ADEQUACY AND QUALITY OF TEACHING AND LEARNING RESOURCES IN PUBLIC PRIMARY SCHOOLS IN NDARAGWA DIVISION, NYANDARUA COUNTY, KENYA

NDIRANGU WAHOME MUTHIMA

A Thesis Submitted to the Graduate School in Partial Fulfilment of the Requirements for the Award of the Degree of Master of Education in Educational Management of Egerton University.

EGERTON UNIVERSITY

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DECLARATION AND RECOMMENDATION

Declaration

This thesis is my original work and has not, wholly or in part, been presented for an award of a degree or a diploma in this or in any other University.

signature_____ Date_____

Ndirangu Wahome Muthima

EM 15/1266/04

Recommendation

This thesis has been submitted for examination with our approval as University supervisors.

Signature _____ Date: _____

Dr. Maurice O. Udoto

Department of Agricultural Education and Extension,

Egerton University

Signature _____ Date: _____

Dr. Zephania. O. Anditi,

Department of Curriculum, Instruction and Educational Management,

Egerton University

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DEDICATION

This thesis is fondly dedicated to these great people in my life:

To Dad, Mum, My wife Wangechi and my two loving sons. You have all filled my life with love, joy and the desire to live.

ABSTRACT

The Free Primary Education (FPE) programme was commissioned in January 2003 to provide basic education to all Kenyan children of school going age and to ease the burden of cost sharing from the parents. The public primary school class teachers were to shoulder the greatest responsibility in the implementation of this programme but the assessment of the success of this programme has not involved the class teachers who are the main stakeholders. The study therefore aimed at assessing the adequacy and quality of FPE based on the perceptions of the class and head teachers in public primary schools in Ndaragwa Division, Nyandarua County. The assessment of the programme was based on four aspects of the programme which included: the provision of teaching / learning materials, provision of physical facilities, provision of teachers, and the roles played by the School Management Committees. A survey was conducted to collect information from 130 class teachers and 23 head teachers who were purposively selected from 23 schools. A structured questionnaire consisting of 38-items was used to gauge the perceptions of the respondents on each item on a five point Likert scale (1=Very Inadequate to indicate lack of enough materials, 2=Inadequate, 3=moderately adequate, 4=Adequate and 5=Very Adequate, to indicate satisfactory levels of the materials). The data was analyzed using descriptive statistics for objective one to four (means and frequency distributions) and inferential statistics for objective five (t-test). This was done with the aid of the Statistical Package for the Social Science (SPSS version 21). The results of the study revealed that there existed a variation in the adequacy and quality of the items provided by the FPE programme in Ndaragwa division. The quality of teaching and learning materials, physical facilities, and management committees was found to be Moderately Adequate, while that of the teachers was found to be Adequate. The adequacy of the teaching and learning materials, physical facilities, and management committees was found to be Moderately Adequate, while that of the teachers was found to be Adequate. Significant differences ($p \leq .05$) were found between the class teachers and head teachers' assessment of the adequacy of the learning and teaching resources, while no significant differences ($p \geq .05$) were found in quality. Implementing the recommendations of this research could assist push the country closer to achieving Universal Education For All (UFA) by 2015 which is one of the Millennium Development Goals (MDGs).

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LIST OF ABBREVIATIONS AND ACRONYMS

DEO	District Education officer
DP	Development Plan
EFA	Education for All
FPE	Free Primary Education
GoK	Government of Kenya
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
ICT	Information Communication Technology
KANU	Kenya African National Union
KCPE	Kenya Certificate of Primary Education
KIE	Kenya Institute of Education
MDGs	Millennium Development Goals
MoE	Ministry of Education
MoEST	Ministry Of Education, Science and Technology
NACOSTI	National Commission of Science, Technology and Innovation
NER	Net Enrolment Ratio
QA	Quality Assurance
SMCs	School Management Committees
SSR	Selected School Factors
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children Education Fund
UPE	Universal Primary Education
WHO	World Health Organization

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Education is the cornerstone of the development process in a nation. It increases the productive capacity of its citizens, which has an incremental effect on the society's aspirations in the economic, social-cultural and political realms. Over 40 years ago, the Nations of the World, speaking through the Universal Declaration of Human Rights asserted "everyone has a right to education" (World Bank, 2003). Despite notable efforts by the countries around the globe to ensure the right of education for all, more than 100 million children worldwide have no access to primary education as per the World Education Forum held in Darkar (2002) which was about making this declaration a reality. The Darkar forum was a culminating event of the Education for All (EFA), initiated in Jomtien, Thailand in 1990.Out of the 163 countries that had attended the world education forum in Darkar, 47 countries had attained Universal Primary Education (UPE) 20 are likely to attain UPE by 2015, 23 are at risk of not achieving UPE due to backward development in terms of Net Enrolment Ratio (NER) and 44 are highly unlikely to achieve UPE by 2015 this is as per United Nations Educational, Scientific and Cultural Organization (UNESCO, 2002).

Africa has experienced positive progress towards realizing the goal of UPE where the net enrolment rate has increased on average from 54% in 1990 to over 60% in 2002(GoK, 2005). During this same period, Kenya recorded a decline in the NER from 80% in 1990 to 74% in 2002 mainly due to the cost sharing policy where the parent was to cater for uniforms and teaching materials while the government was to cater for school infrastructure and teachers. However, this situation was reversed when the government introduced the Free Primary Education (FPE) policy in 2003 and Kenya is likely to achieve this goal of UPE by 2015 (GoK, 2005). Uganda, Kenya Malawi and Tanzania have eliminated formal school fees in line with the Millennium Development Goals (MDGs) of making primary education accessible to all. Of all the sub-sectors of education in Kenya, the primary level is perhaps the sub-sector with the highest rate of return (World Bank, 1990). This is in light of the observation that it is associated with increased productivity of a country's citizens, enhanced innovative

ability of workers, crime reduction, high level of environment conservation at the grassroots level, enhanced social cohesion and positive neighbourhood effect.

These benefits also accrue from the post primary level of education. However, it needs to be realized that primary education is not only accessible to most people in the population but its graduates readily take up jobs in the informal sector (World Bank, 1990). It is in realization of the critical role that primary level of education plays that this sub-sector has continued to receive more budgetary allocations in Kenya as shown in Table 1.

Table 1: Estimates of Recurrent Expenditure on Education in Kenya

Financial Year	Primary	Secondary	Tertiary	Total	% used on primary Education to total expenditure in education
1985/1986	1745.20	421.35	359.66	2526.21	69.10
1998/1999	2180.00	322.68	660.37	3163.05	68.92
2000/2001	1052.02	706.99	5931.32	7690.33	13.68
2002/2003	4117.69	720.07	7937.80	12775.60	32.23
2004/2005	7719.70	1299.30	7803.00	168822.0	45.89
2006/2007	7746.50	1019.00	2819.00	11584.5	66.90
2008/2009	9668.40	12472.40	2884.30	18533.59	42.49

Source: Eshiwani, 1993 & Kenya Economic Survey, 2009(in millions of Kshs.)

Table 1 reveals that the primary level of education has been receiving a big fraction of the education budget since 1985. For instance, estimates of expenditure in the sector were almost 70 percent of the total education budget in the 1985/1986 financial year. The figures however depict a downward trend between 1985 and 2003.It is during this period that the cost sharing policy was introduced at the primary education sub sector. Nonetheless, expenditure seems to have picked in 2004/2005 financial year where the estimated investment was about 46 percent of the total expenditure in education. This is attributable to the introduction of tuition free primary education (FPE) in the year 2003 which aimed at increasing access to primary education. (GoK, 2009).

In spite of the efforts made by the government to enhance enrolment in primary schools in 2003, lack of adequate planning before the free primary education programme was implemented has occasioned a number of flaws that tend to threaten full realization and sustainability of the programme (MoEST, 2002_b). In particular, high level of enrolment in public primary schools occurred. The number of students enrolling rose from 5 million to over 7 million pupils in 2003, which translated to 17% increase representing a Gross Enrolment Ratio (GER) of 99%. The high GER has tended to lower the quality of education in the schools (UNESCO, 2005). This is because teachers in some cases are hard pressed to cope with large numbers of learners that have increased disproportionately without commensurate expansion of teaching and learning resources. As a result, some learners have been forced to sit on the floor. This has adversely affected the learning outcomes and teachers' morale in public primary schools. (Thiong'o, 2006).

Quality teaching and learning resources in education cannot be attained in an environment that is over stretched in regard to teaching/learning materials, teachers and physical facilities. This is in view of the fact that the teacher cannot address the needs of individual learners. Consequently, the slow learners cannot perform well. Furthermore, the high pupil-teacher ratios also tend to exhaust teachers. Inadequate teaching/learning resources will reduce the teachers' interaction with the pupils. As noted by Thiong'o,(2006), many schools in the slums of Nairobi Kenya are striving to cope with 100% or more increase in numbers. The average class size had risen between 50% and 70% with only one teacher per class. This scenario affected the teachers' output and by extension learning resources. For instance UNESCO (2005) report notes that, in congested learning environments teachers will tend to give few assignments. Moreover, they are likely to ask pupils to exchange books and carry out the marking exercise since the books may be needed in the next lesson. As a result, the teacher may end up not assisting slow pupils (Kigotho,2011).

As noted by the GoK (2008), Nyandarua North District was faced by the challenge of increased numbers. In some schools they were forced to subdivide classrooms to cater for the increased numbers as the school committees struggled to build more class rooms. Another challenge in the district was the inadequacy of qualified teachers. In order to make education accessible and to cater for the large numbers, the government

started schools near towns on small land parcels, resulting in over stretched physical facilities (GoK, 2008).

The number of pupils in 23 public primary schools in Ndaragwa Division stood at 9,284 out of which 4,753 were boys and 4,531 were girls (GoK, 2008). This high number of pupils in few schools was also likely to cause the same problems that were noted by UNECSO (2005). The report cited the following problems: overstretched facilities, overcrowding in schools, inadequate teaching/learning resources and high pupil-teacher ratio. A situation that is likely to affect the quality of teaching and learning in the division. The study therefore sought to establish the perceptions of teachers on the adequacy and quality of teaching and learning resources under FPE in this division. Perceptions of an individual will be influenced by the value that is associated with an object or service (Cowan, *et al*.,1978). In view of the foregoing, the expected gains from the free primary education programme are likely not to be fully realized, if these challenges facing the FPE programme are not addressed.

1.2 Statement of the Problem

Introduction of FPE in Kenya was grounded on the fact that there were many pupils who had been unable to access primary education due to the cost sharing policy that had been implemented in 1980s. Since inception of FPE the number of pupils in public primary schools in Ndaragwa Division, Nyandarua County has been increasing without the increase of the number of schools. This situation is likely to have caused inadequacies and quality of the teaching and learning resources. However, it is not clear how the public primary school teachers have perceived the adequacy and quality of teaching and learning resources under FPE in Ndaragwa Division. This study was therefore set to establish the primary school teachers' perceptions of the adequacy and quality of teaching and learning resources under free primary education in public primary schools in Ndaragwa Division Nyandarua County, Kenya.

1.3 Purpose of the Study

The purpose of the study was to establish the primary schoolteachers' perceptions of the adequacy and quality of teaching and learning materials, physical facilities, teachers and the role played by the school management committees under free primary education in public primary schools in Ndaragwa Division Nyandarua County, Kenya.

1.4 Objectives of the Study

This study was guided by the following specific objectives:

(i) To determine the primary school teachers' perceptions of the adequacy and quality of teaching /learning materials in public primary schools under FPE

(i) To determine the primary school teachers' perceptions of adequacy and quality of physical facilities in public primary schools under FPE.

(ii) To determine the primary school teachers' perceptions of the adequacy and quality of teachers under FPE.

(iii) To determine the primary school teachers' perceptions of the role played by school management committees under FPE.

(iv) To compare the Head teachers' and the class teachers' perceptions of the adequacy and quality of teaching learning resources under FPE.

1.5 Research Questions

This study was guided by the following Research Questions:

(i) What are the primary school teachers' perceptions of the adequacy and quality of teaching /learning materials in public primary schools?

(ii) What are the primary school teachers' perceptions of the adequacy and quality of physical facilities in public primary schools?

(iii) What are the primary school teachers' perceptions of the adequacy and quality of teachers in public primary schools?

(iv) What are the primary school teachers' perceptions of the role played by school management committees in public primary schools?

(v) Do the head teachers and class teachers have different perceptions of the adequacy and quality of teaching and learning resources in public primary schools?

1.6 Significance of the Study

This study was expected to provide information to the MOE on the primary school teachers' perceptions of the adequacy and quality of teaching and learning resources under the FPE programme in public primary schools in the Division. The study specifically focused on the head teachers and class teachers' perceptions on the adequacy and quality of: teaching learning materials, physical facilities, teachers, and the role played by the SMCs. The findings of this study are expected to add to the existing pool of academic and scientific knowledge in this region. Moreover, the study may provoke thought in other researchers who may in future carry out further studies on the FPE programme designed to improve on the effectiveness of FPE.

1.7 Scope of the Study

The study was confined to the primary school teachers' perceptions of adequacy and quality of teaching and learning resources under FPE in relation to adequacy and quality of teaching/learning materials, adequacy and quality of physical facilities, adequacy and qualification of teachers and the role played by the SMCs.

1.8 Assumptions of the Study

The study was carried out with the following assumptions in mind:

(i) The FPE roll out in all public primary schools in Ndaragwa Division was uniform,

(ii) Public Primary schools in Ndaragwa Division have equal educational opportunities whether in rural or urban settings,

(iii) Teaching and learning resources are evenly distributed in all public primary schools in the Division.

1.9 Limitation of the Study

This study had the following limitations:

(i) Some teachers had wanted to portray a positive picture of the school and gave information that may not have been accurate. This was cushioned by the researcher firs talking to the respondents before administering the questionnaires and assured them that the questionnaires were purely for study but not for any form of evaluation.

(ii) Frequent transfer of teachers lead to unreliable information presentation. This was addressed by administering the questionnaires to both the new and old teachers in the school.

1.10 Definition of Terms

The following terms have been operationalized within the context of this study:

Adequacy: Refers to enough of what you need. In this study, it referred to good enough in quantity of teaching learning resources to enhance quality education.

Educational Zone: This referred to an area within a district set out to enhance easy implementation of educational policies by the ministry of education.

Effectiveness of FPE: Referred to the extent to which learners going through the FPE programme attain the desired academic and socio-economic goals.

Effectiveness: Successfully producing the results that you want. In this study, the focus was on the extent to which FPE has accomplished the desired results or the extent to which the set goals or objectives of the FPE programme has been accomplished since inception in 2003.

Free Primary Education: In this study, referred to class one to class eight learning funded by the government where learning/teaching resources are provided by the government.

Kenya Certificate of Primary Education (KCPE): It is the final examination administered to primary school pupils in Kenya to mark the end of the primary cycle of education as well as allowing them to precede to secondary level or post primary school artisans' courses.

Learning Environment Ratio: This referred to the number of pupils in a school relative to the teaching/learning resources.

Learning Outcomes: These are the academic and social gains accruing to pupils as they go through the FPE programme.

Perception: Ability to notice or understand something. In this study, it referred to the cognitive process of gathering information from the FPE environment and assigning meaning to it, which then, reflected way public primary teachers perceived the quality and adequacy of the teaching and learning resources under FPE.

Physical Facilities: This was a resource to be measured it included classrooms, workshops, teachers' offices, ICT equipment, sanitary facilities, desks and playing grounds

Primary Education: It is the elementary level of education for children aged between six to thirteen (6-13) years.

Pupil teacher Ratio: These are the number of pupils available for every one teacher in a school. Ideal situations call for 40:1

Quality Assurance (QA): It is an arm that checks goods and services as they are being produced to make sure they are of the set standards. In this study, it referred to an arm of the ministry of education whose officers move from school to school to supervise on quality teaching/learning resources and assessing challenges facings the FPE programme.

Quality Education: In this study, it referred to the teaching-learning processes that measure to the expected Kenyan Government standards of education.

Quality of Teachers: Something that is typical of a person. In this study it referred to a teacher with the right pedagogical skills, with abilities to control the class, keep proper student records and duty conscious.

Quality of Teaching and Learning: Teaching/learning processes that are of high standard. In this study, it referred to the accepted Kenya standard of imparting relevant knowledge and skills to pupils using available resources.

Teaching/learning materials: It referred to a resource that was measured it included textbooks, charts, maps, chalks, black/whiteboards and stationeries for both teachers and pupils

Teaching/learning resources: In this study, it referred both human and non human supplies needed to impart knowledge to learners through a school.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter covers a brief history of the FPE, background and objectives of FPE in Kenya, impact of FPE on enrolment and quality of education and factors likely to influence pupils learning outcomes. Also covered is the concept of perception, theoretical framework and the conceptual framework.

2.2 Historical Background of Primary Education in Kenya

Universal primary Education (UPE) is an international development goal which all countries are expected to achieve by the year 2015. The World Conference on education for all held in Jomtien Thailand 1990 is the basis of the current discussion on UPE at the conference, the importance of basic education was recognized. Article 1 of the World Declaration on EFA adopted at the conference clearly states that every child shall benefit from education opportunities designed to meet their learning needs (Social and Religion, n.d). It is on this basis that the Kenyan government introduced the free primary education policy (Mukudi, 2004).

After independence, primary education in Kenya was expected to ensure the provision of functional and practical education that meets the needs of the majority of pupils at the end of standard eight (Sifuna, 1990). Since the achievement of independence in 1963, the government and the people of Kenya have been committed to expanding the education system to enable greater participation. Among the main concerns has been the desire to combat ignorance, disease and poverty. The primary education was also for those wishing to proceed to secondary schools or artisan courses. The main objective of primary education was to prepare all children aged 6 to 14 years to participate more fully in social, political and spiritual wellbeing of the nation in line with the millennium development goals (Government of Kenya, 2005).

Immediately after independence in 1963, the minister of Education appointed an education commission (Government of Kenya, 1964) to survey the existing teaching

and learning resources of Kenya and to advise the government in the formulation and implementation of national policies of education. The commission endorsed an education policy objective, which among others emphasized the need to get free primary education.

The KANU manifesto of 1963 committed the party to offering a minimum of seven years primary education (Government of Kenya, 1979). Despite giving priority to higher education, the party still reminded its citizens on its commitment to providing seven years of free primary education and noted that, in working towards achieving that goal, it had improved most teaching resources through government grants. School enrolment had risen to 70% of the school age children (Sifuna, 1990). The structures set forth during independence were expected to ensure that primary education plays a functional role in the betterment of the African child (Oketch *et al.*, 2010; Omoke, 2011).

In 1971 a presidential decree abolished tuition fees for districts with unfavourable geographical conditions. The 1973 decree took the country much closer to achieving the long awaited universal free primary education by providing free education for those in standards one to six in all districts of Kenya. At the time of this 1973 pronouncement, the country was already short of trained teachers. The primary teaching force stood at 56,000 out of whom 12,600 were professionally unqualified which in this study is believed to affect the teachers' perceptions of the adequacy and quality of teaching and learning resources. In 1975 an additional 25,000 teachers were needed for the new classes. By 1975 the number of unqualified teachers stood at 40,000 out of a teaching force of 90,000 (Sifuna, 1990).

Subsequent decrees abolished school fees in primary education (Sifuna, 1990). The aim of free primary education programme was to provide more school opportunities. This is because payment of school fees had prevented a large proportion of the children from attending school. Before the 1973 decree on free primary education 64% of schools going age children were enrolled in schools (Sifuna, 1990). The decree providing free education to children in standards one to six was one of the most dramatic political pronouncements. Nonetheless, the decree took planners and the public unaware.

In January 1974, the Ministry of Education had to rethink on priorities in order to cope with the staggering rise of pupil enrolment (MOEST, 1987). Since the programme was unexpected and not in conformity with the projected estimates of the Ministry of Education, the primary school systems faced numerous problems from 1974. With the enlarged enrolment, a countrywide building programme had to be launched to cope with the extra classes. Planners had a difficult task of assessing the situation. To cope with the problem, school committees imposed a building fee for each child, which varied from one district to another (Bogonko, 1992). In most cases it turned out to be higher than the school fees charged prior to the decree. This frustrated many parents. The supply of teaching and learning resources also underwent a serious strain since its distribution was centralized in the early 1970s; a factor that made it rather difficult to dispatch them to most of the primary schools (MOEST, 1987)

The programme encountered a number of problems right from the start. For instance, many pupils enrolled in primary schools than usual in almost all districts which lead to a strain of the physical facilities available. Eventually the situation reverted to square one when school committees decided to raise a new school levy under the disguise of 'building fund (Bogonko, 1992). The newly instituted building fund was not meant to be a permanent feature but purely spontaneous reaction to an emergency. However, it turned out to be permanent. The government played little or no role in the exercise but was happy that school committees managed to implement the free education programme without heavy cost on the government (Bogonko, 1992). The effects of government intervention in primary education and the implementation arising out of it made primary school education much more expensive than before. After the institution of building fees the cost of schooling quadrupled in many areas (Government of Kenya, 1981).

Kenya has targeted universal primary education since its independence this is in line with the MDGs. In order to achieve such a goal, the country reintroduced FPE in 2003 which had been proposed by previous educational commissions and enrolments dramatically increased. Majority of the people assume that this is the first time Kenya had introduced free primary education , however (Larkey and Maynhard, 2008, Mukundi 2004) remind us of the presidential decree in 1971 abolishing tuition fees in

an attempt to increase the number of students entering class one and to reduce the dropout rate from the schools. Somerset 2007, states that, before the advent of free primary education, Kenya's education enrollment and completion rate was wanting. In provinces such as north eastern and eastern, only 20% of the population showed signs of education. The dropout rate in rich counties and regions such as Central was at an all-time high. Majority of the drop outs cited lack of school fees as the reason for not continuing with education.

The policy on FPE however did not satisfactorily improve the education provided in terms of adequacy and quality (Sawamura & Sifuna, 2008). Oketch*et al.,* (2010) for example states that at the time, the teaching force was severely marginalized with only 56,000 registered teachers; 12,000 of whom were not properly trained or educated. With the decree it became necessary to employ at least 25,000 more teachers although this was never done. The programme encountered several challenges which were not planned for in the initial implementation. The initiative caused a high increase in the number of pupils enrolled in primary education, with some experiencing as high as a 200% increase in enrollment (Tooley and Stanfield, 2008; Lucas and Mbiti, 2012). The result was that majority of the physical resources such as classes and other learning facilities were severely strained. The authors indicate that as the physical facilities became more strained and the access to financial resources to avert this situation became limited; school heads introduced a building fee charged to students. In their research, they found that in majority of the cases, the building fee was much higher than the previously abolished tuition and school fees. The result was that what was meant to make education more accessible and affordable, instead made it more expensive and beyond the reach of the majority masses in the country (Tooley and Stanfield, 2008; Lucas and Mbiti, 2012).

In January 2003, the response was overwhelming in many schools, the head teachers found themselves with more children to enrol than their capacity could hold. Due to the limited space and facilities, the heads turned many children away (Government of Kenya, 2003). Of course, many parents were disappointed and they kept moving from one school to another as they sought places for their children. Since the government had not given an age limit, even those who were over age were enrolled and this worsened the congestion in schools. The main objective of FPE programme was to

provide more school opportunity especially to the poor communities (MOEST, 2002).Among the many objectives of primary education, free primary education was to ensure that each school going age child is in school to receive the basic education. Despite the fact that the government has invested over 27 billion since the programme started not all children, have been able to reap the benefits from FPE(MOEST,2002) due too inadequate physical facilities, inadequate teaching and learning materials, lack of sanitary facilities for girls and irrelevant curriculum; high poverty levels, HIV/AIDS scourge among others.

However, while free primary education has increased participation, it has at the same time created considerable problems. Mathooko, 2009 indicates that more than 30 billion was invested in FPE, however, inadequate facilities, inadequate teaching and learning materials, lack of sanitary facilities, teaching of irrelevant curriculums and high poverty levels within the counties have crippled the programme.It has exacerbated the problem of teaching and learning resources. As a result of the high influx of new pupils, class rooms are congested and overstretched physical facilities. Therefore, while appreciating the efforts made by the government, it is imperative that these issues that are preventing provision of adequate and quality teaching and learning resources be addressed (Social and Religion, n.d).

2.3 Financing of Primary Education in Kenya

Primary Education in Kenya is universal and free but not fully compulsory (MOEST, 1987). Due to high growth in population and rising cost of life in general, the government adopted cost sharing policy to enable it provide education for all school-going children throughout the country. In the implementation of FPE the MOE established a system in which all the 18,000 public primary schools were to receive capitation grants straight from the Ministry through bank accounts (Sawamura & Sifuna, 2008; Oketch and Ngware, 2010). The annual amount was Ksh. 1020 per pupil earmarked for purchasing instructional materials, textbooks and note books as well as repairing of school facilities and to ensure quality assurance. The total grant amount was determined by the number of pupils enrolled (Oxfam & ANCEFA, 2004). In Ndaragwa division the government allocated Ksh. 9,469,680 for funding the FPE in 2011 which is approximately Ksh. 1,020 per child per annum for a population of 9,284 public primary pupils. This money is given in two categories, for general

purpose and for school instructional materials (Government of Kenya, 2008). Parents pull resources together as a community to construct facilities while the government supplements by providing teachers, teaching/learning materials, supervisory and advisory services which generally constitutes the largest share of its budget (MOEST, 2002a).

Omwami and Omwami, 2010 states that Kenya's unique structure of FPE required other measures directed at sustaining school attendance and especially in the rural and marginalized areas, these are: school feeding programs which entice students to attend school every day, improvement of healthcare access and protection of the girl child. however, even with all these incentives, it is vital for policy makers to eliminate any form of payment demanded by schools from the students: this includes, building funds, student levies and examination fees. This is to curb what happened way back in 1974, when the government banned tuition fees, and all the other costs rose astronomically resulting in an increase in the dropout rate (Omwami and Omwami, 2010; Muyanga *et al.,* 2010).

The government has partnered with several education centered organizations (Concern, 2007). DFID, SIDA, the World Bank, CIDA and UNICEF have played a crucial role in addressing the gaps that stem from these policies in the country. However, the country's reliance on foreign aid and NGOs has crippled the independence required for FPE policies to succeed and become a benchmark for other countries (Muyanga *et al.,* 2010)

According to UN Millennium Project (2005), some key principles guide education policy makers in making universal primary education funding successfully. Policy makers should eliminate any form of school fees such as building fund, students' levies and activity fees so as to increase enrolment (World Bank, 2003). This was the case in Uganda where it rose from 3.4 to 5.7 million and in Tanzania enrolment increased by 1.5 million pupils (Coalition for Health and Education Rights, 2012). In Kenya, in 1974 school fees was eliminated but the other fees quadrupled the cost of primary schooling to parents resulting in increased dropout rate (World Bank, 2000).

2.3.1. Comparisons across Selected Countries in East and Central Africa.

In Kenya, Lesotho, Malawi, and Uganda, FPE led to a large influx of children into the schools, which resulted into an "access shock." The shock resulted into classrooms that were overcrowded, children learning in double and triple shifts, acute shortages of teachers and teaching and learning materials like textbooks (Avenstrup, Liang, & Nellemann, 2004), and large numbers of overage pupils who should have been taking adult education classes instead of being in the same class with 13-year-olds who would have been their children or grandchildren. According to Avenstrup *et al.*, (2004), in Lesotho, Malawi, and Uganda, the public response elicited with the policy pronouncement was far greater than anticipated. For instance, in Lesotho, enrollment into Grade 1 rose to 75% in the first year, which was far much higher than the projections by the Ministry of Education and Training, which stood at 11%. In Malawi, enrollment levels rose by 68% in 1994—the first year of FPE—yielding a gross enrollment rate of 108%. In Uganda, enrollment increased by 68% in 1 year, bringing the gross enrollment rate to 123%. However, the increase in Kenya was up by 22%, from 5.9 to 7.2 million, resulting in a gross enrollment rate of 104%. The increase in enrollment saw an increase in demand for teachers in these countries. However, there was insufficient shared knowledge in approaches for training teachers to fulfill their demand. More recently, some of these countries have adapted new methodologies, but only few educational systems in SSA countries have completely adapted resource management to include the education for all paradigms.

2.4 Free Primary Education in Kenya

Public demand for universal primary education was high as it was one of the campaign strategies for independence. To many people, FPE did not imply a corresponding rise in taxes as it resulted into increase in taxes (Bogonko, 1992).The presidential decree for FPE to children in classes one to six played a dramatic stride in the primary education sector. It took all stakeholders by surprise in the education sector and related fields such as planners in education, finance and the public at large all had to think in order to cope with the large numbers of pupil enrolment which rose by one million above the estimated 400,000 in 1973 (Sifuna, 1990). As enrollments increased, facilities and resources within the schools became limited. In some cases,

head teachers were forced and still are forced to turn away some enrollees (Government of Kenya, 2003).

Despite the presidential decree for FPE to children in classes one to six, standard one enrolment rose to 85% by 1978 and 15% had not enrolled(Bogonko,1992).Given the high rate of drop out at different class levels, the objective of 100% FPE was not foreseeable as anticipated by the government (Bogonko,1992).

The UN Millennium Project (2005) highlights measures of sustaining free primary school programmes by developing counties, Kenya included. School feeding programs benefit children by creating incentives to enrol in and attend school, improve the pupils health and educated more girls. Offering meals at schools is an effective way of encouraging children who are poor and chronically hungry to attend classes. A randomized control study in Kenya, demonstrated that children's school participation was 30% higher among pupils attending schools with feeding programs and adequate teaching/learning resources (Vermeersch, 2002). World Food Programme case studies in Cameroon, Morocco, Niger and Pakistan have documented strong improvements in enrolment and attendance in return to provision of meals. School with adequate and quality teaching/learning resources, and with a health program such as deworming and iron supplementation increase school attendance, and raise scores on tests of cognition or school achievement (World Food Programme, 2001). The World Health Organization (WHO, 2003) has identified worm infections as the greatest cause of disease among 5 – 14 year old children. In Kenya school based mass treatment of children for hookworm reduced pupil absenteeism by one quarter (Miguel and Kremer, 2003). Deworming is safe, inexpensive and easy to administer by school teachers and community workers with basic training (Awasthi, Bundy and Savioli, 2003).

Another way of ensuring free primary education is achieved is by breaking the cycle of poverty and illiteracy by educating mothers these leads to sustained increase in education attainment from one generation to the next. Studies from Africa, Asia and Latin America over the past 25 years reveal that mothers' education is a strong and determinant factor of their children's primary school enrolment and completion. Studies from Egypt, Ghana and Kenya show that mothers with a basic education are

more likely to educate their children, especially their daughters at primary and beyond (Bhalla, Saigai, and Basu, 2003).

2.5 Implementation of FPE in Public Primary Schools in Kenya

In Kenya, the 2003 FPE program was not the first initiative aimed at achieving UPE. It was first introduced in the country in 1974 when the government at the time abolished the school fees for Standards 1 to 4. The elimination of school fees was extended to Standards 5 to 7 in 1978. Subsequently, it was reintroduced in 1979 and recently in 2003. These school fee abolition initiatives had significant impact in increasing primary school enrollments, particularly for Standard 1 in 1981 (Ohba, 2009). However, scholars argue that 1 to 2 years after abolishing tuition fees in 2003, enrollments fell and dropout rates rose (Oketch& Somerset, 2010).

Experts attributed this phenomenon to declining quality of education due to a massive surge in enrollment, overcrowding of classrooms, and lack of textbooks and shortage of trained teachers (Oketch, Mutisya, Ngware, & Ezeh, 2010). FPE led to a large influx of children into the schools, which resulted into an "access shock." The shock resulted into classrooms that were overcrowded, children learning in double and triple shifts, acute shortages of teachers and teaching and learning materials like textbooks (Avenstrup, Liang, & Nellemann, 2004), and large numbers of overage pupils who should have been taking adult education classes instead of being in the same class with 13-year-olds who would have been their children or grandchildren. The overall objective of FPE in Kenya was to achieve or at least seem to achieve the millennium development goals (Herz & Sperling, 2003). Education received the highest share of monies allocated in the country's budget, closely followed by the health sector. The structures laid down by the government and its advisors in the education sector, worked towards achieving the following objectives:

(i) To make education a right for all Kenya citizens as well as provide an opportunity through which all citizens can improve their economic and social welfare and participate in public life

(ii) To reduce poverty: economic and social development is dependent on literacy. According to Ndege (2008) 40% of the income from wages and also farm income increases with education which reflects directly towards a community's economic

and social development. Orodho (2014) further indicate that education of former generations reflects positively on future generations. For example, mothers who have a higher education or have at least received basic education are more likely to educate their children at primary and beyond.

(iii) To reduce maternal mortality: women with basic education are able to understand the benefits of seeking medical attention during pregnancy and therefore reduce the child and maternal mortality rate. In addition, they understand much more easily the concepts and benefits of family planning methods which reflect positively not just on the health of the mother but also the children (Kes *et al.,* 2015).

As a testimony of commitment towards making the new initiative of FPE successful, the government of Kenya invested a minimum of 27 billion shillings into the programme. The World Bank has recently approved a grant of $50 million and DFID has provided £13 million for the program. GTZ, JICA and the WFP are also contributing to the sector. In addition to instructional materials, there is a focus on national financial and general management training, to enable new responsibilities to be undertaken effectively at national, county and school levels. Other investments in capacity building are also planned, including for an educational management information system and for school-based teacher development. Complementing such individual components, is assistance being given toward the development of an overall strategic framework and plan for the sector (Onsarigo, 2012).

The findings of one school of thought(UNESCO, 2005) views that human beings are inherently lazy, without serious and proper supervision they may not carry out their duties properly. A report by UNESCO ranked teachers in Kenya as the laziest worldwide. With this kind of findings, continuous and regular supervision in public primary schools should be conducted. Schools with proper management and regular supervision end up doing well and as a result influence the pupils learning outcomes.
Schools in the urban areas, in spite of adequate facilities they are very close to education offices and therefore school inspection and supervision is regular unlike those schools in the remote rural areas where the officer may fail to reach due to lack of transport and impassable roads.

Successful implementation of FPE requires a strong National commitment, expressed in the legal and institutional frame work as well as budgetary outlays to the sector of education. A commitment to compulsory FPE signals high that the nation's leaders place high priority on education as a central pillar of development and supports healthy debate about what constitutes education, how it can be funded and managed (UNICEF, 2005).

2.6 Enrolment and Quality of Education under FPE in Kenya

Available evidence from the Ministry of Education, Science, and Technology (MoEST) shows that the current FPE policy has led to a significant increase in primary school enrollment in the country, from 5.9 million in 2002 to 7.2 million in 2003 (MoEST, 2004). Consequently, the number of enrolled pupils surpassed the available human and physical facilities in the 18,000 public primary schools in Kenya. Moreover, the teacher-to-pupil ratio rose from the recommended 1:40 pupils per class to 1:60 (Majanga, Nasongo, & Sylvia, 2011; Ngware, Oketch, & Ezeh, 2011). This further exacerbated the difficulty of delivering lessons in the classrooms for teachers. Large classes incapacitated the teachers' ability to organize and manage classes (Alubisia, 2005), thereby impairing the ability of teachers to provide attention to individual pupils (Wax, 2003). This led to deteriorating quality of education, one of the major challenges that eroded the initial gains and became a great concern to teachers (Majanga *et al.*, 2011; Ngware *et al.*, 2011; Oketch, Mutisya, Ngware, Ezeh, & Epari, 2010; UNESCO, 2005).

At one point, teachers were asked to teach in shifts. We assert that teachers were reduced to inputs into the teaching and learning process, whose involvement in the FPE policy that was going to impact on their workloads was not necessary. Moreover, inadequate resources compounded teachers' problems in the era of FPE, with only a half of all the classrooms in Kenya had chalkboards in the classes that were visible from all parts of the classroom (UNESCO, 2005). This, together with inadequacy of resources like learning supplies, furnishings, and appropriate infrastructure, led to teachers' incapability to fulfill their mandate in various classrooms across the country.

Large class size notwithstanding, teachers continue to grapple with increased heterogeneity among pupils in terms of age and ability. A study carried out by UNESCO (2005) showed that about 44% of the pupils who were enrolled in schools in Kenya as FPE was introduced were overage by 2 years.

In addition, the FPE initiative was more of a declaration of political expediency, with rapid implementation as the main priority (Somerset, 2009) rather than involving all education stakeholders. There was neither time to plan for implementation nor time for capacity building for teachers. The capacity building would have been in the form of in-service training for teachers to be able to cope with the complexities of increased numbers into the various schools. No policy initiative succeeds without improved capacity and motivation of those charged with the actual implementation (Darling-Hammond, 1990; Elmore, 1983). This notwithstanding, it is worth noting that FPE was a policy that elicited a lot of excitement among the population, teachers included—a policy that was meant to get all children, irrespective of their family circumstances, into school (Oketch & Somerset, 2010). The excitement was short lived for teachers. Moreover, teachers are not getting the necessary support and guidance from local education officials to ensure the success of the FPE programme. As street-level bureaucrats in the teaching and learning process, it is important to look at how teachers internalize these policies in the process of their classroom delivery and how they can adapt them to the local circumstances in the classroom setting. If teachers are not able to adapt the policy to their local circumstances, they are unable to deliver quality education to the pupils. In short, access to school does not translate into quality education if the teachers' effective control of the classroom is compromised (Abuya, Oketch, & Musyoka, 2013).

The top-down policy formulation and implementation approach to FPE did not have mechanisms to listen to the voices of teachers concerned about the declining quality of education (Sawamura & Sifuna, 2008). In general, the experiences of teachers with FPE policy in Kenya, the challenges they encounter in the classroom, their motivations and its consequence on the quality of education remains less studied. Much of what has been documented in the context of Kenya elates to demand and supply of resources and management of the same (Lewin, 2002); teacher education curricula and its responsiveness to the qualities and perceptions that teachers bring into training (Coultas & Lewin, 2002); who comes for training and how teachers

perceive themselves in relation to teaching, training, and future aspirations (Akyeampong & Stephens, 2002); and the fact that teachers can reflect on their experiences and produce more sophisticated accounts of learning given the right circumstances (Akyeampong, Pryor, & Ampiah, 2006).

2.6.1. FPE and learning outcomes of pupils

In Kenya, the National Rainbow Coalition (NARC) government anticipated teething problems when it rolled out the FPE program in 2003, but it did not put in place the infrastructure to facilitate the implementation of the program and the school system was overwhelmed by the over 2 million children who enrolled in primary schools (Coalition of Pastoralist Child Education, 2004). Because it takes time to train a teacher, and the electoral campaigns ended in December 2002 meant that the number of teachers remained the same in nearly all public primary schools, and the pupil-teacher ratio rose sharply that there are some schools which still have over 100 pupils per class against the recommended 40 pupils. The schools also faced a shortage of desks for the newly enrolled pupils and making slightly well off parents opt to transfer their children from public primary schools to private schools in search of quality education.

Deininger (2003) documents some areas in Kenya where public primary schools pupils still learn while seated on the floor and others under trees. Still many schools teachers admit that they cannot master the faces of all their pupils (Aduda, 2005). Boy (2006) observes that the FPE program is to blame for poor academic standards in public primary schools in Kenya. However, Vreede (2003) notes that the problem of high pupil- teacher ratio is not unique to Kenya as Uganda too experienced similar problems when it introduced free primary education in 1997. In Kenya the enrolment in public primary schools increased from 5.8 million in 2002 to about 7.2 million in 2003 following the introduction of free primary education and stood at 7.5 million by 2004. Despite this, the number of teachers remained unchanged (MoEST, 2004).

Kenya's education system is dominated by examination-oriented teaching, where passing examinations is the only benchmark for performance as there is no internal system of monitoring learning achievements through various levels within the

education cycle. In Kenya, examinations are generally acceptable as valid measures of achievement (Maiyo and Ashioya, 2009). Apart from examinations, there are other forms of assessment such as assignments; continuous assessment tests (CATs) and class debates and discussions. Since the introduction of FPE program, pupil assessment in public primary schools especially continuous assessment tests has stopped (Mbako, 2012). This possibly explains why these schools continue to perform dismally. Large classes have made it impossible for teachers to administer, grade pupil's work and provide feedback on performance (Mbako, 2012).

2.7 Free Primary Education in Ndaragwa Division

Despite the division enjoying FPE enrolment rate of 83% in the public primary schools (Government of Kenya, 2008). The standards of education in Ndaragwa Division may have been declining since 2003 as noted in the District development plan of 2008. This has been assumed to be caused by among other things, the teachers' perceptions of the adequacy and quality of teaching and learning resources which this study sought to establish. The Districts development plan also notes that, teachers complain of the increased pupil teacher ratio and this may lead to a decline on the quality of education in the Division. As a result of this, the division proposes an improvement on its primary schools by reconstructing the poorly constructed schools and building of new classrooms and provision of sanitary facilities and building a resource centre. This is because the school going is expected to increase by over 11,000 pupils by 2012(Government of Kenya, 2008)

2.8 Enrolment and Quality of Education under FPE

Since Free Primary Education was re-introduced by the Government in 2003, the enrolment has continued to soar, hitting an all-time high of 7.6 million in the year 2004, from 5.9 million in 2002. As a testimony to its commitment, the government invested 27 billion in the programme during that period (Lillian, 2006). However, the programme continues to experience serious problems such as an acute shortage of adequate and quality teaching/learning resources. In addition, the heavy curriculum load, and the orientation of the system towards examination all added up to compromised education quality. With large classes manned by fewer teachers, most

public primary schools could not guarantee quality teaching (Lillian, 2006). Given that Free Primary Education was on course, it was imperative that the high enrolment, quality and challenges be conclusively addressed based on selected factors that influenced pupil's learning outcomes in the free primary education in Kenya with the help of the teacher since, the teacher is the key figure in implementing free primary education. Bogonko(1992), for instance established that the ratio of trained to untrained teachers fell from 1:2 in about 1:4 in the post 1973 decree, while teacher/pupil ratio fell from 1:43 in 1970 to 1:55 in 1980.Sifuna (1990) adds that the declining ratio of trained teachers to pupils must have had a negative effect on the quality of education because a teacher had to handle much larger classes than before.

The other major problem was the classroom space and such other facilities like books. These called for huge sums of money in Kenya and almost made Free Primary Education unattainable. In addition, not all the learners who enrol on this programme complete the primary cycle a number of them drop out due to factors such as inadequate teaching/learning resources, harsh learning environment, which may be caused by the domestic duties given to the learner, irrelevant and unsuitable curriculum and social culture pressures among others. Also the HIV/Aids scourge has complicated the FPE initiative because the teachers have found themselves playing the double roles of teaching, improvising the teaching/learning resources and parenting. This may impact negatively on the teachers' perceptions of FPE hence they cannot pay full attention to syllabus coverage. This in turn compromises on the quality education (Bogonko, 1992).

Lack of accountability has also infiltrated this initiative as some head teachers embezzle the allocated teaching/learning resources funds (UNESCO, 2005). The consequences are that, pupils do not get the required teaching and learning resources and this comprises on the adequacy and quality of education offered, it also impacts negatively on the pupils' learning outcomes. Improvement of education and school results ultimately takes place in the classroom. UNESCO (2005) acknowledges that good learning outcomes are associated with teachers who plan for teaching, put into practice what they have learned, correct and remediate student's work regularly.

Low learning outcomes are associated with overcrowded classrooms poor and inadequate resources. The government can increase the number of school age children in schools by creating better management in institutions, provide adequate and quality teaching learning resources, increase transparency and provide better incentives to pupils. Parental involvement in decisions affecting their children's education and the way key institutions functions and provision of teaching learning resources, play an important role in sustaining enrolment. Many countries that perform poorly suffer from institutional weakness, which include low management capacity, non-transparent resource allocation and accounting practices; and substandard human resources policies and practices. Incentives structures fail to reward good performance over bad which create and reinforce weaknesses in institutions. Involved communities are able to articulate local school's needs, hold officials accountable and mobilize local resources to fill gaps and when government responses are inadequate (Black, 1996 & UN Millennium Project, 2005).

Other ways of ensuring FPE quality is improved according to the UN task force are to strengthen the national commitment, improve accountability through local control, improving the quality and availability of the information base, investing in serious evaluation to learn what affects learning outcomes and strengthening the role of civil society organizations and SMCs.

2.9 Factors Likely to Influence Pupil's Learning Outcomes

Statistics on enrolment, completion and learning achievement indicates where a country stands with FPE implementation. Also to be understood is how the FPE has been managed and incentives created for pupils, parents and teachers (UN Millennium Project 2005). Critical also is the level of performance in terms of universal completion and improved learning (Ngala, *et al.,* 2009).

The government can also resort to low cost school construction methods such as setting up open air classrooms (as was the case in the Republic of Korea in 1950's).

Using local materials and local communities to provide labour for the construction of schools (Ayako, *et al.,* 2006). Also, the government should provide free primary education without other levies attached and recover the increasing costs at other levels of the education system (World Bank 2002; Ndege, 2003).Other factors that can

influence pupils learning outcomes is focus on teaching staff (Ndege, 2008) and Teaching/learning materials. Steps to be taken include designing good quality curriculum, in terms of both content and values that are relevant (Wamukuru, *et al.*, 2008), production of books and other teaching /learning material that are cost effective, using local languages and simple foreign languages. Higher text books and chalk availability promotes enrolment and access. Kenya is well advised in her policy of allocating funds for text books for FPE (Ndege, 2008).

The pupil learning outcomes in primary schools include the literacy level and academic achievements, attitudes as well as the level of acquisition of useful social and practical skills. Research has shown that knowledge, skills and attitude, are among the key factors that drive individual performance (Mulama, 2006). The level of education of the parents will greatly affect the learners' outcome. Mulama (2006) notes that, if the parents do not value education, their children will also have a low opinion on education and as a result, this affects the learners' altitude towards education. The learners' role models will contribute greatly on the pupils' learning behaviour. If the learner associates with the learned and educated people as well as those who have succeeded through high education standards the pupil changes his behaviour towards learning. Other factors that may also affect pupils' learning outcome include domestic problems, unstable families will cause stress to children which may adversely affect their learning outcomes. Lack of enough food, ailing parents due to terminal illness and HIV/AIDS will also affect the pupils learning outcomes; child labour will also yield poor learning outcomes of pupils.

2.10 The Concept of Perception

In psychology and the cognitive sciences, perception is the process of acquiring, interpreting, selecting and organizing sensory information. The word *perceptions* comes from the Latin *percepio*, meaning "receiving, collection, and action of taking possession, apprehension with the mind or senses". Perception is the process in which the brain interprets sensations, giving them order and meaning. It is formed from the information collected and the meaning assigned to this information. Through sensation, stimulation of receptor cells (in the eyes, ears, nose, mouth and skin surface) sends nerve impulses to the brain. As soon as the brain receives the

sensations, it automatically interprets or perceives them (Wortman, Loftus & Weaver, 1999). The perceptions of an individual may also be influenced by the value that is associated with the object or service. Cowan, *et al.* (1978) observes that the individual's preferred way of doing things and perceiving in different ways leads to prefer perceptual and behaviour styles that are in turn responsible for attitude formation. This perceptions – attention – transformations – action cycle offers us a model of the individual human being at a particular moment of learning.

According to Wortman *et al*., (1999), there are two schools of thought used in explaining development of perceptions process, that is why people perceive the world as they do. The first one is the empiricist view which holds that perceptions processes are largely a matter of learning. Babies enter the world with little or no ability to see form (ability to see unified patterns), depth (ability to see the visual world in three dimensions), perceptual constancies (the tendency to see objects as having stable properties), and so forth. To them, the world is "one great blooming, buzzing confusion". Only gradually do infants learn adult-like perceptions on the basis of the cues the environment provides.

For example, when a young child leans against an oven for the first time, the skin collects information about the heat of the oven. This information travels automatically and rapidly over the networks of the nerves to his brain where meaning is assigned. He moves away from the oven quickly and fearfully. Since the child had no previous experience, he had no meaning inside him to use in interpreting this new experience. He still has general perceptions of the oven, for example, a hot oven, pain, fear. The next time a child moves towards the oven he may have formed specific perceptions. The more information he/she

gathers on being in contact with an object, he forms specific perceptions that will be followed with an action or no action. In the empiricist view, therefore, knowledge must be imposed on sensory data in order to organize it. Cowan *et al*., (1978), support the empiricist view by illustrating the process of perceptions formation using the following learning cycle

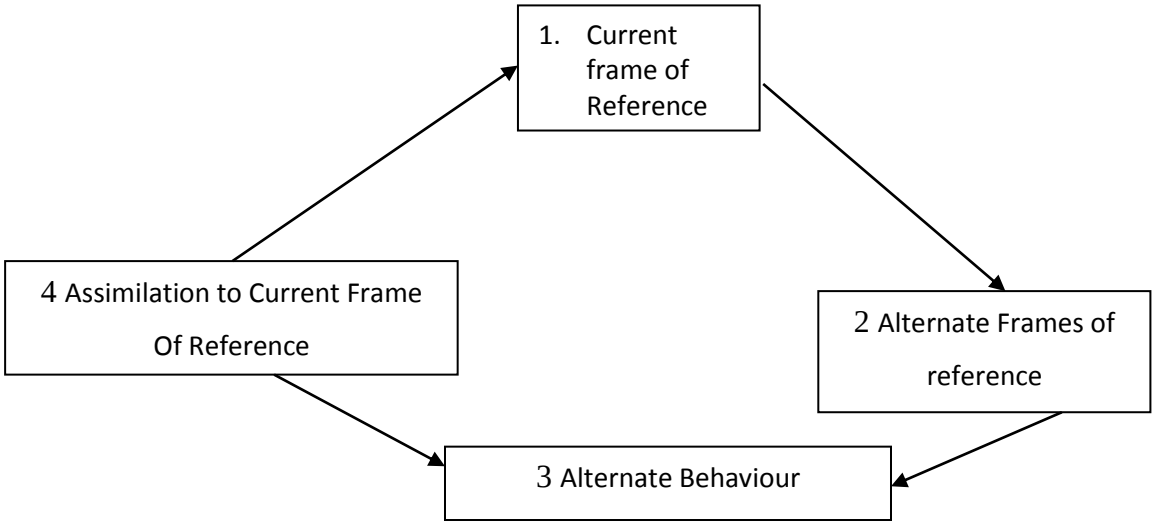


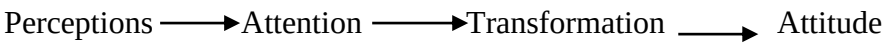
Figure 1: Learning Cycle of Attitude (Source: Wortman et al.; 1999)

From Figure 1, in phase 1, an individual reacts to a stimulus from the environment by taking it into his or her current frame of reference. In phase 2, he/she is presented with an alternate way of looking at stimulus through interaction with others. In phase 3, new action alternatives are generated by an individual because of the new frame of reference. In phase 4, the new perspective and new behavioural alternatives become part of an individual's current frame of reference and behaviour. This model suggests that our perceptions continually changes as a result of new stimulus received from the environment. Perception is therefore not static but a learning process which makes ones perceptions change over time.

The second is the nativist view which maintains that learning alone cannot explain all perceptual processes, and that perception arises as well from the way our sensory system works. The nativist view stresses on the automatic structuring of sensory information. Thus, using the two views, then what we see, hear and feel is partly the result of how our sensory systems are programmed and partly the result of what we have learned (Wortman *et al.*, 1999).

The following diagram shows how an action or behaviour is influenced by the attention given to an object after obtaining the perceptions from the senses. This attention is transformed into an action which is determined by the attitude held by the preceptor. Action and attitude reflects the behaviour such that a person with a

negative attitude towards an object would shun it while one with positive attitude would approve of it.



The illustration above shows the different stages of attitude formation. It starts with perceptions, then attention given to the percept. It is then transformed into a behaviour which is reflected in the attitude or action held by the receptor. Antony (1996) opines that, "as human beings we are unique because of the extent to which our behaviour is mediated by an active construction of the meaning; it cannot be explained by evoking a simple stimuli response." The way information is perceived can only be explained by the cognition or rational thinking theory; or by affect or emotional mode of transformation; or by value or attitudes mode of transformation. However, people do not engage equally in all the three. Marked differences are often because of genetic, temperamental differences and particular social learning theories (Bandura, 1969, 1977).

2.11 Teaching and Learning Materials in Public Primary Schools

Teaching/learning materials available in primary schools have an impact on school results some of these teaching/leaning materials include textbooks, charts, maps black/whiteboards chalks felt pens among many others. Those schools with adequate teaching/learning materials are ranked among the top in academic achievement, teachers from this performing schools end up with a high esteem when the results are released. The feeling of superiority and confidence is aggravated. The publicity and celebration that accompany their schools makes them have a high esteem (Mugumo, 2005). On the contrary, those from the schools with inadequate of the said resources perform poorly and feel inferior and are not confident of themselves. Mugumo (2005) opines that such primary schools' teachers conclude that they do not achieve academically and they form a negative perception of the FPE.

Teaching/learning materials also influence pupils learning outcomes. Steps to be taken include designing good quality curriculum, in terms of both content and values that are relevant (Wamukuru, *et al.,* 2008). The primary curriculum, tries to promote

improvisation of teaching learning materials by encouraging teachers and pupils to use the locally available materials. This will also involve production of books and other teaching /learning material that are cost effective, using local languages and simple foreign languages. Higher text books and chalk availability promotes enrolment and access. Kenya is well advised in her policy of allocating funds for text books for FPE (Ndege, 2008). Some of the set standards on teaching learning materials are indicated in the Table 2.

Table 2
Minimum Instructional Materials Requirements for Primary Schools in Kenya

LOWER PRIMARY (STD 1-4)	
Basic pack of School Stationery	1 per student per year
Chalk	5 boxes per classroom per year
6 core textbooks	1 text book per 3 pupils in each standard
8 core teachers' guides	1 per subject per grade for each teacher
Supplementary Reading books	1 for every enrolled pupil
UPPER PRIMARY(STD 5 – 8)	
Basic pack of School Stationery	1 per student per year
Chalk	5 boxes per classroom per year
6 core textbooks	1 text book per 2 pupils in each standard
8 core teachers' guides	1 per subject per grade for each teacher
Supplementary Reading books	1 for every enrolled pupil
Science Kit for Class 5 – 8	1 per school
Wall Maps of the world, Africa, East Africa and Kenya	1 per school
English Dictionary	1 per 6 pupils
Kamusi for stand 6 to 8	1 per 6 pupils
Atlas for standard 6 to 8	1 per 6 Pupils

Source: Primary School Instructional Materials management Handbook, 2004

2.12 Physical Facilities in Public Primary Schools

When the Free Primary Education was introduced in 2003, schools experienced an influx of pupils. Urban schools and those from economically or agriculturally endowed rural areas naturally had a head start (Mugumo, 2005).

Parents and the community members were able to build extra classrooms, furniture, sanitary facilities, and workshops and provide other requirements. Contrastingly,

schools from the least endowed areas did not have such facilities and as a result the pupils may not fully benefit from the FPE programme (Mugumo, 2005). The ideal situations for some of these physical facilities are: sanitary facilities for girls 1:25 for boys is 1:30 desks are1:3 among others. The government can also resort to low cost school construction methods such as setting up open air classrooms, using local materials and local communities to provide labour for the construction of schools (Ayako, *et al*., 2006).

2.13 Adequacy and Quality of Teachers in Public Primary Schools

The Government had the noble idea to offer free primary education in 2003, but the teacher has found himself with a large class of pupils to handle. Thiong'o (2006) observed that the average class in urban areas had risen from 50 to 60 and 70 with only one teacher per classroom while facilities remained the same (Thiong'o, 2006) As a result of this the teacher is forced to do shift work with separate groups of children in the mornings and afternoon for no extra pay. Due to this problem of overcrowding the pupils learning outcomes may be affected greatly and also negatively influences teachers' perception. The SMCs may find themselves hiring teachers who do not have the right pedagogical skills to handle the pupils and this may lead to compromised education quality.

Steps that can improve on the provision of teachers include shortening the pre-service teachers training cycle, recruit teachers based on content mastery, train teachers on student centered or active learning instructions rather than frontal instructions and measuring students learning outcomes. Implement inexpensive but effective models of in-service teacher training, using master teachers, pedagogical advisors and rural teachers self help networks such as create performance incentives for teachers and pupils' performance (Wamukuru, et al., 2008 & Ngala, et al., 2009). To improve on teacher-pupil ratio the ideal situation is 1:40; pragmatic steps need to be taken by the government such as use of contract teachers in order to reduce the costs of expanding costs and expenditures.

2.14 School Management Committees (SMCs)

A school management committee is a school governing body of parents elected in a general meeting convened for the purpose. It is composed of elected class representatives, representatives of the school sponsors and head teacher who is an ex-officio. The SMCs serve as the official governing body for public primary schools (GoK, 1980). It undertakes critical responsibilities in the proper management and improvement of quality of education. Some of these responsibilities include compliance with the Education Act, oversight and managing the appointment and performance of non teaching staff, development of school physical facilities such as construction of classrooms, sanitary facilities, desks provision, hiring of teachers, organizing education tours for pupils, feeding programs, expanding the school compound and purchases of instructional materials among others(KIE, 2009) .

Due to the high enrolment of pupils in primary schools the government has not been able to recruit enough teachers to manage the influx of pupils. The SMCs has taken it upon themselves to supplement the government efforts by hiring volunteer teachers from the community to bridge the gap of teacher shortage in schools. The SMCs have been accused of having members who are not well qualified to manage the schools due to their low levels of education, lack of managerial skills and not knowing what is expected of them in these positions as a result it may comprises on quality of education and slow decision making processes due to so much consultations.

2.15 Theoretical Framework

This study will be guided by school of thoughts used in explaining development of perceptual process, that is, why people perceive the world as they do. This study will be guided by the Transactional Approach Theory which emphasizes that the environment shapes our perception about an object (Antony, 1996).According to transaction approach theory, a person develops perception through transactions with the environment which results from possible retinal images that one receives. On this basis, a person's experiences determine what the person perceives (Ruch& Zimbardo, 1971).

The theory emphasizes that people approach our world with certain assumptions about reality. Each person develops through transaction with the environment a restricted set of perceptions to handle the infinite variety of possible retinal images that he or she receives. On the basis of these experiences the person makes assumptions about how reality is constructed and it is these assumptions that determine what the person will perceive. The theory holds that perceptual processes are largely a matter of learning. The more information one gathers, the more he forms specific perception. According to the model, our perception continually changes as a result of new stimuli and information received from the environment. Perception therefore is not static but a learning process which makes ones perception change over time.

The relevance of this transaction approach theory and empiricist school of thought to the study is the perception of FPE primary school teachers depend on the amount of information that they receive from the primary school environment about the FPE programme. The primary school teachers interact with the FPE programme and pupils to be taught which form their immediate environment. Out of these experiences they develop their perception of the reality of role of FPE programme in primary schools. This will influence how they will plan for and implement the FPE programme in the institutions. The more information they have about the effectiveness of FPE programme in primary schools, the more apt will be their perceptions about the programme.

2.16 Conceptual Framework

The above theoretical framework will assist in developing the conceptual framework of this study in analyzing the teachers' perceptions on the quality of teaching and learning recourses under FPE in Ndaragwa Division, Nyandarua County of Kenya. It will show the relationship between the independent variables, extraneous variables and dependent variable as summarized in Figure 2. The conceptualization will be based on the fact that the government implemented FPE to address desired goals. Quality of teaching and learning resources constitute the independent variables and perceptions of teachers on the quality of teaching and learning resources will be the dependent variable. However, the public primary school teachers' perceptions will be

influenced by intervening variables such as school location, performance, supervision, number of pupils' age of the school this variables will be controlled by randomization and using independent variables in the design. This relationship between independent, dependent and intervening variables is as summarized in Figure 2:

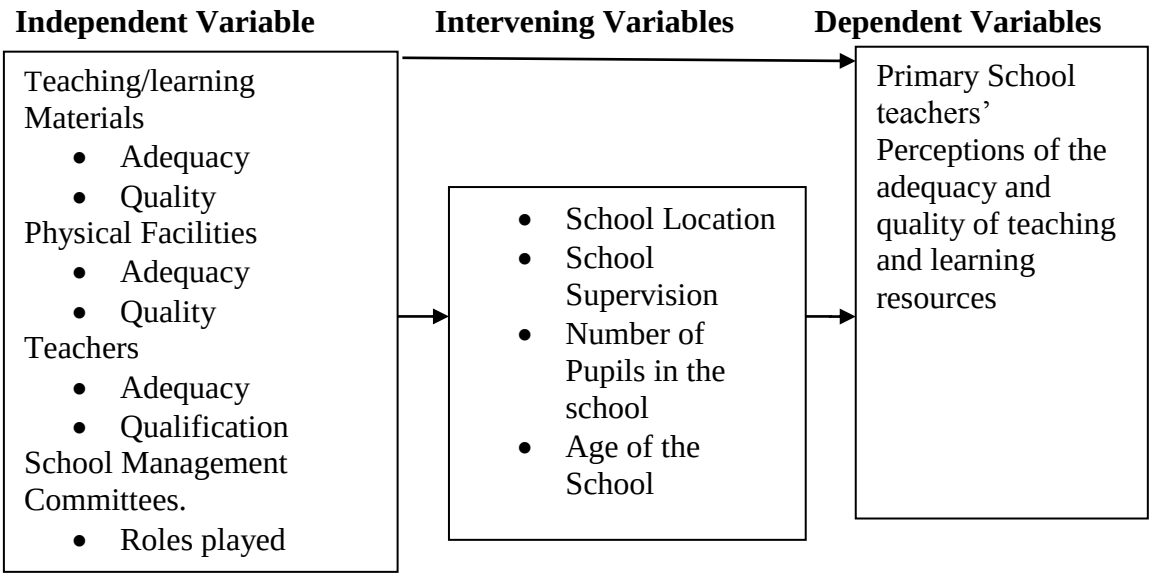


Figure 2: Conceptual framework on the teachers' perceptions of the quality of teaching and learning resources in primary schools

Teaching/learning materials include text books; pieces of chalk, exercise books manilas charts, maps felt pens and rulers, Table 2 shows the minimum required for every level. Physical facilities will include desks sanitary facilities, resource centres, playing fields among others, the level of qualification of teachers and the role played by the SMCs constitute the independent variables which when varied will affect the primary teachers' perceptions of the adequacy and quality of teaching and learning resources positively or negatively. However, the adequacy and quality of these resources and the teachers, perceptions towards them may be influenced by some intervening variables such as school location, school supervision, and school performance, number of pupils in the school and age of the school. These will be controlled accordingly.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter focuses on the research methodology that was utilized in this study. The chapter covers the research design, location of the study, target population, sample and sampling procedures, instrumentation, structure and content of the questionnaire, validity of the research instruments, reliability of the instrument, data collection procedures and data analysis techniques.

3.2 Research Design

In this study, descriptive survey research design was used in an attempt to find out the teachers' perceptions of the adequacy and quality of teaching and learning resources under FPE in public primary schools in Ndaragwa Division. This design was found to be appropriate for this study since it assisted in obtaining factual and perceptual information for the research questions in this study. The design is appropriate for perceptual study since, it helps determine how best the teacher is aware of the FPE programme's success. (Mugenda & Mugenda, 2003).

3.3 Location of the Study

Ndaragwa Division is in Nyandarua County in Nyandarua North Sub-county and comprises three educational zones, these are: Shamata, Ndaragwa East and Ndaragwa west as shown on the map of the County (Appendix E). Ndaragwa Division covers an area of approximately592.2km^2, which is about 0.02% of the whole County. (GoK, 2008).Geographically it lies between latitude 0^o 8' to the north and 0^o 50' south and between 35^o 13' E and 36^o 42' E. The division has moderate temperatures the highest temperatures are recorded in the month of December, with an average of 21^{o}C and the lowest in the month of July, with an average of 7.1^{o}C. Ndaragwa division is the second most populated division in Nyandarua County after Olkalau. Division, (GoK, 2008).

The Division is predominantly an agricultural area, where 85% of the total population rely on agriculture directly or indirectly. Agriculture contributes up to 70% of the total household income. The main crops grown are wheat, maize and vegetables. Dairy farming is also coming up as an economic activity. Parents prefer their children working in their farms than going to school; this has led to many children of the school going age not to be in school (GoK, 2008). This study therefore was appropriate for this area so as to exactly understand from the teachers why many parents kept learners at home despite the government's effort to provide FPE in Ndaragwa Division.

3.4 Population of the Study

The division has 23 schools mainly single streamed, 18 of them located in the rural areas and 5 located in the towns (GoK, 2008). The total population of the teachers in 23 public primary schools in Ndaragwa Division, Nyandarua County, amounted to 298; this included 176 female teachers and 122 male teachers (GoK, 2008). The population used for this study consisted of all public primary school head teachers and the class teachers of standard 1 up to standard 8 in Ndaragwa Division, Nyandarua County, Kenya.

All the subjects in primary schools in the division are taught by different teachers. This means that a class has more than eight teachers each teaching a particular subject, and a class teacher in charge of the class. The teacher who is in charge of the class or the class teacher, takes roll call, is in-charge of class discipline and other activities related to the class academic progression. These were the ones targeted by for this research. The head teachers on the other hand are the chief administrators of the school in charge of teacher discipline and financial management of the schools among other duties (MoE, 2010).

3.5 Sampling Procedures and Sample Size

Two samples were purposively selected for this study, one for the head teachers and another one for the class teachers. The targeted population of the class teachers was 184, one class teacher for every class from standard 1 to 8, while for the head teachers

was 23.The head teachers sample was 23, which consisted of all the head teachers in the 23 public primary schools in the division, while the sample size of the class teachers was 130.

3.6 Instrumentation

Two questionnaires were constructed by the researcher to collect data for the study. The questionnaire covered two categories of respondents namely the, questionnaire for Head Teachers and a questionnaire for Class Teachers. Each questionnaire was divided into five sections, A, B, C, D and E. Section A elicited data on demographic information. Section B elicited data on teaching/learning materials, section C physical facilities, section D on teachers in public primary schools and section E on SMCs. Section B to E, had 5 to 9 closed items on various aspects of the independent variables. The Likert scale was used to rate these closed items.

3.6.1 Validity

Validity is the accuracy and the meaningfulness of inferences which are based on the research results. It is a measure of what is represented under study (Mugenda and Mugenda, 2003). Content validity is a measure of the degree to which data collection using an instrument represents a specific domain of content of a particular concept. The instrument for this study was face and content validated to confirm the suitability of the items in the instrument in relation to the research objectives. In order to determine the face validity of the research instrument; all items were generated from the objectives to ensure relevance and completeness (Babbie, 2007). Expert advice and guidance from my two supervisors confirmed suitability of the items in the instrument in relation to the research objectives.

3.6.2Reliability

Reliability is a measure of the degree to which a research instrument yields internal consistency or stability over time of a research (Mugenda & Mugenda, 2003). For a research instrument to be reliable it must be capable of yielding consistent results when used more than once to collect data from two samples (Mulusa, 1990). A pilot study was carried out in three single streamed public primary schools in the

neighbouring Oljoro-ok Division which involved 27 respondents these are 3 head teachers and 24 class teachers. The school used for the pilot were not used in the actual study. The exercise helped the researcher to enhance the reliability of the instruments used in the study. The purpose was to identify items that were either unclear or open to misinterpretation. Such items were rephrased in a clearer way in order for the instrument to elicit the desired information during the main study. This was done in order to control extraneous influence on the findings due to the subject's prior knowledge of the information being sought by the instrument (Kathuri & Pals, 1993).

In this study the researcher used the Cronbach alpha to estimate the reliability of the two sets of questionnaires that is the questionnaire for the head teacher and for the class teacher. In this technique, reliability was obtained by correlating scores obtained by a group of individuals in a test on the odd numbered items against the scores on the even numbered items (Charles, 1988). Cronbach's alpha was used to test the reliability of the instrument. The instrument realized a coefficient of 0.70, considered to be high by Mugenda & Mugenda (2003) and therefore acceptable for this study.

3.7 Data Collection Procedure

The required data was collected from respondents after being permitted by the Graduate School in order to obtain a research permit from the National Commission of Science, Technology and Innovation (NACOSTI). The researcher then delivered the questionnaires to the head teachers who then guided by the researcher distributed them to the class teachers of the sampled schools. Participants were encouraged to respond to the questionnaires independently and to the best of their knowledge through an introductory letter. Both the head teachers and the class teachers were given three days to fill their questionnaires after which the researcher collected them through the head teachers. All the 23 head teachers completed their questionnaires. However, despite the explanation given by the researcher about the purpose of the study, out of the 184 questionnaires for the class teachers only 130 responded, 54 were non responsive this was attributed to some of these teachers feeling insecure and not taking this study as a priority. Out of the 54 non responsive questionnaires, 15

were incomplete hence consider as non responsive and they could not be used in this study.

3.8 Data Analysis

The data that was collected for this study data was classified into two groups. The first group comprised of questionnaires from the head teachers while the second group consisted of questionnaires from the class teachers. Data collected was first coded for entry into computer and analysed objective by objective to facilitate the answering of the research objectives and questions.

Quantitative data analysis is usually based on numerical measurements of specific aspects of phenomena under study (Brigman and Campbell, 2003). In this study, the numbers and statistical techniques were used to analyse the data using descriptive statistics involving frequencies, percentages and mean. On the other hand, inferential statistics involving the *t*-Test was used to test the significance of the quantitative data. As postulated by Fraenkel and Wallen (2000), *t*-Test is a more appropriate technique for comparing the means of two groups this was used for objective five only. All the questions of this study were tested at significance level set at $p \leq 0.05$.

Data from objective (i) to (iv) was analysed using descriptive statistics while objective (v) was analysed using the independent *t* – test using the Statistical Package for the Social Science (SPSS version 21). The summary of the data analysis showing the research questions, variables used and the statistical tests conducted for this study are given in Table 3.

Table 3
Summary of Data Analysis

Research Questions	Independent Variable	Dependent Variables	Statistical Analysis
1. What are the primary school teachers' perceptions of the adequacy and quality of teaching learning/ materials in public primary schools?	adequacy and quality teaching/learning materials	Teachers' perceptions of the adequacy and quality teaching/learning materials	Percentages Frequencies Means
2. What are the primary school teachers' perceptions of the adequacy and quality of physical facilities in public primary schools?	adequacy and quality physical facilities	Teachers' perceptions of the adequacy and quality of physical facilities	Frequencies Percentages Means
3. What are the primary school teachers' perceptions of the adequacy and quality of teachers in public primary schools?	adequacy and quality teachers	Teachers' perceptions of adequacy and the quality of teachers	Frequencies Percentages Means
4. What are the primary school teachers' perceptions of the role played by SMCs in public primary schools?	Role of the SMCs	Teachers' perceptions of adequacy and quality of SMCs	Percentages Frequencies Means
5. Do the head teachers and class teachers have the same perceptions on the adequacy and quality of teaching/learning resources in public primary schools?	Adequacy and quality of teaching /learning resources in public primary schools	Teachers' perceptions of adequacy and quality of SMCs	Means *t*-test

CHAPTER FOUR
RESULTS AND DISCUSSION

4.1 Introduction

The chapter focuses on the analysis of the research data, presentation of the study results and a discussion of the research findings. The chapter is divided into seven sections, which include:: introduction, characteristics of the respondents, adequacy and quality of teaching and learning materials, adequacy and quality of physical facilities, adequacy and quality of teachers, school management committees, comparison between the head teacher and class teachers perception.

4.2 Characteristics of the Respondents

4.2.1 Category and Gender of the Respondents

The survey covered class teachers and head teachers in primary schools in Ndaragwa division. The data on the category and gender of the respondents is given in Table 4.

Table 4
Category and Gender of the Respondents

	Head Teachers		Class Teachers	
Gender	**Frequency**	**Percent**	**Frequency**	**Percent**
Male	12	52.2	64	49.2
Female	11	47.8	66	50.8
Total	23		130	

There were 23 head teachers and 130 class teachers in 23 public schools in Ndaragwa Division who were interviewed for this study. The class teachers (51 %) were females while the rest were males. The male head teachers were 52 %, while the female ones were 48 %. This is a reflection of the population found in the Division, where the female teacher numbers exceed the males (GOK, 2008).This shows a gender sensitive profession. In 1992, the government advised the TSC hiring board to ensure that each district had equal number of male and female teachers and head teachers. This was after a damning report by Orodho (2014), which accused public schools of having at close to 70% male heads as opposed to 30% female heads, even where such females were more qualified than their male counterparts.

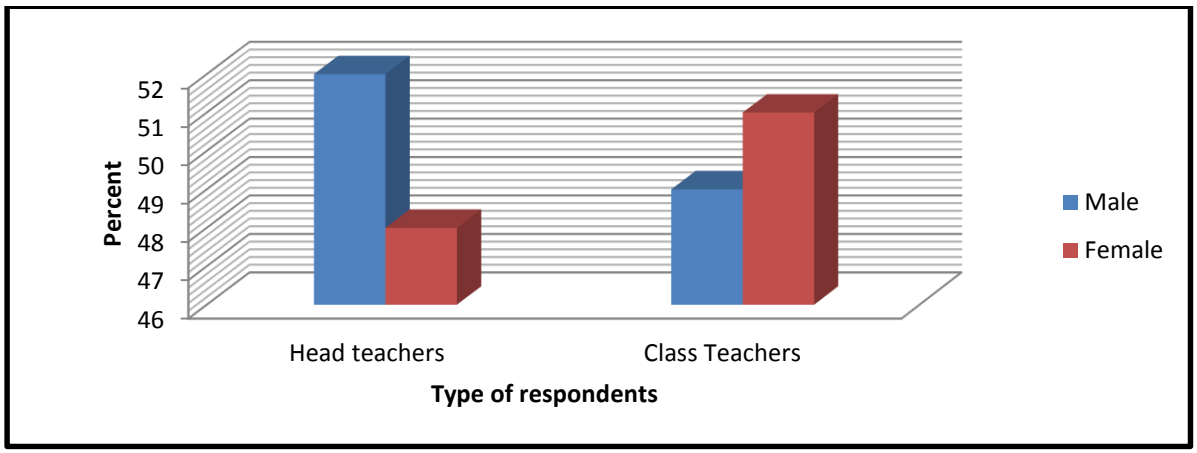


Figure 3: Category and Gender of the Respondents

4.2.2 Age Distribution of the Respondents

The respondents were asked to state their ages, which were then grouped into categories for ease of presentation. The frequency distribution of the age categories of the class teachers is given in Table 5.

Table 5
Age Distribution of the Class Teachers

Age Category (years)	Frequency	Percent
20-30	14	10.8
31-40	36	27.7
41-50	48	36.9
51-60	32	24.6
Total	130	100.0

The Class teachers in the youthful category (20-30 years) who could act as the replacement for the older group were found to be few (10.8 %), while the elderly and experienced teachers nearing retirement (above 51 years) were found to be 24.6 %, and the active and experienced age category between 31 to 50 years was found to be 64.6 %. The low percentage of the youthful group can be attributed to the government policy of non-employment (Oketch *et al.*, 2010) to the curb the rising cost of the government wage bill. The frequency distribution of the Head teacher's ages is given in Table 6.

Table 6
Age Distribution for Head Teachers

Age Categories (Years)	Frequency	Percent
20 to 30	3	13.2
31 to 40	0	-
41 to 50	14	60.8
51 to 60	6	26.0
Total	23	100.0

The head teachers (61 %) were in 41 to 50 years age category, while 26 % were in the 51 to 60 years age category and 13 % were in the 20 to 30 age category.

Generally the class teachers and the head teachers were in the age category (41-50 years), this has two implications; that the teachers are experienced in their teaching profession and also that the work force is made up of older generation at their last years in before retiring. Therefore, because of the experience these teachers may do a double shift to enhance the quality of FPE and maximize on space to overcome the challenge of overcrowding.

4.2.3 Highest Level of Professional Training

The quality of the teachers is an important factor that can affect the teaching /learning in schools either positively or negatively and can therefore influence the FPE programme the core of this study. The quality of the teachers influenced by the level of training he/she has undergone. The respondents were asked to state the highest level of professional training they had achieved. Table 7 gives the levels of training that were attained by the class teachers and their frequency distribution.

Table 7
Highest Level of Professional Training

	Class Teachers		Head Teachers		Total	
	Frequency	**(%)**	**Frequency**	**(%)**	**Frequency**	**(%)**
Untrained	16	12.3	1	4.3	17	11
P1	64	49.2	12	52.2	76	50
Diploma	38	29.2	8	34.8	46	30
Degree	12	9.2	2	8.7	14	9
Total	130	100.0	23	100	153	100

Three levels of professional training were identified among the respondents; they included the P1, diploma, and degree. A group of teachers that had not received any training (untrained teachers) formed 11 % of the teachers. This number of untrained teachers was termed to be high as the sample was only referring to the class teachers. The results reflect the situation that was observed nationally by Oketch, (2010) where the percentage of untrained teachers in public primary schools was 21.4%.

4.2.4 Teaching Experience and Knowledge of FPE

The number of years the class teachers had served as teachers in primary schools was important for this study, for teachers who had served for a period of more than 10 years had a privilege of serving during the implementation period of the free primary education programme. The teachers who had served for a period of more than 10 years also served during the period before and after the implementation of the FPE, and they therefore had experience of the FPE and the period when there was no FPE programme. The number of years served by the class teachers and the frequency distribution is given in Table 8.

Table 8
Teaching Experience of the Class Teachers

Years served (categories)	Frequency	Percent
Below 10	35	26.9
11 to 20	38	29.2
21 to 30	45	34.6
31 to 40	12	9.2
Total	130	100.0

The results indicate that the respondents were in a good position to assess the FPE programme. The class teachers who served before and after the implementation of the FPE were 73 %, while 26.9 % served after the FPE implementation.

The majority of the class teachers (35 %) had served as teachers for a period of between 21 and 30 years, while 29 % had served for a period of between 11 and 20 years and 9 % had served more than 30 years. Therefore the respondents were in a good position to assess the FPE programme, a requirement for this study.

4.3 Teaching and Learning Materials

The provision of quality teaching and learning materials to the schools is important as it can critically affect the effectiveness of the teachers in delivering and the pupils in understanding the subject matter being delivered to them.

The adequacy of the teaching/ learning resources provided under the free primary education programme was used in this study to assess the teachers' perceptions of the adequacy and quality of teaching and learning resources under the FPE programme in Ndaragwa division.

4.3.1 Perception of the Adequacy and Quality of Teaching and Learning Materials

The adequacy of teaching/learning materials was assessed by asking the class teachers to rate the adequacy of the resources using a Five Point Likert scale (1=Very Inadequate to indicate lack of enough materials, 2=Inadequate, 3=moderately

adequate, 4=Adequate and 5=Very Adequate, to indicate satisfactory levels of the materials). The class teachers were asked to rate nine different factors associated with the quality of teaching/ learning materials under the FPE programme.

The factors used to rate the adequacy of the teaching /learning materials provided under the FPE programme included the adequacy of: (i) reference books, (ii) class text books, (iii) blackboards, (iv) chalk, (v) dusters, (vi) stationary, and (vii) resource centre, while the items used to assess quality included: (i) relevant textbooks and (ii) equipped resource centre. The class teacher's perception on the adequacy and quality of teaching and learning materials is given in Table 9.

Table 9
Class Teachers' Perceptions on the Adequacy of Teaching and Learning Materials

Teaching and learning materials	Very adequate (5)	Adequate (4)	Moderately adequate (3)	Inadequate (2)	Very inadequate (1)
Adequacy					
Reference books	0	0	6.9	70.0	23.1
Class text books	7.7	30.0	15.4	33.8	13.1
Blackboards	33.1	52.3	5.4	3.1	6.2
Chalk	4.6	9.2	6.2	48.5	31.5
Dusters	8.5	16.9	8.5	30.0	36.2
Stationery	16.2	31.5	9.2	25.4	17.7
Resource centre	13.1	26.2	15.4	27.7	17.7
Quality					
Relevant Textbook	11.5	23.8	10.0	40.8	13.9
Equipped resource centre	10.8	16.9	10.8	24.6	36.9

(n=130)

The perceptions of the class teachers on seven adequacy indicators and two quality items forming the teaching and learning materials varied among the teachers as shown in Table 9. The following resources were reported as inadequate by class teachers; they included: teacher's reference books as per the set standard of 1:6 (93 %), class text books provided for the pupils (47 %), the relevancy of textbooks provided by the

FPE project(45%), resource centre (45 %), and the learning materials in the school resource centre (62 %).

4.3.2 Assessment of Adequacy and Quality of Teaching / Learning Materials

The teachers perception on the teaching and learning materials provided under the FPE were given scores ranging between 1 and 5 (1 being Very Inadequate and 5 Very Adequate). The scores for each indicator were added together and a mean calculated. Then all the scores for all the indicators were added together to form an index of Quality and Adequacy of the teaching and learning materials.

The means of the resulting index were grouped into five categories in order to indicate the level of adequacy and quality as follows: 1 – 1.5 Very Inadequate; 1.6 – 2.5 Inadequate; 2.6 – 3.5 Moderately Adequate; 3.6 – 4.5 Adequate; 4.6 – 5 Very Adequate. The means for the indicators and index for the adequacy and quality of teaching and learning materials are given in Table 10.

Table 10
Adequacy and Quality of Teaching and Learning Materials

Teaching and learning materials	Mean	Description
Adequacy		
Reference books	1.84	Very Inadequate
Class text books	3.15	Moderately Adequate
Blackboards	4.03	Adequate
Chalk	3.93	Adequate
Dusters	3.68	Adequate
Stationary	3.03	Moderately Adequate
Resource centre	2.89	Moderately Adequate
Mean for adequacy	3.15	Moderately Adequate
Quality		
Relevant textbook	2.78	Inadequate
Equipped resource centre	2.40	Inadequate
Mean for Quality	2.83	Moderately Adequate

n=130

Adequacy and quality of the teaching and learning materials was found to be Moderately Adequate (mean value of 3.15 and 2.83 respectively). This may be attributed to the large number of students in the schools, as the items related to the

number of students in the class (textbooks, equipment in resource centres) were found to be inadequate. Three of the indicator items of adequacy (chalk, dusters, and blackboards) were found to be Adequate; these were items that were not related to the number of students in the class.

The adequacy and quality of textbooks supplied to the schools under the FPE programme was found to be inadequate, even after the government disbursing funds for the same (MoE, 2010). This could be attributed to the misuse of the funds as reported by the Transparent International report (Transparent International, 2010). The adequacy and quality of teaching/learning materials promotes confidence among teachers lifting their morale and inspiring them to perform better in national examinations (Mugumo, 2005).

4.4 Physical Facilities

Physical facilities are an integral part of a good institution as they affect the overall quality of the education. The physical facilities provided for under the FPE programme were assessed by the head teachers and class teachers in terms of their adequacy and quality. Nine indicator items were used to assess the physical facilities, they included: classrooms, sanitary facilities for boys and girls, teachers sanitary facilities, standards of the facilities, staffroom, desks in classrooms, quality of the physical facilities, playing grounds, and ICT.

4.4.1 Perception on the Adequacy and Quality of Physical Facilities

The class teachers' perceptions on the adequacy and quality of the physical facilities provided for under the FPE programme was assessed using a 5 point Likert scale (Very Adequate indicating the facilities were well provided for effective teaching, Adequate, Moderately Adequate, Inadequate and Very Inadequate indicating that the facilities were not provided). The class teacher's perception of the adequacy and quality of the nine items forming the physical facilities are given in Table 11.

Table 11
Teacher's Perception on the Quality and Adequacy of Physical Facilities

Physical facilities	Very Adequate (5)	Adequate (4)	Moderately Adequate (3)	In-Adequate (2)	Very Inadequate (1)
Quality					
Teacher sanitary facilities	13.8	6.9	3.1	38.5	37.7
Sanitary facilities are good standard	7.1	14.6	7.5	42.3	28.5
Quality FPE facilities	12.3	23.8	13.8	40.0	10.0
Adequacy					
Classrooms	11.5	15.4	3.8	40.8	28.5
Sanitary facilities for girls and boys	21.5	34.6	7.7	26.9	9.2
Staffroom is adequate	13.1	12.3	12.3	34.6	27.7
Desks in class	12.3	24.6	6.9	36.2	20.0
Playing field	6.2	16.2	6.2	36.9	34.6
ICT facilities	12.3	7.7	0.8	31.5	47.7

n=130

The class teachers' assessment of the adequacy and quality of the physical facilities provided under the FPE programme (Table 11) showed that a majority of the teachers (56.1 %) believed that the sanitary facilities for boys and girls were adequate.

The other items forming the physical facilities were found to be inadequate by majority of the class teachers, as follows: classrooms to cater for the set standards of 40 pupils per class (69.3 %), sanitary facilities for the teachers were judged to be inadequate (76.2 %) and in some cases they were non-existence and the teachers had to share with students, the standards of sanitary facilities regarded as poor by 70.8 % of the class teachers, the staffroom were assessed as not adequate by 62.8 % of the class teachers, the desks for use by the pupils were not adequate as per the required set standard of 1:3 (56.2 %), the facilities provided to schools by the FPE programme were reported to be of poor quality by 50 % of the class teachers, playing fields were reported to be not adequate by 71.5 % of the class teachers, and the development of

ICT in the public schools by the FPE programme was found to be inadequate by 79.2 % of the class teachers.

4.4.2 Assessment of the Adequacy and Quality of the Physical Facilities

This section deals with the second objective of this study, to determine the adequacy and quality of the physical facilities provided to public primary schools under the FPE programme.

The nine indicator items used to assess the physical facilities which included: classrooms, sanitary facilities for boys and girls, teachers sanitary facilities, standards of the facilities, staffroom, desks in classrooms, quality of the physical facilities, playing grounds, and ICT were given scores between 1 and 5 (1 being Very Inadequate and 5 Very Adequate). The scores for each indicator were added together and a mean calculated, then all the scores for all the indicators were added together and an overall/grand mean for the adequacy of physical facilities was determined.

The means of the resulting index were grouped into five categories in order to indicate the level of adequacy and quality as follows: 1 – 1.5 Very Inadequate; 1.6 – 2.5 Inadequate; 2.6 – 3.5 Moderately Adequate; 3.6 – 4.5 Adequate; 4.6 – 5 Very Adequate. The mean perception of the individual items forming the adequacy and quality of the physical facilities are given in Table 12.

Table 12
Quality and Adequacy of Physical Facilities

Physical facilities	Mean	Description
Quality		
Teachers own sanitary facilities	2.20	Inadequate
Sanitary facilities are of standard	2.15	Inadequate
Quality FPE facilities	3.11	Moderately Adequate
Overall mean for quality	2.60	Moderately Adequate
Adequacy		
Adequate Staffroom	3.52	Adequate
Desks in class	2.71	Adequate
Sanitary facilities for boys and girls	2.68	Adequate
Playing field	3.78	Adequate
ICT facilities	2.05	Inadequate
Overall mean for adequacy	3.52	Adequate

n=130

The qualities of the physical facilities were found to be Moderately Adequate (mean value of 2.60), while the adequacies of the physical facilities in the schools were found to be Adequate (mean 3.52).

Three of the indicator items of physical facilities (teacher's sanitary facilities, the standards of sanitary facilities and ICT facilities) were found to be inadequate. The inadequacy in ICT could be attributed to the lack of electricity in some schools within the division. The low standards of the student's sanitary facilities could be attributed to the increased numbers of pupils enrolled under the FPE (MoEST, 2005; GoK, 2008). Ayako (2006), recommended that the government should use local materials and local communities to provide labour for the construction of toilets class rooms and desks in order to improve on some of these facilities in Ndaragwa division.

4.5 Adequacy and Quality of Teachers

The third objective of this study was to determine the adequacy and quality of teachers that were employed in the schools under the FPE programme. Six indicator items were used to assess the adequacy and quality of the teachers, they included: teacher qualification, number of teachers, punctuality, maintenance of good academic records, marking of pupil's daily assignments, number of pupils per teacher.

4.5.1 Class Teacher's Perception on the Adequacy and Quality of Teachers

The class teacher's perception on the adequacy and quality of the teachers provided for (employed) under the FPE programme was assessed using a 5 point Likert scale (very adequate indicating the facilities were well provided for effective teaching, adequate, neither adequate nor adequate, inadequate and very inadequate indicating that the facilities were not provided). The class teachers' perceptions of the adequacy and quality of the six indicator items forming the teachers are given in Table 13.

Table 13
Class Teachers' Perceptions on the Adequacy and Quality of Teachers

Adequacy and quality of Teachers	Very Adequate (5)	Adequate (4)	Moderately Adequate (3)	Inadequate (2)	Very Inadequate (1)
Quality					
Qualified	49.2	36.1	2.3	6.2	5.4
Punctuality	6.9	4.6	4.6	36.9	49.6
Good academic records	23.1	50.0	15.4	6.9	4.6
Adequacy					
Staffing level	8.5	28.5	8.5	36.9	17.7
Mark pupils assignment	12.3	42.3	16.2	23.1	6.2
Size of classroom	5.0	14.6	7.7	38.1	34.6

(n=130)

The class teachers' perceptions on the adequacy of each of the six variables used in assessing the adequacy and quality of the teachers in public primary schools varied among the teachers as shown in Table 13. The items that were rated by the teachers to be adequate or high quality included: teachers' qualifications to teach were found to high by 85.3 % of the class teachers, good academic records (73.1 %), and the marking of pupil's assignments (54.6 %). The items that were rated as low or inadequate included: number of teachers in class (54.6 %), punctuality to duty (86.5 %), and the number of pupils in class were very high (73.1 %).

4.5.2 Assessment of the Adequacy and Quality of Teachers

This section dealt with answering of the third question of this study; are the teachers provided to public primary schools under the FPE programme of high or low quality? The six items used to assess the quality and adequacy of teachers included: teacher qualification, number of teachers, punctuality, maintenance of good academic records, marking of pupil's daily assignments and number of pupils per teacher were given scores between 1 and 5 (1 being Very Inadequate and 5 Very Adequate). The scores for each item were added together and a mean calculated which was used to gauge the level of quality and adequacy of each of the teacher items. All the scores for all the items were then added together and an overall mean for the adequacy and quality of teacher's characteristics was determined.

The means of the resulting index were grouped into five categories in order to indicate the level of adequacy and quality as follows: 1 – 1.5 Very Inadequate; 1.6 – 2.5 Inadequate; 2.6 – 3.5 Moderately Adequate; 3.6 – 4.5 Adequate; 4.6 – 5 Very Adequate. The mean perception of the individual items forming the adequacy of the teachers characteristics are given in Table 14.

Table 14
Adequacy and Quality of Teachers provided under the FPE

Teacher adequacy and quality	Mean	Description
Quality		
Qualified	4.18	Adequate
Punctuality	4.12	Adequate
Good academic records	3.80	Adequate
Mean for quality of teachers	4.03	Adequate
Adequacy		
Staffing level	2.73	Moderately Adequate
Marking of pupils' assignments	3.31	Moderately Adequate
Recommended Pupils per class	2.98	Moderately Adequate
Overall Mean for Adequacy	3.52	Adequate

(n=130)

The adequacy and quality of the teachers was found to be Adequate (mean value of 3.52 and 4.03 respectively). Three of the indicator items of adequacy (staffing level, many pupils in class, marking of pupil's assignments) were found to be Moderately Adequate, these were items that were related to the number of pupils in class which exceeded 40 with the implementation of FPE (Majanga, Nasongo, & Sylvia, 2011; Ngware, Oketch, & Ezeh, 2011). Bogonko (1992) also highlighted the increased number of students in the classes as a challenge the teachers were facing in implementing FPE. The items that were not related to the number of students (qualifications, punctuality, academic records) were found to be Adequate. This is due to the fact that majority (89 %) were trained professionals (Table 7).

4.6 School Management Committees (SMCs)

The role of the school management committee cannot be overlooked in the performance of the schools, as it determines the proper use of the resources provided and the management of the staff. The fourth objective of this study was to determine how well the school management committee performed its role in schools under the FPE programme. The study used eight items to conceptualize the role of the school management committee in the public schools. The items used included: vetting of members, committee priority to pupils learning needs, conversant with FPE objectives, recruitment of qualified teachers, school development, remunerations of the teachers, teachers incentives, budgeting of finances.

4.6.1 Performance of the School Management Committees

The class teacher's perception on how well the members of the school management committees performed their roles in public schools under the FPE programme was assessed using a 5 point Likert scale very adequate indicating the facilities were well provided for effective teaching, adequate, neither adequate nor adequate, inadequate and very inadequate indicating that the facilities were not provided. The class teachers' perceptions on the members' performances of the eight selected items used to gauge the overall performance of the committee are given in Table 15.

Table 15
Class Teachers' Perceptions of the Performance of the School Management Committees

School management committee	Very Adequate (5)	Adequate (4)	Moderately Adequate (3)	Inadequate (2)	Very Inadequate (1)
Quality					
Vetting of members	7.7	15.4	16.9	36.9	23.1
Objectives of FTE	7.7	43.8	16.9	21.5	10.0
Qualified teachers	6.9	13.1	10.8	35.4	33.1
Incentives for teachers	10.8	18.5	14.6	30.0	26.2
Adequacy					
Prioritization	6.9	17.7	13.1	36.9	25.4
School developments	13.1	52.3	16.9	11.5	6.2
Teacher remunerations	13.1	25.4	10.0	26.2	25.4
Budgeting	11.5	10.0	14.6	50.0	13.8

n=130

The class teachers' perceptions on the adequacy of each of the eight items (indicators) assessing the adequacy and quality of the school committee in public schools varied among the teachers as shown in Table 15. The indicators that were rated by the teachers to be adequate or of high quality included: the committee members conversant with the FPE objectives (51.5 %) and the sensitization of parents to undertake school developments (65.4 %). The indicators that were rated as low or inadequate included: the vetting of teachers (60 %), priorities of the committee (62.3 %), recruitment of qualified teachers (68.5 %), remunerations of the teachers (51.6 %), teacher's incentives (56.2 %), and budgeting of finances (63.8 %).

4.6.2 Quality and Adequacy of School Management Committees

This section dealt with the answering of the fourth question of this study; are the roles of the school management committee being performed in the right manner in public primary schools under the FPE programme?

The eight indicator items used to assess the role of the school management committee included: vetting of members, committee priority to pupils learning needs, conversant with FPE objectives, recruitment of qualified teachers, school development, remunerations of the teachers, teachers incentives, budgeting of finances were given scores between 1 and 5 (1 being very inadequate and 5 very adequate). The scores for each indicator were added together and a mean calculated for each of the indicator items. Then all the scores for all the indicators were added together and an overall/grand mean for the role of school committee was determined.

The means of the resulting index were grouped into five categories in order to indicate the level of adequacy and quality as follows: 1 – 1.5 Very Inadequate; 1.6 – 2.5 Inadequate; 2.6 – 3.5 Moderately Adequate; 3.6 – 4.5 Adequate; 4.6 – 5 Very Adequate. The mean perception of the individual items forming the adequacy of the role of school committee are given in Table 16.

Table 16
Performance of the School Management Committee

School management committee	Mean	Comments
Quality		
Vetting of school management committee	2.48	Inadequate
Conversant with the Objectives of FPE	2.96	Moderately Adequate
Recruitment of qualified teachers	3.75	Adequate
Providing incentives for teachers	3.43	Moderately Adequate
Mean for index of quality of SMC	3.16	Moderately Adequate
Adequacy		
Pupils learning needs are a priority	3.57	Adequate
School developments	2.46	Inadequate
Teachers remuneration is good	2.75	Moderately Adequate
Budgeting of FPE funds	2.56	Moderately Adequate
Overall mean for adequacy of SMC	3.01	Moderately Adequate

n=130

The adequacy and quality of the management of the school management committee was found to be Moderately Adequate (mean value of 3.01 and 3.16 respectively).

This indicated that most teachers felt that the SMCs were just barely performing their duties. The SMCs undertake critical responsibilities in the proper management and improvement of quality of education (KIE, 2009) and in the effective management of

funds (UNESCO, 2002), which is critical to the success of the Free Primary Education programmes. The SMCs are required to plan and utilize funds in an efficient manner in accordance to the laid regulations and procedures (Abagi, & Odipo, 1997). This requires a lot of skill in accounting (MoE, 2010) and which is lacking in most cases and requires training of the SMCs and the creation of financial institutions (Bah-Layla, 2003).

This lack of professionalism in the management of the FPE funds, therefore affects the provision of the teaching resources in general in a school. This explains the negative perceptions of the teachers towards the SMCs. In conclusion it was noted that the schools with a school committee with poor or inadequate characteristics were more than the ones that had adequate provision.

4.7 Perceptions of the Head Teachers and the Class Teachers

The objective number five of this study was aimed at comparing the perceptions of the class teachers and that of the head teachers on the adequacy and quality of the teaching and learning resources in primary schools managed under FPE programme. The adequacy and quality of teaching and learning resources were assessed under the following four sub-headings: (i) Teaching / learning materials, (ii) Physical facilities, (iii) Teachers, (iv) School management committees and (v) overall mean comparisons of the four items combined.

4.7.1 Quality and Adequacy of Teaching / Learning Materials

The sub-section analysed the class teachers' perceptions on the adequacy and quality of the teaching materials and compared the differences in the perceptions between the head and class teachers using the developed indices of teaching and learning materials for the head and class teachers. The means of the resulting index were grouped into five categories in order to indicate the level of adequacy and quality as follows: 1 – 1.5 Very Inadequate; 1.6 – 2.5 Inadequate; 2.6 – 3.5 Moderately Adequate; 3.6 – 4.5 Adequate; 4.6 – 5 Very Adequate. The descriptive statistics of the two variables are summarized in Table 17.

Table 17
Descriptive Statistics of the Perceptions on the Teaching / Learning Materials

Perceptions on Teaching and Learning Materials	Mean	n	Std. Deviation	Std. Error Mean
Quality				
Class Teachers perception on quality	2.83	130	878	.077
Head Teachers perception on quality	3.76	23	1.18	.247
Adequacy				
Class Teachers perception on adequacy	3.15	130	.474	.041
Head Teachers perception on adequacy	2.80	23	.718	.149

The head and class teachers perceived the quality of teaching and learning materials differently. The class teachers felt that the quality of the teaching and learning materials was Moderately Adequate (mean 2.83), while the head teachers felt that they were Adequate (mean 3.76). The perception on adequacy was similar between the class and head teachers as both of them reported that they were Moderately Adequate (mean 3.15 and 2.80 respectively).

An independent sample *t*- test was used to compare the mean differences of the head and class teacher's perceptions. The results of the mean comparison for the perceptions of the head and class teachers on the adequacy and quality of teaching and learning materials, *t*-value and *p*-value are given in Table 18.

Table 18
Mean Comparisons of the Head and Class Teachers' Perceptions using the t-Test

Independent samples *t* test				
Item	**Mean Difference**	***t*-value**	**df**	***p*-value**
Quality	.344	4.386	152	.000
Adequacy	.922	2.942	152	.004

In assessing the quality of the teaching and learning materials, the mean of the head teachers was higher than the mean of the class teachers and the results were found to

be statistically significant *(t= 4.386, df 152, p≤ 0.05).*This implies that the head teachers assessed the quality of teaching and learning materials provided by the FPE programme to be of a higher value than the class teachers. This could probably be due to the fact that the head teachers are involved in the purchase of these materials and so compromise on their quality, as was noted by Transparent International (Transparent International, 2010).

The class teachers rated the adequacy of teaching and learning materials highly than the head teachers and these differences were significant statistically *(t=2.942, df 152, p≤ 0.05)*. Even though there were statistical differences between the rating of the head and class teachers, the final assessment was the same (moderately adequate). This is the true reflection of the situation in most schools in the country and it is brought about by the increased numbers of students caused by the free primary education (Bogonko, 1992; Majanga, Nasongo, & Sylvia, 2011; Ngware, Oketch, &Ezeh, 2011).

4.7.2 Quality and Adequacy of Physical Facilities

The differences in the perception of the head and class teachers on the adequacy and quality of the physical facilities were compared. The comparisons were based on the perceptions of physical facilities for the head teachers and class teachers. The means of the resulting index were grouped into five categories in order to indicate the level of adequacy and quality as follows: 1 – 1.5 Very Inadequate; 1.6 – 2.5 Inadequate; 2.6 – 3.5 Moderately Adequate; 3.6 – 4.5 Adequate; 4.6 – 5 Very Adequate. The descriptive statistics of the two variables are summarized in Table 19.

Table 19
Descriptive Statistics for the Perceptions of the Physical Facilities

Perceptions on Physical Facilities	Mean	n	Std. Dev.	Std. Error Mean
Quality				
Class Teachers perception on quality	2.60	130	.711	.062
Head Teachers perception on quality	2.91	23	.975	.203
Adequacy				
Class Teachers perception on adequacy	3.05	130	.718	.063
Head Teachers perception on adequacy	2.80	23	.731	.152

The quality and adequacy rating of the physical facilities by the class and head teachers was found to be similar as they both rated it as Moderately Adequate, though mean differences were found to exist between the two groups. An independent sample *t*- test was used to compare the mean differences of the head and class teachers' perceptions on the adequacy and quality of physical facilities provided for under the FPE programme. The perceptions of the head and class teachers on the condition of the physical facilities were used for the test Table 20.

Table 20
Mean Comparisons of the Head and Class Teachers' Perceptions using the t-Test

Independent samples *t* test				
Item	**Mean Difference**	***t*-value**	**df**	***p*-value**
Quality	.310	1.816	152	.071
Adequacy	.250	1.539	152	.648

The head and class teachers' rating of the quality and adequacy of the physical facilities was found to be similar (Moderately Adequate). The mean differences between the class and head teacher's rating were found to be insignificant statistically *($p \geq 0.05$).* This means that the two (class and head teachers) agreed on the quality and adequacy of the physical facilities to be moderately adequate.

4.7.3 Quality and Adequacy of Teachers

The sub-section analysed the head and class teachers' perceptions on the adequacy and quality of the teachers and compared the differences in the perceptions between the head and class teachers using the *t*-test. The means of the resulting index were grouped into five categories in order to indicate the level of adequacy and quality as follows: 1 – 1.5 Very Inadequate; 1.6 – 2.5 Inadequate; 2.6 – 3.5 Moderately Adequate; 3.6 – 4.5 Adequate; 4.6 – 5 Very Adequate. The descriptive statistics of the two variables are summarized in Table 21.

Table 21
Descriptive Statistics for the Perceptions of the Adequacy and Quality of Teachers

Perceptions on Teachers	Mean	n	Std. Deviation	Std. Error Mean
Quality				
Class Teachers perception on quality	4.03	130	.824	.072
Head Teachers perception on quality	2.65	23	.768	.160
Adequacy				
Class Teachers perception on adequacy	4.30	130	1.40	.123
Head Teachers perception on adequacy	3.13	23	.679	.141

The class teachers' rating of the teacher quality and adequacy in schools was found to be higher than that of the head teachers. The class teachers rated the quality and adequacy as Adequate, while the head teachers rated them as Moderately Adequate.

An independent samples *t*- test was used to compare the mean differences of the head and class teachers' perception for the adequacy and quality of the teachers provided under the FPE programme. The perceptions of the adequacy and quality of teachers from the head and that of the class teachers were used for this test Table 22.

Table 22
Mean Comparisons of the Head and Class Teachers' Perceptions using the t-Test

Independent samples *t* test				
Item	**Mean Difference**	***t*-value**	**df**	***p*-value**
Quality	1.38	7.494	152	.000
Adequacy	1.17	3.910	152	.000

The mean quality and adequacy for the class teachers was found to be higher than that of the head teachers. The results were found to be significant statistically *(t= 7.494, df151, p≤ 0.05)* and *(t= 3.910, df 152, p≤ 0.05)*. This means that the head teachers assessed the adequacy and quality of teachers provided by the FPE programme to be

of lower value than the class teachers. A possible explanation for this anomaly could be bias by the class teachers in their assessment as the issues in question were related to them.

4.7.4 Quality of School Management Committees

The head teachers' perceptions on how well the members of the school management committees performed their roles in public schools under the FPE programme was assessed using a 5 point Likert scale very adequate indicating the facilities were well provided for effective teaching, adequate, neither adequate nor adequate, inadequate and very inadequate indicating that the facilities were not provided. The means of the resulting index were grouped into five categories in order to indicate the level of adequacy and quality as follows: 1 – 1.5 Very Inadequate; 1.6 – 2.5 Inadequate; 2.6 – 3.5 Moderately Adequate; 3.6 – 4.5 Adequate; 4.6 – 5 Very Adequate. The head teachers' perceptions on the members' performances of the eight selected items used to gauge the overall performance of the committee are given in Table 23.

Table 23
Descriptive Statistics for the Perceptions of the School Management Committee

Perceptions on Teachers	Mean	n	Std. Deviation	Std. Error Mean
Quality				
Class Teachers perception on quality	3.16	130	.767	.067
Head Teachers perception on quality	3.18	23	.608	.126
Adequacy				
Class Teachers perception on adequacy	3.01	130	.842	.073
Head Teachers perception on adequacy	2.89	23	.568	.118

The head teachers and class teachers rated the quality and adequacy of the school management committee as Moderately Adequate. An independent sample *t*- test was used to compare the mean differences of the head and class teacher's perception on the adequacy and quality of the school management committees provided for under the FPE programme (Table 24).

Table 24
Mean Comparisons of the Head and Class Teachers' Perceptions using the t-Test

Independent samples *t* test				
Item	**Mean Difference**	***t*-value**	**df**	***p*-value**
Quality	0.23	.138	152	.891
Adequacy	1.18	.651	152	.516

There were no significant differences found between the means of the head and class teachers both in quality and adequacy of the school committees (Table 24). This meant that the perceptions of the head and class teachers on the management committee were the same.

4.7.5 Overall Comparisons between the head teachers and class teachers

The means of the four items that were assessed were added together and a grand mean was determined in order to gauge the overall mean of the head teachers and class teachers perception on the quality and adequacy of the four items assessed, which included: (i) Teaching / learning materials, (ii) Physical facilities, (iii) Teachers, (iv) school management committees. The means of the resulting index were grouped into five categories in order to indicate the level of adequacy and quality as follows: 1 – 1.5 Very Inadequate; 1.6 – 2.5 Inadequate; 2.6 – 3.5 Moderately Adequate; 3.6 – 4.5 Adequate; 4.6 – 5 Very Adequate. The descriptive statistics are given in Table 25.

Table 25
Descriptive statistics of the overall perceptions of head and class teachers

Category	N	Mean	Std. Deviation	Std. Error Mean
Quality				
Class teachers	130	3.1596	.38718	.03396
Head teachers	23	3.1277	.41796	.08715
Adequacy				
Class teachers	130	3.3802	.54072	.04742
Head teachers	23	2.9084	.27715	.05779

The head teachers and class teachers perceived the overall quality and adequacy of four items to be Moderately Adequate.

The independent *t* test was used to check whether there were existing differences in their perception (Table 26)

Table 26
Mean Comparisons of the Head and Class Teachers' Perceptions using the t-Test

Item	t	df	*p*-value	Mean Difference
Quality	.360	152	.719	.03190
Adequacy	4.08	152	.000	.47183

The overall rating of the adequacy of the teaching and learning materials by the class teachers was found to be significant statistically *(t= 4.08, df 152, p< 0.05)* higher than that of the head teachers. This meant that the rating of the adequacy of teaching and learning resources by the two teacher category were different. This anomaly could be attributed to the fact that the two played different roles as concerns these resources. The class teachers are involved in the classroom use of the resources, while the head teachers are involved in the purchase of the items and they also had knowledge of the number of items that should be supplied based on the laid down regulations and procedures (Abagi, &Odipo, 1997).

There were no significant differences *(t= .360, df 152, p>0.05)* between the class teachers and the head teachers in their overall rating of the quality of teaching and learning resources in Ndaragwa sub-county, meaning that the rating by the two was similar or Moderately Adequate. This agreement in the rating meant that the quality of the items was questionable in most of the schools.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter outlines conclusions and the suggested recommendations made based on the data that was analysed. The first section is a summary of the study, followed by the study conclusions and finally the suggested recommendations on the improvement on the FPE programme in Ndaragwa Division to enhance its adequacy and quality for the benefit of all the stakeholders involved in primary education in Kenya.

5.2 Summary of the Study

This research was undertaken to establish public primary school class and head teachers' perceptions of the adequacy and quality of teaching and learning resources under the FPE programme in Ndaragwa division. The assessment of the programme was based on four aspects of the programme which included: the provision of teaching / learning materials, provision of physical facilities, provision of teachers, and the roles played by the School Management Committees.

A purposive sample of 130 class teachers and 23 head teachers was interviewed using a structured questionnaire to determine the perceptions of the teachers on the adequacy and quality of four items provided under the FPE. A 38-item survey instrument was used where the teachers were asked to rate each item on a five point Likert scale (1=Very Inadequate to indicate lack of enough materials, 2=Inadequate, 3=moderately adequate, 4=Adequate and 5=Very Adequate, to indicate satisfactory levels of the materials). The data was analyzed using descriptive and inferential statistics with the aid of the Statistical Package for the Social Science (SPSS).

The results of the study revealed that there is a variation in the adequacy and quality of the items provided by the FPE programme in Ndaragwa division. The quality of teaching and learning materials, physical facilities, and management committees was found to be Moderately Adequate, while that of the teachers was found to be Adequate. The adequacy of the teaching and learning materials, physical facilities,

and management committees was found to be Moderately Adequate, while that of the teachers was found to be Adequate.

5.3 Conclusions

Based on the findings of the study, the following conclusions were made:

(i) The quality and adequacy of the teaching / learning materials provided by the FPE programme in Ndaragwa division was found to be Moderately Adequate.

The quality of the teaching and learning materials (relevant text books and equipment in the resource centres) were found to be inadequate. The adequacy of the following learning and teaching materials were found to be Adequate: blackboards, chalk, and dusters. Stationery and resource centre were found to be Moderately Adequate, while reference books were found to be Very Inadequate.

(ii) The overall quality of the physical facilities provided by the FPE programme to the primary schools in Ndaragwa division was found to be Moderately Adequate, while the adequacy was found to be Adequate.

The quality of teachers and pupil's sanitary facilities were found to be Inadequate. The adequacy of adequacy of chalks, desks, staffroom, and playing fields were found to be Adequate, while that of ICT was found to be Inadequate.

(iii) The quality and adequacy of teachers in Ndaragwa Division was found to be Adequate. The teachers were qualified, had good academic records, and were punctual in their teaching duties. The number of pupils in the classes was too high than the recommended one.

(iv) The quality and the adequacy of the school management committees in Ndaragwa division were Moderately Adequate.

The qualities of the following items were found to be Moderately Adequate: members understanding of the FPE objectives, provision of teachers incentives, while the vetting the SMC members was found to be Inadequate. The adequacy of SMC member's budgeting skills and prioritization of students learning needs was found to be Moderately Adequate, while the physical school development by the members was found to be Inadequate.

(v) In comparing the overall rating of quality and adequacy of the four items assessed in this study (teaching and learning materials, physical facilities, teachers, and school management committees) by the class teachers and head teachers, the overall rating of the adequacy of the teaching and learning materials by the class teachers was found to be significantly ($t= 4.08, df\ 152, p \leq 0.05$) higher than that of the head teachers.

There were no significant differences ($t= .360, df\ 152, p \geq 0.05$) between the class teachers and the head teachers in their overall rating of the quality of teaching and learning resources in Ndaragwa sub-county, meaning that the rating by the two was similar or Moderately Adequate. This agreement in the rating meant that the quality of the items was questionable in most of the schools.

5.4 Recommendations

The study recommended the following suggestions to enhance the quality and adequacy of teaching/learning resources of the FPE in Ndaragwa Division so as to improve on its impact in providing quality education to the children:

(i) The policy formulators should make sure that funds for Free Primary Education are released in time to enable the schools acquire the necessary teaching /learning materials for the year and the amount of funds should be based on the number of pupils in the school so as to be sufficient and cater for the additional new pupils.

(ii) The stakeholders should harmonize the physical facilities within the schools to avoid overcrowding in particular schools. These physical facilities should be proportional to the enrolment of the school.

(iii) The SMCs should also organize team building actives for teachers to enable them plan how to handle the increased number of pupils.

(iv) The School Management Committees should always consult the class teachers before allocating funds to any project to avoid putting funds in issues that are not urgent at that particular moment. Committees which include the teachers should be formed to gauge on the quality of teaching and learning materials being purchased by the schools.

(v) The head teachers should be trained in financial management in order to handle the FPE funds well. They should also be more involved in teaching process to better understand the challenges the teachers undergo, as their perceptions of the situation was not in tandem with the teachers who are on the ground.

5.5 Suggestions for Further Research

Two areas of study need to be undertaken in the County in the future, they include:

(i) A comparative study between the schools with positive perceptions of the FPE and the schools with negative perceptions, with an aim of identifying the factors that bring about the variations between these two groups of schools.

(ii) A study to capture the perceptions of the other key stakeholders of this FPE project. This will include perceptions of parents, students and administrators.

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APPENDIX A

LETTER OF INTRODUCTION TO THE RESPONDENTS

Dear respondent,

You have been chosen to participate in this study investigating the primary school teachers' Perceptions of the adequacy and quality of Teaching and Learning Resources under Free Primary Education in Public Primary Schools in Ndaragwa Division.

Your response will be treated with uttermost confidence. Therefore, you are requested to fill in the questionnaire without any reservations; do not discuss your responses with other respondents or write your name on the questionnaire or provide any information that will identify you as an individual.

Please read the instructions given under each section carefully before you begin to respond to the statements.

Your cooperation in this exercise is highly appreciated in advance

Thank you.

Yours faithfully,

Wahome N Muthima.

APPENDIX B:
QUESTIONNAIRE FOR THE HEADTEACHERS

My name is Ndirangu Wahome Muthima, a student at Egerton University undertaking a Master of Education degree in Educational Management. I am required to undertake a research project in my area of study. My research topic is on "**Adequacy and Quality of Teaching and Learning Resources In Public Primary Schools In Ndaragwa Division Nyandarua County, Kenya**". You have been selected as one of my respondents in this project. Your sincere and correct answers will be important in attaining this goal. All information will be treated with utmost confidentiality.
Please **do not** write your name or your school on this questionnaire.

Instructions

Please respond to ALL the questions in sections A and B C, D and E. There is no RIGHT or WRONG answer.

Read the questions carefully and understand before writing your appropriate response.

- Put a tick (√) in the bracket and best represents your response to each statement or write in the space provided.

SECTION A: Background Information

1. Gender: Male ( ) Female ( )
2. Age: _____ years.
3. Level of training? Untrained ( ) P1 ( ) Diploma ( ) Degree ( )
4. Number of years you have served as a primary school teacher_____
5. Period you have worked as a head teacher _____
6. Indicate the category of your school location Rural ( ) Urban ( )
7. Were you in-serviced by the Government before the implementation of FPE?

Yes ( ) No ( )

8. Use the following instructions to respond to sections **B, C, D and E**

The following statements, concern the learning benefits to pupils from the FPE Programme in Kenya. Using a tick (√) indicate the extent to which each of the statements applies to pupils in your school. The scale has been used to help you rate

5- "Very Adequate"

4-"Adequate"

3- "Neither Adequate nor Inadequate"

2-"Inadequate"

1-"Very Inadequate"

SECTION B: Teaching/Learning Materials

	Statement	Level of Agreement				
		5	4	3	2	1
1	Teachers have adequate reference books the set standard is 1:6					
2	Class text books provided to pupils are not adequate ideal situation is 1:2					
3	The text books provided to the school through FPE are relevant					
4	There are adequate blackboards in the school					
5	The pieces of chalk in the school are not adequate					
6	Dusters in the school are not adequate for teachers the set standard is 1:1					
7	There are adequate stationary for pupils class work					
8	The school has a resource centre					
9	The resource centre does not have adequate learning materials					

SECTION C: Physical Facilities

	Statement	Level of Agreement				
		5	4	3	2	1
1	Pupils have adequate classrooms set standard is 40:1					
2	Pupils do not have adequate sanitary facilities for girls 1:25 and for boys is 1:40					
3	Teachers do not share sanitary facilities with pupils in school					
4	The sanitary facilities available in school are of good standard					
5	The staffroom is adequate for teachers					
6	Desks in the classrooms are not adequate the set standard is 1:3					
7	The physical facilities available in the schools through FPE are of good quality.					
8	There is adequate playing ground and land for expansion					
9	The teachers and pupils do not have adequate access to ICT facilities					

SECTION D: Adequacy and Quality of Teachers

	Statement	Level of Agreement				
		5	4	3	2	1
1	The teachers in the school are well qualified					
2	The school is understaffed					
3	The teachers are not punctual to their duties under FPE					
4	Teachers are able to maintain good academic records					
5	Teachers are able to mark pupils daily assignments					
6	Each class has more pupils than expected					

SECTION E: School Management Committees (SMCs)

	Statement	Level of Agreement				
		5	4	3	2	1
1	The members constituted to form the SMCs are well vetted					
2	The members do not give first priorities to the teaching learning needs of the pupils					
3	The members are conversant with the objectives of FPE					
4	Teachers recruited by the SMCs are not qualified.					
5	The members are able to sensitize the parents and community in case of school developments					
6	Teachers hired by the SMCs are not well remunerated.					
7	The SMCs organizes incentives for teachers for good academic performance.					
8	Members are not able to budget for the finances under FPE					

APPENDIX C:
QUESTIONNAIRE FOR THE CLASS TEACHERS

My name is Ndirangu Wahome Muthima, a student at Egerton University undertaking a Master of Education degree in Educational Management. As part of the requirements of the course, I am required to undertake a research project in my area of study. My research topic is on "**Adequacy and Quality Of Teaching and Learning Resources In Public Primary Schools In Ndaragwa Division Nyandarua County, Kenya".** You have been selected as one of my respondents in this project. Your sincere and correct answers will be important in attaining this goal. All information will be treated with utmost confidentiality.

Please **do not** write your name or your school on this questionnaire.

Instructions

Please respond to ALL the questions in sections A and B, C, D and E. There is no RIGHT or WRONG answer.

Read the questions carefully and understand before writing your appropriate response.

- Put a tick (√) in the bracket and best represents your response to each statement or write in the space provided.

SECTION A: Background Information

1. Gender: Male ( ) Female ( )
2. Age: _____ years.
3. Level of training: Untrained ( ) P1 ( ) Diploma ( ) Degree ( )
4. Number of years served as a primary school class teacher_____
5. Were you in-serviced by the Government before the implementation of FPE?

Yes ( ) No ( )

6. Use the following instructions to respond to sections **B, C, D and E.** The following statements, concern the learning benefits to pupils from the FPE Programme in Kenya. Using a tick (√) indicate the extent to which each of the statements applies to pupils in your school. The scale has been used to help you rate

5- "Very Adequate"

4-"Adequate"

3- "Neither Adequate nor Inadequate"

2-"Inadequate"

1-"Very Inadequate"

SECTION B: Teaching/Learning Materials

	Statement	Level of Agreement				
		5	4	3	2	1
1	Teachers have adequate reference books the set standard is 1:6					
2	Class text books provided to pupils are not adequate ideal situation is 1:2					
3	The text books provided to the school through FPE are relevant					
4	There are adequate blackboards in the school					
5	The pieces of chalk in the school are not adequate					
6	Dusters in the school are not adequate for teachers the set standard is 1:1					
7	There are adequate stationary for pupils class work					
8	The school has a resource centre					
9	The resource centre does not have adequate learning materials					

SECTION C: Physical Facilities

	Statement	Level of Agreement				
		5	4	3	2	1
1	Pupils have adequate classrooms set standard is 40:1					
2	Pupils do not have adequate sanitary facilities. For girls 1:25 and for boys is 1:40					
3	Teachers do not share sanitary facilities with pupils in school					
4	The staffroom is adequate for teachers					
5	Desks in the classrooms are not adequate the set standard is 1:3					
6	The physical facilities available in the schools through FPE are of good quality.					
7	There is adequate playing ground and land for expansion					
8	The teachers and pupils do not have adequate access to ICT facilities					

SECTION D: Adequacy and Quality of Teachers

	Statement	Level of Agreement				
		5	4	3	2	1
1	The teachers in the school are well qualified					
2	The school is understaffed					
3	The teachers are not punctual to their duties under FPE					
4	Teachers are able to maintain good academic records					
5	Teachers are able to mark pupils daily assignments					
6	Each class has more pupils than expected					

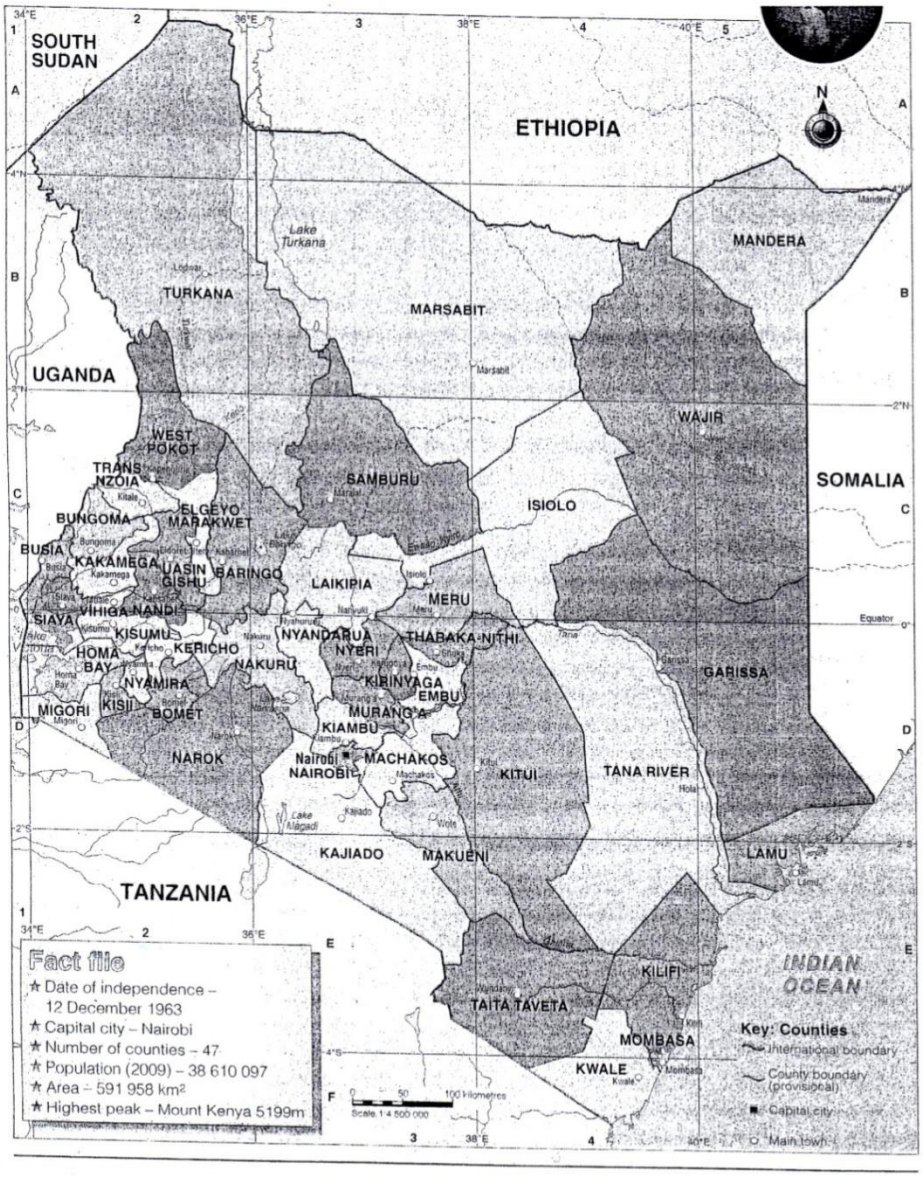
SECTION E: School Management Committees (SMCs)

	Statement	Level of Agreement				
		5	4	3	2	1
1	The members constituted to form the SMCs are well vetted					
2	The members do not give first priorities to the teaching learning needs of the pupils					
3	The members are conversant with the objectives of FPE					
4	Teachers recruited by the SMCs are not qualified.					
5	The members are able to sensitize the parents and community incase of school developments					
6	Teachers hired by the SMCs are not well remunerated.					
7	The SMCs organizes incentives for teachers for good academic performance.					
8	Members are able to budget for the finances available under FPE					

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE.

APPENDIX D:

MAP OF KENYA SHOWING THE 47 COUNTIES

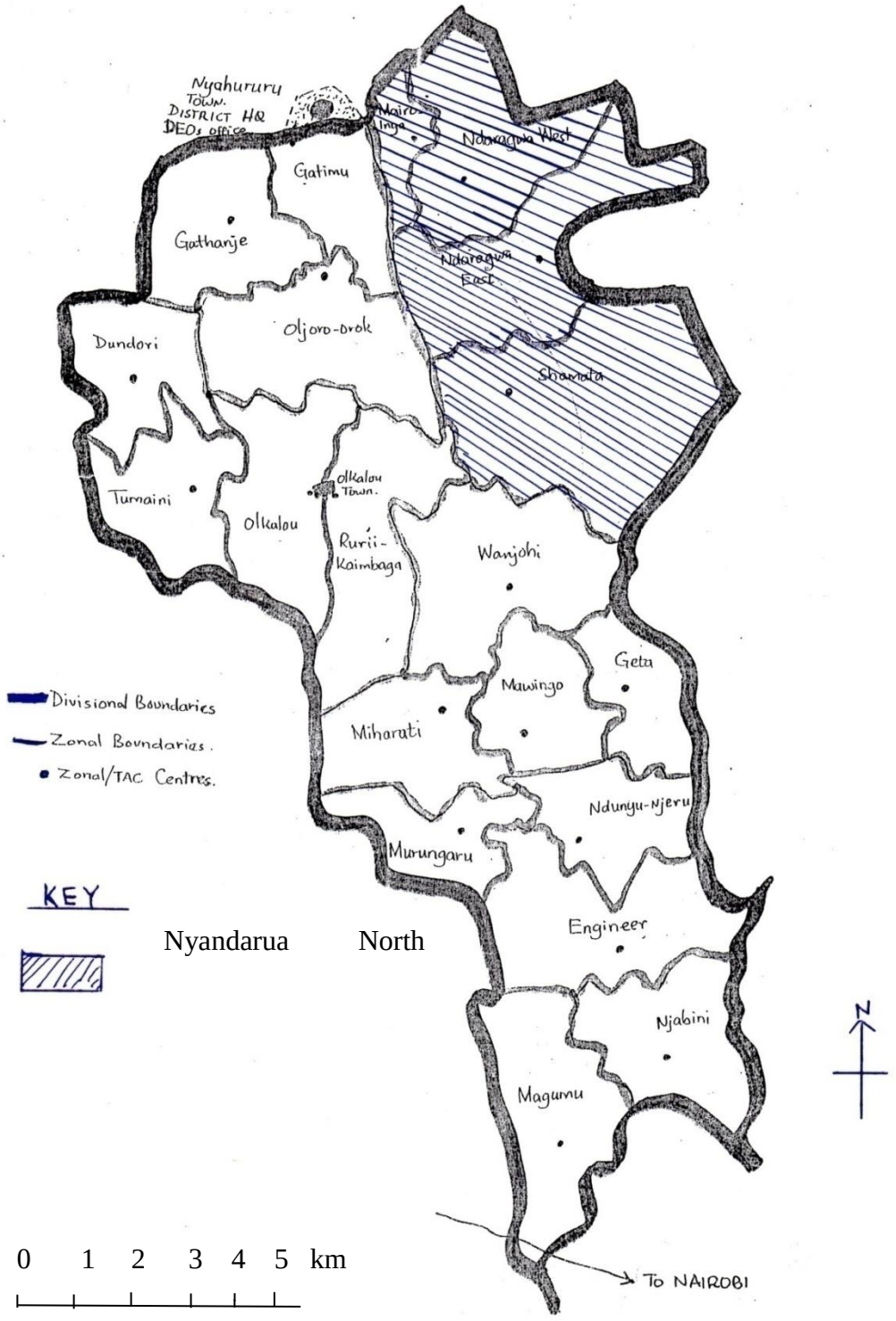


KEY

Nyandarua County

APPENDIX E:

MAP SHOWING NYANDARUA COUNTY



APPENDIX F:

RESEARCH PERMIT

CONDITIONS

1. **You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit**
2. **Government Officers will not be interviewed without prior appointment.**
3. **No questionnaire will be used unless it has been approved.**
4. **Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.**
5. **You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.**
6. **The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice**

REPUBLIC OF KENYA

National Commission for Science Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No. A 2344

CONDITIONS: see back page

THIS IS TO CERTIFY THAT:
MR. NDIRANGU WAHOME MUTHIMA
of EGERTON UNIVERSITY, 0-20300 NYAHURURU,has been permitted to conduct research in *Nyandarua County*

on the topic: *PRIMARY SCHOOL TEACHERS PERCEPTIONS OF THE ADEQUACY AND QUALITY OF TEACHING AND LEARNING RESOURCES UNDER FREE PRIMARY EDUCATION IN PUBLIC PRIMARY SCHOOLS IN NDARAGWA DIVISION, NYANDARUA COUNTY, KENYA*

for the period ending:
31st December,2014

Permit No : NACOSTI/P/14/2467/2732
Date Of Issue : 22nd July,2014
Fee Recieved :Ksh 1,000

.....
Applicant's Signature

.....
Secretary
National Commission for Science, Technology & Innovation