmental protection to assist in minimizing environmental degradation while in school and life after school in Luangwa district in this case. Your views, experiences and difficulties (if any) during your teaching of geography at Basic School level, would provide relevant information for effective teaching and learning of geography in rural basic schools of Zambia in general and Luangwa district in particular.

To ensure confidentiality, anonymity of the respondent is assured and all responses obtained shall be solely for academic and research purposes only and shall be treated with the strictest confidence they deserve.

INSTRUCTIONS:

- i. Objective questions please, Tick [] against your appropriate choice.
- ii. For open ended questions write in spaces provided if you need more space use the blank of each page.
- iii. You are requested to be more objective as possible when answering. Kindly answer without influence from any person.

b) Give a reason(s) for using the preferred method(s) have indicated in Q10

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.....
.....

11. In your opinion, do you support the need of redesigning the geography curriculum so that it incorporates local issues of environmental protection?
[Yes] [No]

b) If yes in Q11 in your view, suggest 5 Geography topics that would engage pupils actively in addressing environmental degradation in Luangwa District.....

.....
.....

12. In your opinion, is time allocation of teaching Basic Grade 9 geography in the current curriculum enough? [Yes] [No]

b) If the answer is 'No' to Q12, please give your alternative time allocation

.....
.....

13. In your opinion, does the current geography curriculum in use at Basic School address the issue of assessment adequately? [Yes] [No]

b) Explain your answer in Q13.....

.....
.....

14. In your view, do you agree that Grade 9 Geography teaching in Luangwa District is mainly examination oriented? [Yes] [No]

b) Explain your answer in Q14

.....
.....

15. Given a choice, what five (5) main topics would you consider could actively involve pupils in issues of environment, what four (4) teaching methodologies should be employed in the teaching of Geography?

.....
.....

16. In your opinion, to produce learners conversant in the preservation and conservation of the environment, what four (4) teaching methodologies should be employed in the teaching of Geography?

.....
.....

17. In your view, should parents and local leaders be actively involved in teaching issues of local environmental protection? [Yes] [No]

b) Give reasons to the answer in Q17

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.....

.....
18. In your opinion, do you agree that continuous assessment should be added to final examination results of the learner? [Yes] [No]

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.....
.....

19. In your view, what role should the following stakeholders play in the implementation of a redesigned district Geography curriculum?

- (i) Parents
- (ii) Teachers
- (iii) DEBS Office
- (iv) School Administration

20. In the spaces provided, give some critic of the Grade 9 Geography curriculum

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THANK YOU FOR YOUR CO-OPERATION

APPENDIX B: Questionnaire for Grade 9 Dropouts of Luangwa District

Dear Respondent

You have been purposively selected as one of the respondent to this study whose primary purpose is to assist gather data which would be of help to re-shaping of the teaching of geography at Basic School level, so that pupils are actively engaged in issues of environmental protection to assist in minimizing environmental degradation while in school and life after school in Luangwa district in this case. Your views, experiences and difficulties (if any) during your learning of geography at Basic School level, would provide relevant information for effective teaching and learning of geography in rural Basic Schools of Zambia in general and Luangwa district in particular.

To ensure confidentiality, anonymity of the respondent is assured and all responses obtained shall be solely for academic and research purposes only and shall be treated with the strictest confidence they deserve.

INSTRUCTIONS:

- i. Questions with multiple choice or objective response please, Tick [] against your appropriate choice.
- ii. For open ended questions write in spaces provided and if you need more space use the blank page on the back of each page.
- iii. You are requested to be more objective as possible when answering. Kindly answer without influence from any person

Chiefdom Ward.....

1. Gender a) Male b) Female
2. Marital status: a) Single b) Married c) Separated d) Widowed
3. Number of Children a) 0 b) 1 – 5 c) 6 – 10
d) above 10

4. What factors influence you to settle in the District?

5. What main economic activities are you involved in?
- a) Fishing
 - b) Farming
 - c) Mat and basket making
 - d) Any other

6. What major problems do you face in your named activities to Q5?.....

7. In your opinion, are these problems mentioned in Q6 connected to your economic activities in the area? [Yes] [No]

b) Explain your answer

8. Does the local culture in the District contribute to preservation and conservation of the natural resources? [Yes] [No]

b) Explain your answer in Q8

9. In your opinion, choose the two main environmental degradation happening in Luangwa District
- i. Deforestation on river banks and hill slopes
 - ii. Over fishing
 - iii. Loss of fertile land by erosion
 - iv. Air pollution
 - v. Water pollution

10. In your opinion, what are the causes of environmental degradation in Luangwa District?

11. In your opinion, does the Geography knowledge you gained in Grade 9 level assist in reducing environmental degradation in the District? [Yes] [No]

b) Explain your answer in Q11

12. In your opinion, do you think as a Grade 9 product, you are actively involved in addressing environmental degradation experienced in the District? [Yes] [No]

b) Explain your answer in Q12

13. In your view, do you feel that Geography teaching at basic school Grade 9 level made you aware of local environmental issues in the district? [Yes]
[No]

b) Explain your answer in Q12

14. In your own view, would you support the suggestion to redesign the Geography curriculum with special emphasis on the District at Basic school level in order to address local environmental degradation? [Yes] [No]

b) If yes to Q14, below are some Geography topics at Grade 9 level choose by a tick against the five topics that would most engage pupils in environmental protection.

- a) Fishing
- b) Tourism
- c) Agriculture
- d) Population studies
- e) Cultural issues
- f) Climate
- g) Environmental management
- h) Political issues

15. In your own view, do you feel that parents be actively involved in teaching their children about local environmental issues? [Yes] [No]

b) Explain your answer in Q15

16. In your own view, do you agree that Geography at Grade 9 level is mainly taught by teachers to pass examinations and not for pupils to gain knowledge to use in society in this case Luangwa District? [Yes] [No]

17. In your opinion, is the District able to produce enough food both for consumption and sale? [Yes] [No]

b) Explain your answer in Q17

18. In your opinion, do you feel that Geography teaching at Basic school, if well taught would contribute in reducing the main environmental degradation faced in the District? [Yes] [No]

b) Explain your answer in Q18

19. In your view, do basic school learners have adequate Geography knowledge on environmental matters than locals without basic education? [Yes] [No]

b) Given reasons to your answer in Q19.....
.....
.....
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.....

21. In your opinion, would you agree also that schools start educating adults on local environmental issues? [Yes] [No]

b) Explain your answer in Q20
.....
.....

In your view, suggest how Geography should be taught to make pupils aware of their environmental problems in the case of Luangwa District.

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THANK YOU FOR YOUR CO-OPERATION

APPENDIX C: Questionnaire for Grade 9 pupils in Luangwa District

Dear Respondent

You have been randomly selected as one of the respondents to this study whose primary aim is to help gather data, which would be of assistance to reshape the teaching and learning of geography at Basic School level so that pupils are actively involved in issues of environmental protection to reduce environmental degradation in Luangwa District. Your views, experiences and difficulties faced (if any) during your learning of Geography in rural Basic schools of Zambia in general and Luangwa District in particular.

To ensure confidentiality, anonymity of the respondent is assured and all responses obtained shall be solely for academic and research purposes only and shall be treated with the strict confidence they deserve.

INSTRUCTIONS

1. Questions with multiple choice responses please, Tick [] against your choice.
2. For open-ended questions write in the spaces provided to you. If more space is needed use the blank spaces at the back of each page.
3. You are requested to be more objective as possible when answering. Kindly answer without influence from any other person.

Name of Basic School _____ Chiefdom _____

1. Gender a) Male b) Female

2. Do you like learning Geography as a subject?
 - a) Yes
 - b) No
 - c) Give reasons to your answer.....
.....
.....

3. Which of the four teaching methods of geography would you like teachers to use?
 - a) Teacher giving notes and then explaining.
 - b) Discussion
 - c) Problem solving/discovery method
 - d) Field work
 - e) Picture method
 - f) Role play

- 4.. Should continuous assessment be part of the final examination results at Grade 9?
 - a) [Yes]
 [No]
 - b) Give reasons to your answer.....
.....
.....

5a. Look at the Picture 1 below: mention what activity is taking place?.....

.....



b) What environmental problems does the activity in picture 1 contribute in Luangwa district?.....

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.....
.....

c) In your opinion, which areas in Luangwa District does the activity in picture 1 take place?.....

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.....

6. Look at picture 2 below what activity is taking place?.....



b) Mention four reasons which make people in Luangwa District be involved in the activity seen in picture 2.....

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.....
.....

c) What environmental problems does the action in picture 2 bring to Luangwa District?.....

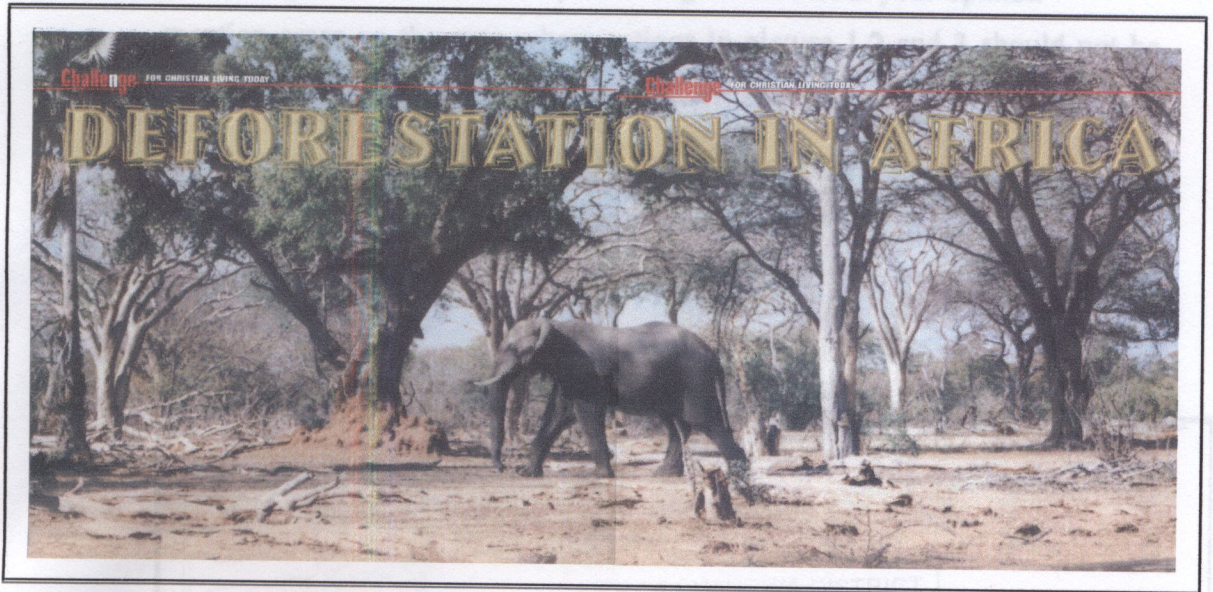
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d) In your opinion, does the current geography teaching at grade 9 level assist in Reducing the problems you have mentioned in Q6?

[Yes] [No]

7. Look at picture 3 below, mention what environmental problem is in the picture?

8. Look at figure 4 below, the map of Luangwa District in your opinion



b) During your learning of geography at Basic school level, have you been taught of this problem in Luangwa District?

[Yes]

[No]

b) During your learning of geography, have you ever been taught of the issues of the Map of Luangwa District?

[Yes]

[No]

9. In your own view, would you support to re-design the current grade 9 Curriculum in order to include the local geography for Luangwa District?

[Yes]

[No]

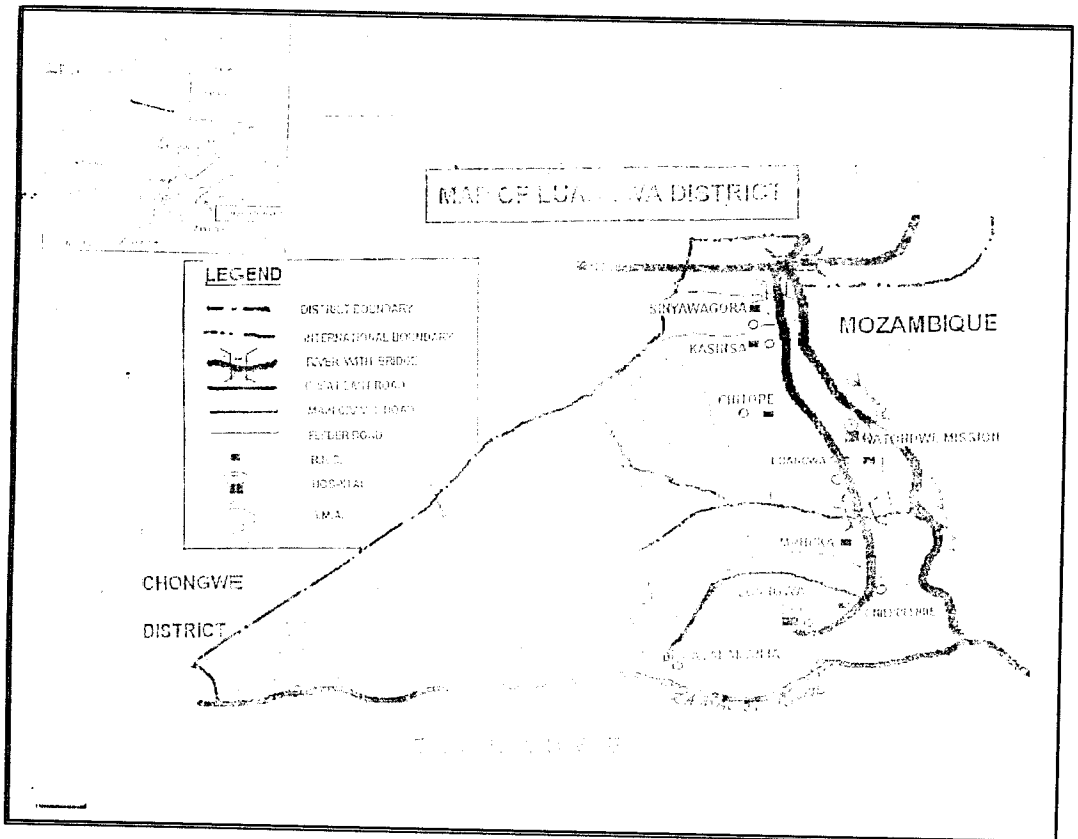
8. Look at figure 4 below, the map of Luangwa District in your opinion mention areas on the map where actions in picture 1,2 and 3 should not be allowed?

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b) During your learning of geography, have you ever been taught of the issues of the Map of Luangwa District?

[Yes]

[No]

9. In your own view, would you support to re-design the current grade 9 Curriculum in order to include the local geography for Luangwa District?

[Yes]

[No]

b) Give reasons to your answer

.....

.....

10. In your own view, choose four topics from the list below that would actively involve grade 9 pupils in Luangwa district on protecting the environment.

- a) Agriculture
- b) Fishing
- c) Vegetation
- d) Environmental management
- e) Tourism
- f) Population studies
- g) Culture issues
- h) Climate

11. In your own opinion, choose one reason why you learn geography at Basic School level,

- i) Pass examination and complete high school education to work.
- ii) Gain geographical skills to use in society
- iii) To acquire values and attitudes friendly to environmental protection.

12. What do you consider to be your main difficulties of learning grade 9 geography in the current curriculum?.....

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APPENDIX D: Questionnaire for Education Officers of Strategic Department in Luangwa District

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Dear Respondent

You have been purposely selected as one of the respondent to this questionnaire for being one of the key education officers among strategic Departments in Luangwa District.

I conducted a research among Geography teachers, Grade 9 pupils and Grade 9 school leavers/dropouts in Luangwa District. The purpose of the research is to improve the teaching and learning of school Geography at Grade 8 and 9 by making it responsive to environmental degradation being experienced in the area. All respondents identified your field as one of the potential area to be included in the local revised Grade 8 and 9 Geography.

Your views, experiences and difficulties (if any) during the execution of your duties in Luangwa District, would provide relevant information for effective teaching and learning of Geography in rural schools of Zambia in general and Luangwa district in particular.

To ensure confidentiality, anonymity of the respondent is assured and all responses obtained shall be solely for academic and research purpose only and shall be treated with the strictest confidence they deserve.

INSTRUCTIONS:

- i. Each question has spaces provided for answers. If you need more space plain papers have been attached.
- ii. You are requested to be as more objective as possible when answering. Kindly answer without influence from any other person.

1. During the execution of your duties in Luangwa District, has there been any problems you have observed in your field with regard to local people. If yes please mention them.

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2. How did these problems come about?

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3. What educational solutions do you give?

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4. What is the future of Luangwa with regard to your field?

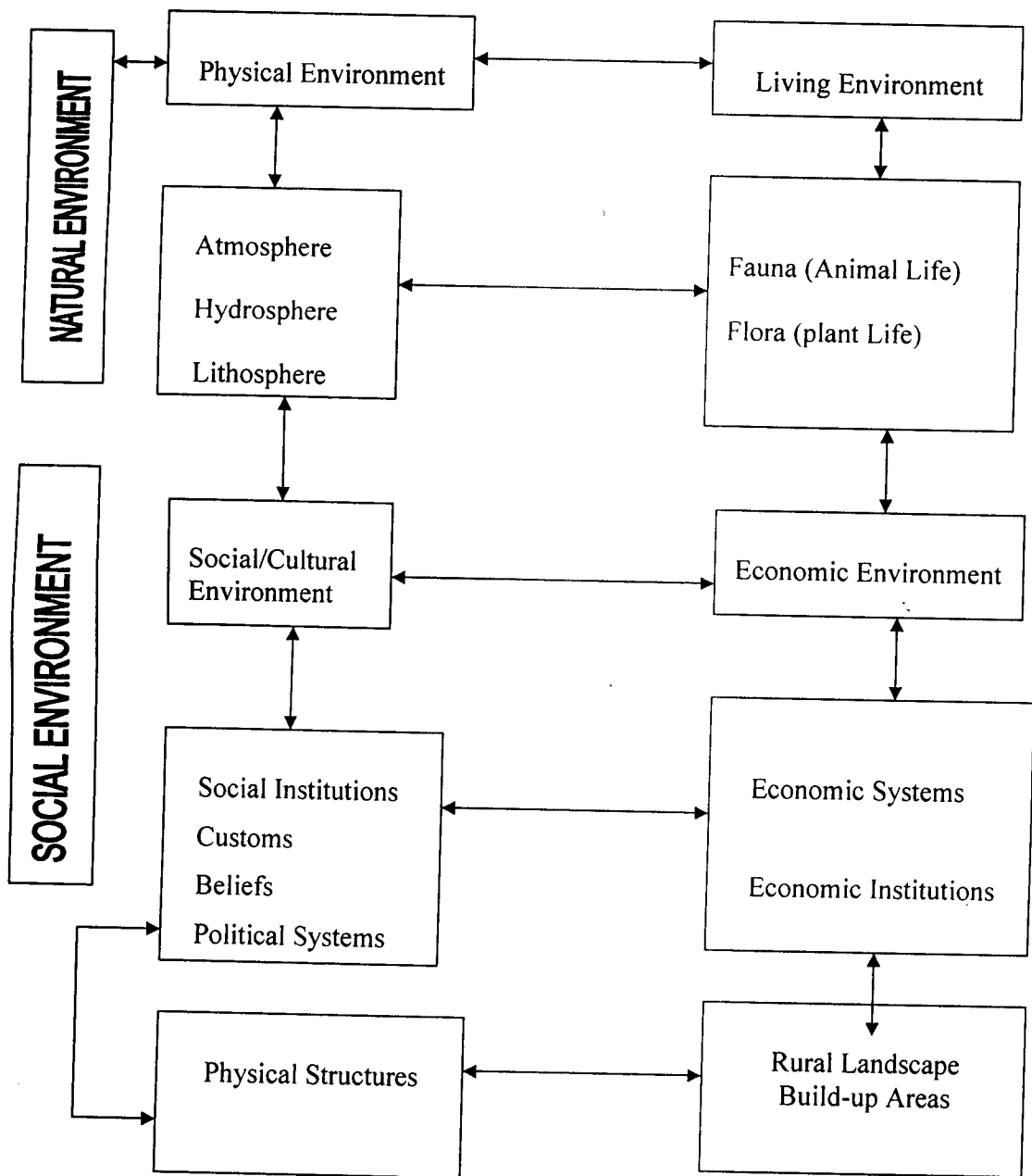
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5. What teaching materials/information would you wish to be included in a revised Geography curriculum from your field of work that would assist produce well informed learners to contribute to the development of Luangwa District?

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THANK YOU FOR YOUR CO-OPERATION

**APPENDIX E: MAIN COMPONENTS OF THE ENVIRONMENT
(NEW AND BROADER DEFINITION OF ENVIRONMENT)**



SOURCE: MOE (2005)