INFLUENCE OF BOARD OF MANAGEMENT TEACHERS' WAGE BILL ON PROVISION OF QUALITY EDUCATION IN PUBLIC SECONDARY SCHOOLS IN GEM SUB-COUNTY, KENYA

BY

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A THESIS SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF EDUCATION IN PLANNING AND ECONOMICS OF EDUCATION

DEPARTMENT OF EDUCATIONAL MANAGEMENT AND FOUNDATIONS

MASENO UNIVERSITY

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DECLARATION

DECLARATION BY THE CANDIDATE

This thesis is my original work and has not been presented for any degree in any other University or college.

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ACKNOWLEDGEMENTS

I would like to acknowledge the various people who offered their generous support to the production of this thesis. I am deeply grateful to my supervisors Dr. Maureen Olel and Dr. James Sika for their guidance and suggestions. Their professional guidance which assisted my academic growth is appreciated. I also owe exceptional gratitude to Mr Russel Siyayi for offering his sincere comments towards the development of this thesis behind his busy schedule.

Heartfelt thanks to my family members for their patience as I was developing my thesis. My husband Fredrick Shikuku Shitubi was particularly helpful and he gave me the confidence to press on. I thank my children Mercy, Victoria, Valency and Bravin for their patience and understanding. I would also like to acknowledge my sister Catherine Nanjala, my brothers Solomon Munyasia and Fared Machabe for their support, prayers and encouragement. I am immensely grateful to the former Principal of Nyamninia Secondary school Mr George Onyany and the current Principal Ms Olga Ogonya for occasionally granting me the permission to meet my supervisors and to collect data. The colleagues from Nyamninia Secondary School who offered useful advice behind their busy schedule are profoundly appreciated. All the principals of secondary schools in Gem Sub County, officers and junior clerks at Gem sub-County offices who provided data that shaped this research document cannot be left unmentioned. Their dedication and spirit of urgency was remarkably evident and I am grateful. Above all I thank God for the gift of life and the wisdom.

DEDICATION

This thesis is dedicated to my mum Mrs. Fridah Khabele Nyongesa, my late Dad Mr. Patrick Nyongesa Munyasia and my husband Fredrick S. Shitubi. I thank them for the firm academic foundation they laid in me.

ABSTRACT

Shortage of teachers is a major challenge to provision of quality education. Gem sub-county has the highest shortage of secondary school teachers in Siaya County. With a CBE of 616 teachers, there are 348 teachers T.S.C teachers in the sub-county. Boards of management have resorted to hiring B.O.M teachers paid from school income. This compromises quality of education as huge amount of money meant for other educational inputs is diverted from approved vote heads to pay B.O.M teachers' wages. The purpose of this study was to determine the influence of B.O.M teachers' wage bill on provision of quality education in public secondary schools in Gem sub-county. The objectives of the study were to: establish the wage bill of B.O.M teachers in public secondary schools, determine the effect of expenditure on B.O.M teachers' wage bill on expenditure on approved vote heads, determine the effect of expenditure on B.O.M teachers' wage bill on school fees charged and to determine the relationship between expenditure on B.O.M teachers' wage bill and K.C.S.E performance. This study was guided by a conceptual framework showing the relationship between the independent variable; B.O.M teachers' wage bill and dependent variable; quality education. Descriptive survey and correlation designs were used in this study. The study comprised a target population of 38 head teachers, 190 Heads of Departments and 214 B.O.M teachers. Saturation sampling technique was used to select a sample of 34 principals, 140 HODs and 194 B.O.M teachers. Data collection was through document analysis guide and questionnaires for principals, HODs and B.O.M teachers. Content and face validity of the research instruments was established through scrutiny by experts who were thesis supervisors. Test re-test method was used to establish the reliability research instruments. Correlation coefficients of 0.78, 0.81 and 0.85 for principals, heads of departments and B.O.M teacher were established respectively. Quantitative data from questionnaires was analyzed using the statistical package for social sciences (SPSS) computer programme version 11.5 and descriptive and inferential statistics in form of Pearson correlation coefficient at α=0.01generated. Qualitative data obtained from questionnaires was analyzed on an ongoing process according to themes as they emerged. Major findings of the study indicated that schools in Gem sub-county spend huge amount of money on wages of B.O.M teachers and also diverted funds from the approved vote heads to pay these wages. The study also found out that an increase in expenditure on wages of B.O.M teachers leads to an increase in school fees charged and increase in expenditure on B.O.M teachers improved K.C.S.E performance. The overall conclusion was that wage bill of B.O.M teachers interfere with allocation of funds meant for other educational inputs and this affects provision of quality education in public secondary schools. The study recommended that for schools to provide quality education, the government should cater for wages of B.O.M teachers and have policy that guides hiring and remuneration of B.O.M teachers. Findings of this study are useful to educational managers and policy makers in developing measures on wages of B.O.M teachers to achieve the vision of providing quality education.

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ABBREVIATIONS AND ACRONYMS

B.E.S Boarding Equipment and Stores

B.O.M Board of Management

CBE Curriculum Base Establishment

EW&C Electricity, Water and Conservancy

FDSE Free Day Secondary Education

FPE Free Primary Education

HOD Head of Department

ILO International Labour Organization

IMF International Monetary Funds

K.C.S.E Kenya Certificate of Secondary Education

KUDHEIHA Kenya Union of Domestic, Hotel, Education Institution, Hospital and Allied Workers

LT&T Local Travel and Transport

MoE Ministry of Education

P E Personal Emolument

R.M.I Repair, Maintenance and Innovation

T S C Teacher Service Commission

UNESCO United Nations Educational Scientific and Cultural Organization

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The notion of education quality is often difficult to define. However, there are some basic features which are considered key to educational outcomes (UNESCO, 2012). These include the quality of the teaching workforce, the availability of adequate educational resources, a supportive learning environment and suitable access to basic services in instructional settings like sanitation, clean water and electricity. All of these are important for the promotion of learning and educational performance.

1.1.1 Shortage of teachers and measures developed to curb the shortage

According to Fyfe (2007), the major hindrance to provision of quality education in most countries is teacher shortage. In order to reach a target pupil-teacher ratio of 1:30 and Net Enrolment Rate of 100%, the number of teachers needed in Latin America, the Caribbean, Sub-Saharan Africa, Middle East, North Africa, South Asia, East Asia, the Pacific, Central Asia and Eastern Europe would be about 4 million (UNESCO, 2013). In some countries in sub-Saharan Africa, the shortage of teachers is formally acknowledged as a national crisis (Moon, 2007). The most common response to acute teacher shortage in Africa, Asia and Latin America has been the recruitment of unqualified or not fully qualified teachers so-called volunteer, contract or community teachers. This trend has been particularly marked in francophone West and Central Africa over the last decade (Fyfe, 2007).

In Sub Saharan Africa, in response to an insufficient number of teachers, inefficient deployment practices, or scarcity of funds, contract teachers are often hired for secondary teaching and paid through school or community fees (Mulkeen, Chapman, DeJaeghere and Leu, 2007). In Uganda, contract teachers are hired either by School Management Committees (SMCs), local government or municipalities. This implies that most countries have acknowledged the problem of teacher shortage and its influence on provision of quality education and have therefore come up with policies on hiring and remuneration of contract teachers to curb this problem.

1.1.2 Shortage of teachers in Kenya

In Kenya, the shortage of teachers partly results from the agreement between the Government of Kenya and the International Monetary Fund (IMF) in 1997 to impose a limit of 235,000 on the number of teachers that could be employed (Akala, 2002). Following the introduction of FPE in 2003 and FDSE in 2008 in Kenya, pupil enrolment has tremendously increased. More secondary day schools have been established to cater for the high transition rates from primary to secondary (Njoroge and Kerei 2010). Unfortunately, increase in enrolment has not been followed by increase of teachers. Teacher shortage has continued to be the greatest challenge in provision of quality education in Kenya as shown in Table 1.1.

Table 1.1

Trends in shortage of teachers in Kenya over the period 2009 - 2014

Institution	2009	2010	2011	2012	2013	2014
Primary	47,171	50,374	47,250	47,592	44, 720	44,732
Secondary	23,291	29,505	33,079	37,074	42, 950	45,498
Total	**70,462**	**79,879**	**80,329**	**84,666**	**87,670**	**90, 230**

Source: Education Sector Report (2015), Republic of Kenya.

From Table 1.1, it is quite evident that the shortage of teachers in Kenya is on upward trend. Amongst the key recommendations by the taskforce chaired by Dr Kilemi Mwiria to review school fees were: redistribution of teachers by TSC throughout the country and employment of adequate teaching staff for all schools thereby removing the burden of salaries of B.O.M teachers from parents. The government subsidy for FDSE was therefore increased from Ksh 10,265 to Ksh 12, 870 starting January, 2015 (MoE, 2015) as shown in the fee guidelines in Table 1.2.

Table 1.2

Fees structures for public secondary schools in Kenya for 2008 and 2015

Vote heads	Sub County/ Day Schools (KES)		National, Extra County & County Boarding (KES)	
	2008 (GOK subsidy)	2015 (Total fees)	2008(GOK subsidy)	2015(Total fees)
Teaching Learning Materials	3600	4792	3600	4792
BES and Meals/Lunch	0	0	0	32,385
R.M.I	400	1886	400	3,192
Local Travel and Transport	400	1833	400	2,421
Electricity, water and conservancy	500	3151	500	7,802
Administration cost	500	1572	500	3,316
Activity fees	600	1256	600	1,398
Personal Emolument	3965	5755	3965	8,672
Medical	300	689	300	786
Insurance (Medical &Property)	-	1310	-	1,660
Total school fees		22,244	28,892	66,424
Less GOK subsidy	10,265	12,870	10,265	12,870
Total less Government Funding		9,374	18,627	53,553

Source: Ministry of Education (2015)

Table 1.2 shows the fees structure issued by the MoE in 2008 after introduction of FDSE and in 2015 following Dr Kilemi Mwiria's taskforce recommendations. The approved vote heads are shown in the two fee guidelines. However, the fee structures do not include the salaries for B.O.M teachers. The personal emolument vote head is meant for the wages of non-teaching staff. Wages of B.O.M teachers is a recurrent

expenditure. This means that it is given first priority as compared to other educational in puts. Forojalla, (1983) observes that due to salaries of personnel, particularly teachers, maintenance and upkeep of schools and the provision of the needed teaching materials and welfare of facilities tend to be sorely neglected. When schools give wages of B.O.M teachers first priority, provision of other education inputs tend to be compromised and this ends up affecting quality of education in public secondary schools in Kenya.

1.1.3 Wage bill of B.O.M teachers and provision of quality education in Kenya

Citing Republic of Kenya, (2005), Chabari (2010) says that in Kenya, Board of Governors (BoGs) hire additional teachers paid from fee income to fill teaching positions for which no government teachers have been assigned. Boards of management of secondary schools in Kenya therefore hire B.O.M teachers to fill the teacher shortage in their schools. According to Kenya Secondary Schools Heads Association's Report (2013), there are some schools that have engaged more than 10 teachers hired by schools' Boards of Management (B.O.M teachers) to help fill in the gap. There are some schools where the principal is the only TSC teacher.

A study by Getange (2013) on financing of public day secondary schools education and its implication on the quality of learning in Kisii Central District, Kisii County, Kenya found out that B.O.M teachers were being paid a gross salary of between Ksh 10,000 and Ksh 15,000 per month and that these teachers are paid from fees income; in this case fees paid by parents and the government annual capitation grant. This salary translates to between Ksh 120,000 and Ksh 180,000 per B.O.M teacher annually. Secondary schools that have more than one B.O.M teachers have therefore to cut down expenditure on other vote heads by a bigger margin so as to raise wages for

B.O.M teachers. This diversion of funds from vote heads deprives these vote heads of financial ability to purchase the much needed education inputs hence affecting the quality of education in these schools. The current study therefore set out to establish the wage bill of B.O.M teachers in public secondary schools.

Unlike in other countries where there are policies on hiring and remuneration of contract teachers, Kenya has no such policies. Schools hire B.O.M teachers at their own expense. The Ministry of Education does not approve schools to charge extra levies and therefore schools have to minimize their expenditure vote heads approved by the Ministry of Education to raise the wages of B.O.M teachers. Fleshman (2005) says that due to teacher shortage in Kenya, head masters in many schools are diverting funds for supplies and construction to hire more teachers. Khamati and Nyongesa (2013) observe that FSE has led to increased enrolment resulting in the overstretching of facilities and inadequacy of the teaching staff and that it has also forced principals to use money for school development on wages for the teachers hired by the school. The diversion of funds to pay wages for B.O.M teachers affects provision of educational in puts which are vital to quality education. Basing on the above background, there was need to determine the extent to which expenditure on B.O.M teachers' wage bill affects expenditure on the approved vote heads.

Findings of a study by ILO (2010) on Micro factors inhibiting education access, retention and completion by children from vulnerable communities in Kenya indicate that in schools in Kinango, Msambweni and Matuga sub counties in Kwale County, the number of PTA/ B.O.M teachers per school ranged from one to four in primary school, and one to five in secondary schools and that the teacher salary costs ranged

from less than 90 shillings, up to 2000 shillings. Parents have therefore been called upon to pay fees beyond the government set fees in order to cater for wages of these teachers. This is likely to keep away needy students from school and this in turn affects their performance in exams hence undermining the governments' effort to provide quality education for its citizens. Findings of a study by Munda and Odebero (2014) on the influence of education costs on students' academic performance in Kenya: An empirical study of Bungoma County secondary schools show that County schools had many vote heads which did not exist in approved government fee guidelines, but against which students were levied or the votes were levied beyond the approved ceilings. Salary of B.O.M teachers is one of such vote heads. Basing on findings of Munda and Odebero (2014), it was therefore important to determine the effect of expenditure on B.O.M teachers' wage bill on school fees charged.

Sika, Gravenir, Riech and Ogeta (2013) did a study on relationship between the components of unit cost and academic performance index and their significance in secondary education in Kenya: A case study of Siaya District and found out that variables such as bursary, activity, medical, E.W.C, Tuition, were significant predictor of performance. Munda and Odebero (2014) also did a study on the influence of education costs on students' academic performance in Kenya: An empirical study of Bungoma County secondary schools and found that a significant positive relationship existed between unit cost and academic performance. However, these two studies did not include B.O.M teachers' wage bill as one of the components of unit cost of education that affects academic performance yet schools spend finances on wages of B.O.M teachers. This study was therefore meant to determine the

relationship between expenditure on B.O.M teachers' wage bill and academic performance.

1.1.4 Shortage of teachers in Gem sub-County, Siaya

Following the introduction of Free Secondary Education, the number of public secondary schools in Gem sub-County rose from 33 in 2009 to 47 in 2016. Gem Sub County has the highest teacher shortage in the County as indicated in Table 1.3.

Table 1.3

Shortage of teachers in public secondary schools in Siaya County

Sub County	No of secondary schools	CBE	TOD		Shortage	
			Frequency	Percentage	Frequency	Percentage
Siaya	41	550	320	58.18	230	41.82
Gem	**47**	**616**	**348**	**56.49**	**268**	**43.51**
Bondo	34	510	308	60.39	202	39.61
Rarieda	32	420	250	59.52	170	40.48
Ugunja	26	375	218	58.13	157	41.87
Ugenya	29	384	224	58.33	160	41.67
TOTAL	**209**	**2, 855**	**1, 668**	**58.42**	**1, 187**	**41.58**

Source: District Staffing Officers Siaya County (2015)

Table 1.3 indicates that the shortage of teachers in public secondary schools in Gem sub-County in 2015 was 43.51%. This concurs with findings of a study by Mande (2012) on Perceived psychological contract and job satisfaction of secondary school teachers in Gem District, Kenya that 40% of the teachers in Gem District are B.O.M teachers. This means that secondary schools in Gem sub-County have to raise huge amount of money from approved vote heads to pay wages of B.O.M teachers and this affects provision of other education inputs that are key to provision of quality

education. Findings of a study by Otiato (2011) on Assessing effectiveness of teaching and learning facilities of physics among form two students of Gem Sub-County, Siaya County-Kenya indicate that schools in Gem Sub-County have inadequate human resources and facilities for effective teaching and learning of physics. These findings mean that teaching and learning in Gem sub-County was not effective as schools lacked basic educational facilities.

As much as B.O.M teachers have become a panacea to the problem of teacher shortage in Kenya, there is very little information on the financial implication that their wages have on quality of education. This study therefore sought to research on the influence of B.O.M teachers wage bill on provision of quality education in public secondary schools in Gem sub-County by focusing on: wage bill of B.O.M teachers, influence of expenditure on B.O.M teachers' wage bill on expenditure on approved vote heads, influence of expenditure on B.O.M teachers' wage bill on school fees charged, influence of expenditure on B.O.M teachers' wage bill on K.C.S.E performance.

1.2 Statement of the Problem

Public secondary schools in Gem sub-County have continued to perform dismally in K.C.S.E examinations. Since the year 2011, the sub-County has consistently registered a mean score of below 6.0 which is the average score in K.C.S.E examinations. Gem sub-County has the highest teacher shortage in Siaya-County. The shortage of teachers stands at 43.51%. Boards of Management have resorted to hiring B.O.M teachers paid from fees income since there is no government policy regarding remuneration of B.O.M teachers.The government annual capitation grant of Ksh 12,870 that each student in public secondary school is entitled to does not include the

wages for B.O.M teachers. Schools are also not allowed to charge parents extra fees apart from the approved fees by the government. The B.O.M teachers are paid a gross salary of between Ksh 10,000 and Ksh 15,000 per month.

Poverty index of Gem sub-County, Siaya as at 2007 was 64%. Most of the public secondary schools in the sub-County are mixed day secondary schools implying that most of the student populace is drawn from the locality. Payment of fees is therefore a challenge in most of these schools. Despite all these challenges, public secondary schools in Gem sub-County have to hire and pay B.O.M teachers' wages. The 43.51% shortage of teachers definitely has a bearing on the quality of education in public secondary schools in Gem sub-County as funds meant for other educational in-puts are spent on wages of B.O.M teachers. However, there is scanty information on B.O.M teachers' wages and its effect on provision of quality education. There was therefore need to find out the influence of B.O.M teachers' wage bill on provision of quality education in public secondary schools in Gem Sub County.

1.3 Purpose of the Study

The purpose of this study was to determine the influence of B.O.M teachers' wage bill on provision of quality education in public secondary schools in Gem sub-County.

1.4 Objectives of the Study

The specific objectives of the study were to:

1. Establish the wage bill of B.O.M teachers in public secondary schools in Gem sub-County.
2. Determine the effect of expenditure on B.O.M teachers' wage bill on expenditure on approved vote heads in public secondary schools in Gem sub-County.

3. Determine the effect of expenditure on B.O.M teachers' wage bill on school fees charged and;
4. Determine the relationship between expenditure on B.O.M teachers' wage bill and K.C.S.E performance.

1.5 Research Questions

The following specific research questions guided the study:

1. How much do public secondary schools in Gem Sub County spend on wages of B.O.M teachers?
2. What is the effect of expenditure on B.O.M teachers' wage bill on expenditure on approved vote heads in public secondary schools in Gem sub-County?
3. What is the effect of expenditure on B.O.M teachers' wage bill on school fees charged in public secondary schools?
4. What is the relationship between expenditure on B.O.M teachers' wage bill and K.C.S.E performance in public secondary schools in Gem sub-County?

1.6 Assumptions of the Study

For the purpose of this study, the following assumptions were made:

1. Public secondary schools in Gem sub-County have teacher shortages and they engage B.O.M teachers.
2. Free day secondary education subsidy and school fees are the main sources of B.O.M teachers' wages.

1.7 Significance of the Study

It is hoped that the findings of the study may have both theoretical and practical implications for the future of secondary education in the country. Theoretically the

study will contribute to the advancement of knowledge about the wages of B.O.M teachers as an important education input that influences the education quality. Moreover, it is hoped that the findings of this study will add knowledge to the existing literature on the subject. In practice, the Ministry of Education and the Teachers' Service Commission may find the study useful on policy formulation regarding hiring and remuneration of B.O.M teachers. Finally, it is hoped that this document would act as a source of reference to all stake holders in educational sector.

1.8 Limitations of the Study

The researcher used questionnaires to seek information on financial ability of schools. This posed some challenges as some schools were not unwilling to reveal their financial status. However, the questionnaires were delivered by the researcher in person so as to have an opportunity to explain the purpose of the study and to establish rapport with the respondents which helped the researcher to get sincere responses from them.

1.9 Delimitations of the Study

There were 47 secondary schools in Gem Sub County. One was a special school, six schools had not yet presented candidates for K.C.S.E. one schools had no K.C.S.E results in 2013 and another one had no results in 2014 due to exam cheating. The special school was not included in the study. Only public secondary schools that had presented candidates for K.C.S.E and had results for 2013 and 2014 were used in the study. The research compared performance in K.C.S.E, number of TSC and B.O.M teachers, student enrolment and expected income and expenditure on the approved vote heads for the years 2013 and 2014 only because the number of B.O.M teachers employed was highest in 2014 and performance in K.C.S.E had dropped from 5.5 in 2011 to 5.2 in 2013 in the sub-County. There were other vote heads in schools which

are affected by the wages of the B.O.M teachers. However, this study only focused on the vote heads found in the Ministry of Education, 2015 circular. There are other sources of income to schools. However, this study only used the government subsidy and fees by parents since they were the most reliable sources of income to schools (Getange, 2013).

1.10 Conceptual Framework

This study was based on a conceptual framework (Figure 1.1) which postulates that the wage bill of B.O.M teachers, which is the independent variable, can influence the provision of quality education in public secondary schools. The main argument for wage bill of B.O.M teachers is that it helps to curb the teacher shortage and improves students' academic performance (Duthilleul, 2005). However quality education is dependent on B.O.M teachers' wage bill.

Parameter of quality education is adequate financial expenditure on approved vote heads. The approved vote heads in the fees guidelines are: teaching and learning materials vote head meant for purchase of teaching and learning materials, Boarding Equipment and Stores (B.E.S) which is meant to cater for provision of food and boarding facilities in boarding schools, Repair Maintenance and Innovations (R.M.I) vote head meant for maintenance of infrastructure in schools, Local Travel and Transport (LT&T) vote head meant to cater for the travel and transport expenses incurred by the school, Electricity, Water and Conservancy (E.W.C) vote head meant to cater for electricity and water bills incurred by schools, administrative costs vote head which caters for comprehensive services like general purpose equipment, office supplies, general purpose books and reference materials which enable schools to operate efficiently, activity vote head meant for facilitation of co-curricular activities

in schools, Personal Emolument (P.E) vote head meant for salaries of non-teaching staff and medical vote head meant to cater for medical services offered to students while in school. These vote heads are very important as they ensure that finances are effectively distributed to cater for all the educational inputs in schools. When finances are spend adequately on these vote heads, the educational in puts that fall under these vote heads will be adequate and this in turn improves the quality of education.

However, if wages for B.O.M teachers are drawn from the approved vote heads, the funds meant to be spent on these vote heads will be inadequate which in turn affects the quality of education being offered. If B.O.M teachers' wages are to be paid from fees that parents pay, then school fees charged will be increased to cater for these wages. Increased school fees keep students away from school and this affects their performance in K.C.S.E exams. Increased performance in K.C.S.E is an indicator of quality education. If schools expenditure on wage bill of B.O.M teachers is high, provision of other educational in puts will be affected and this will lead to poor performance in K.C.S.E.

Provision of quality education, the dependent variable, will only be achieved when wage bill of B.O.M teachers is not drawn from the approved vote heads and when school fees charged is not increased to cater for wages of B.O.M teachers. Adequate expenditure of funds allocated under the approved vote heads as indicated in MoE (2015 fees guidelines and good performance in K.C.S.E are indicators of quality education. However, financial stability of the school, supply of teachers by T.S.C, increased student population (intervening variables) may moderate the impact of B.O.M teachers' wage bill (independent variable) on provision of quality education (dependent variable).

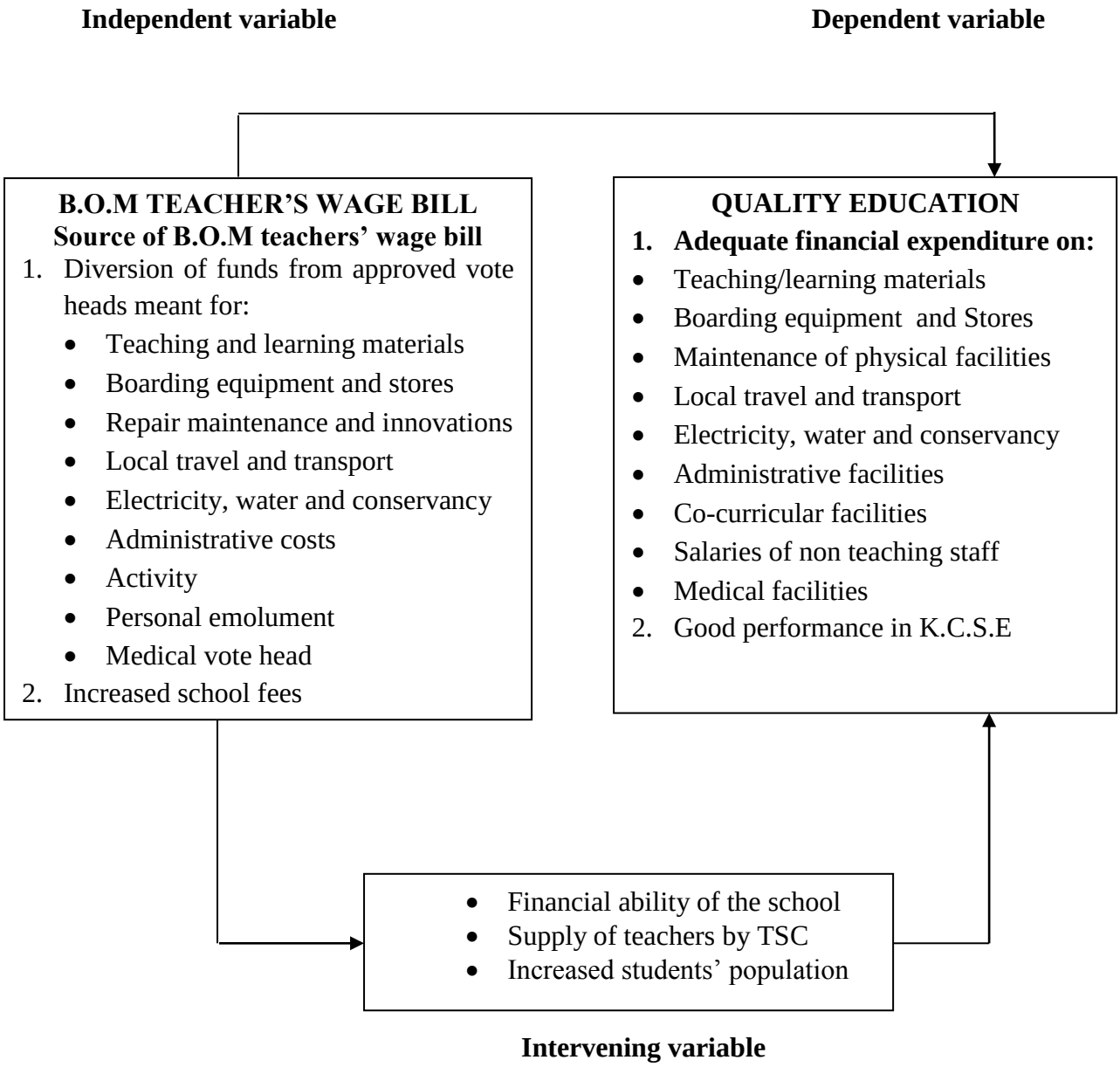

Figure 1.1: A conceptual framework showing influence of the B.O.M teachers' wage bill on provision of quality education

1.11 Definition of key operational terms

The following is the definition of terms as used in this study:

Approved vote heads: These are the vote heads indicated in the MoE (2015) fees guidelines. They are teaching and learning materials vote head, Boarding Equipment and Stores (BES) vote head, Repair, Maintenance and Innovations (RMI) vote head, Local Travel and Transport (LT&T) vote head, Electricity, Water and Conservancy (EWC) vote head, administration costs vote head, activity fees vote head, personal emolument (PE) vote head and medical vote head.

Board of Management: It is a body in schools responsible for hiring and paying of teachers hired on temporary basis commonly known as B.O.M teachers.

B.O.M Teachers: These are teachers either with a Degree, a diploma or with K.C.S.E. certificate employed on temporary basis by the schools' boards of management. They are also known as BOG teachers.

Government annual capitation grant: This is the Ksh12, 870/= that each student in public secondary school in Kenya receives from the government to subsidize the cost of education. It is distributed across the approved vote heads.

Quality education: In this context, quality education means adequate expenditure on each of the approved vote heads as indicated in the Ministry of Education fees guidelines (2015). Availability of educational inputs under each approved vote head and good performance in K.C.S.E are indicators of quality education.

School fees: It refers to the amount of money parents pay under each approved vote head and any other amount that is not indicated in the MoE (2015) fees guidelines

Wage bill: Total amount of money that the schools pay B.O.M teachers.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section reviews the related literature on the influence of the B.O.M teachers' wage bill on provision of quality education under the following sub themes: The wage bill of B.O.M teachers in public secondary schools, the effect of expenditure on B.O.M teachers' wage bill on expenditure on approved vote heads (teaching and learning materials, Boarding Equipment and Stores, Repair Maintenance and Innovations, Local Travel and Transport, Electricity Water and Conservancy, administrative cost, activity, Personal Emolument and medical vote heads), effect of expenditure on B.O.M teachers' wage bill on school fees and relationship between expenditure on B.O.M teachers' wage bill and K.C.S.E performance

2.2 The wage bill of B.O.M teachers in public secondary schools

It is widely recognized that while the number and recruitment of teachers has grown significantly since 1970, recruitment rates have stalled and not kept pace with expanding enrolments. This has led to a worldwide shortage of teachers that is particularly acute in developing countries. Many countries have therefore resorted to the practice of hiring contract and temporary teachers to fill this supply gap (Nordstrum, 2012).

In Europe, fixed term contracts are usually established to replace absent teachers or employ teachers that are not fully qualified during times of teacher shortage. In Peru, contract teachers represent about 11 per cent of all teachers. A similar trend is found

in Chile where contract teachers represent up to 20 per cent of the teaching force. In China, contract teachers hired directly by the local community represented about half of all teachers in primary and secondary schools by 1980. Contract teachers have been a key factor in increasing access to early primary grades in some states in India such as Rajasthan, Madhya, Pradesh and Andra Pradesh, where thousands of local contract teachers or para teachers as they prefer to call them have been hired by the local communities to supplement the existing teaching force (Duthilleul, 2005). The practice of hiring contract teachers for a public service position is quite dominant in West Africa with several countries in the sub-region currently employing over half of their teachers under contract.

In East Africa, Tanzania has a critical shortage of qualified teachers, especially at secondary school level. The authorities have responded to the current shortage of qualified teachers in the country by recruiting unqualified teachers. These unqualified teachers are known as licensee teachers. In Uganda, most of the unqualified teachers were recruited in 1997, when the country introduced free primary education. A substantial number of private schools in the country have also employed unqualified or contract teachers (Moore, Destefano, Terway and Balwanz, 2008)

However, countries differ in terms of who hires and appoints contract teachers. In Cambodia, it is the school principal; in Nicaragua the school committee and in India the village Education Committee. In West Africa, it can be the local education office or the community with or without state financial support (Duthilleul, 2005). In India, Local community leadership plays an important part in the recruitment of para teachers in most states. In Burkina Faso the government provides two government

paid teachers for every newly established lower secondary school; communities and other providers are expected to contract additional teachers as needed. In Chad half of the teachers in junior secondary schools are community teachers mostly paid by parents (Lewin, 2008). In Nicaragua, financial transfers were made to school councils who were given the power to hire and fire teachers within the existing legal framework governing teachers' rights, and it could offer them additional financial incentives (bonus payments) on the basis of performance. In Uganda, individual schools hire contract teachers who receive a gross salary of 50 000 shillings ($29) per month. In Tanzania, community schools attempt to make-up for the inadequacy of government funded teachers by using school contributions to hire teachers on contractual terms, and/or paying allowance to teachers in other government schools to come and teach in the community schools on part time basis (Sinyolo, 2007).

In Kenya, Board of Governors (BoGs) hire additional teachers paid from fee income to fill teaching positions for which no government teachers have been assigned (Chabari, 2010). However, findings of a study by Warui, (2015) on Challenges facing teaching and learning of Integrated Business Studies in day secondary schools in Kirinyaga west District, Kirinyaga County, Kenya indicate that there being no T.S.C teacher in schools, the challenge is finances to pay for the B.O.M teachers. A study by Getange (2013) on financing of public day secondary schools education and its implication on the quality of learning in Kisii Central District, Kisii County, Kenya found out that the BOG teachers were necessary due to shortage of teachers. The study also revealed that these BOG teachers were being paid a gross salary of between Ksh 10,000 and Ksh 15,000 per month.

This salary translates to between Ksh 120,000 and Ksh 180,000 per B.O.M teacher annually. Secondary schools that have more than one B.O.M teachers have therefore to cut down expenditure on other vote heads by a bigger margin so as to raise wages for B.O.M teachers. This diversion of funds from vote heads deprives these vote heads of financial ability to purchase the much needed education inputs hence affecting the quality of education in these schools. The current study therefore set out to establish the wage bill of B.O.M teachers in public secondary schools in Gem sub-County.

2.3. Expenditure on B.O.M teachers' wage bill on expenditure on vote heads

According to MoE (2015) fees guidelines, the government approved vote heads in public secondary schools are teaching and learning materials vote head, Boarding Equipment and Store vote head (BES), Repair, Maintenance and Improvement vote head (RMI), Local Travel and Transport vote head (LT&T), Electricity, Water and Conservancy vote head (EWC), Administrative costs vote head, Activity vote head, Personal Emolument vote head (PE) and the Medical vote head (MoE, 2015). These vote heads ensure equitable allocation of funds to different educational resources that are important to provision of quality education. However, there is no vote head for wages of B.O.M teachers in the fees guidelines. When funds are diverted from approved vote heads to pay wages for B.O.M teachers, schools lack financial ability to provide other educational in puts that are key to provision of quality education. This study will therefore seek to determine the effect of diverting funds from the approved vote heads to pay salaries of B.O.M teachers.

2.3.1 B.O.M teachers' wage bill on teaching and learning materials vote head

The availability of educational material, such as textbooks and manuals, is a factor that impacts on education quality (UNESCO, 2012). A study in India found that extra spending on teaching materials was fourteen times more effective than raising teachers' salary inputs in enhancing learning outcomes (World Bank, 1996). These findings are in line with the work of Olagunju (2000) who found out that there was a remarkable difference in the achievement scores of students taught with various instructional materials and those not exposed to use of instructional materials.

A study by Igu, Ogba and Igwe (2014) on effects of Instructional Materials on Students' Achievement in Social Studies in Lower Basic Education in Nigeria found out that students taught with instructional materials performed better than those taught without instructional materials. There is therefore a general consensus that instructional materials enhances teaching and learning and leads to better students' achievement (Olagunju, 2000). According to Lewin (2008), Sub Saharan African countries have responded to the increased demand for secondary places by spreading the same resources over larger number of students when constrained by limited public resources and in the absence of significant policy reforms, Consequently, essential inputs often are in short supply resulting in increasing class sizes, shortages of textbooks, instructional materials and supplies, poorly stocked libraries and double or triple shift use of facilities. Factors that limit textbook availability include low priority on teaching and learning inputs in countries' education budgets, high textbook costs and wastage due to wear and tear (UNESCO, 2014).

The importance of textbooks in the FPE programme in Kenya is underscored by the fact that out of the FPE funds of KES 1,020 per pupil, about two thirds (KES 650 or 64 percent) is earmarked for the purchase of textbooks, supplementary readers and reference materials, among other items. The provision of FDSE funds is meant to cater for tuition and operations costs in schools (MoE, 2009). Out of Kshs 12, 870 FDSE subsidy, Kshs 4,792.00 is meant for purchase of textbooks /instructional material, exercise books, laboratory equipment, chalk and internal examination (MoE, 2015). Miheso (2012) as cited by Musasia, Nakhanu and Wekesa (2012) notes that a student/text book ratio of 1:1 or 1:2, improves syllabus coverage, while a ratio of 1:3 and above slows down syllabus coverage, leading to poor performance in mathematics. The Ministry's long term policy is one text book per pupil. Most schools have not adhered to this policy since they do not spend adequately on teaching and learning materials.

However, according to UNESCO (2014), Kenya is one of the countries where textbooks are becoming even scarcer. Between 2000 and 2007, Kenya, Malawi and Namibia experienced rapid increases in enrolment, but the availability of textbooks did not keep pace. Otieno and Colclough (2000) observe that when financial resources are scarce, textbooks, teachers' guides and supplementary materials for schools are often the first budget line to be axed. Being a recurrent expenditure, wages of B.O.M teachers are always given first priority.

A study by Otiato (2011) on Assessing effectiveness of teaching and learning facilities of physics among form two students of Gem District, Siaya County-Kenya found out that schools in Gem District have inadequate human resources and facilities

for effective teaching and learning of physics. However, Otiato's study did not seek to find out whether the effectiveness of teaching and learning facilities in schools in Gem District is affected by the wage bill of B.O.M teachers. There was therefore need to determine the effect of diversion of funds from the teaching/ learning vote head to cater for the wages of B.O.M on provision of quality education in Gem sub-County.

2.3.2 B.O.M teachers' wage bill on Boarding, Equipment and Stores (BES) vote head

One of the reasons parents send their children to boarding schools is the standard of basic facilities, which it is believed is higher than in non-boarding schools, and can have a positive impact on academic achievement (Maphoso and Mahlo, 2014). Bamford (1967) as cited by Maphoso and Mahlo (2014) says that schools that have almost all basic facilities are mostly boarding schools, defined as those in which some or all pupils study and live during the school year with their fellow students and possibly teachers and/or administrators.

According to the Government of China (2007) as cited by Jagero (2011), boarding secondary schools in China are very useful because they help to uplift the educational conditions of the students especially those whose parents are migrant workers. In China there are 40 million children whose parents are working away from home. With their parents' physical absence, most of those children struggle with their lives especially towards education and personal development (Government of China, 2007). The Chinese government has a plan to establish additional government boarding schools that are least expensive so that most Chinese parents can afford them. Most parents in China believe that boarding high schools can help students to

be fully educated at the same time to be guided in forming and shaping the personal characteristics of the students to become responsible and good to the society.

Maphoso and Mahlo's (2014) study on Basic Facilities and Academic Achievement: A Comparative Study between Boarding and Non-boarding Schools in South Africa found a significant difference in basic facilities between boarding and non-boarding schools, with the boarding schools having more basic facilities. It also revealed a significant difference between low and high achieving schools in basic facilities, with high achieving schools being boarding schools. The study found out that basic facilities have a positive correlation with academic achievement. However, a study by Holsinger, Jacob and Migimu (2002) in Ugandan secondary schools found out that most boarding schools had no running water. Most of the schools depend on rain water trapped into water reservoirs such as plastic tanks.

In Kenya, parents with children in boarding schools are expected to pay Ksh 32,385 as boarding fees (MoE, 2015). Boarding Equipment and Stores (B.E.S) vote head is not catered for by the FDSE funds. Findings of a study by Munda and Odebero (2014) on the Influence of education costs on students' academic performance in Kenya: An empirical study of Bungoma County secondary Schools indicate that Boarding Equipment and Stores (BES) was the most expensive item, averaging Ksh. 17,045. Clearly, food and accommodation are the largest determinants of school attendance since they constitute the bulk of unit cost that accrues against students.

A study by Jagero (2011) on An Evaluation of school environmental factors affecting performance of boarding secondary students in Kisumu District, Kenya found out

that factors which affected academic performance of boarding students included lack of good lighting system, lack of reading space, lack of reading materials, interference from friends in the same class, a lot of school chores like cleaning, hunger due to inadequate meals, disturbance from non-human activities like mosquitoes, lack of proper accommodation in the dormitories, lack of proper diet and scarcity of boarding facilities like bathrooms, water and toilets. This implies that when funds are diverted from this vote head to cater for wages of B.O.M teachers, provision of basic boarding facilities will be affected and this ends up affecting academic performance of students in boarding schools. Basic facilities in boarding schools have a positive correlation with academic achievement as seen in the findings of Maphoso and Mahlo (2014). This study sought to find out the effect of expenditure on B.O.M teachers' wage bill on expenditure in B.E.S vote head.

2.3.3 B.O.M teachers' wage bill on Repair Maintenance and Innovations vote head

According to the Department of Education, U.S.A (2000) decaying environmental conditions such as peeling paint, crumbling plaster, non-functioning toilets, poor lighting, inadequate ventilation and inoperative heating and cooling systems can affect the learning as well as the health and morale of staff and students. Filardo (2008) says that when maintenance and repairs occurred at schools, health of the school improved, teachers were retained in the school, and the school environment became more conducive to high-quality teaching and learning. Lackney and Picus (2008) say that school facilities should be responsive to the changing programmes of educational delivery. School facilities should provide an environment that is safe, secure, comfortable, accessible, well-ventilated, and well-illuminated aesthetically pleasing, and should be an integral component of the conditions.

A study of the District of Columbia school system found, after controlling for other variables such as students' socioeconomic status, that students' standardized achievement scores were lower in schools with poor building conditions (Edwards, 1991). Cash (1993) examined the relationship between building condition and student achievement in small rural Virginia high schools and found out that achievement was directly related to cosmetic factors. Poor achievement was associated with specific building factors such as substandard science facilities, air conditioning, locker conditions, classroom furniture, more graffiti and noisy external environments.

In sub-Saharan Africa alone it is estimated that up to US$30 billion will be required to address the shortfall in provision of suitable and safe learning environments. Typically, classrooms are overcrowded, many buildings and other facilities are inadequate, sites are poorly planned and there is little maintenance. This situation is not conducive to good teaching and learning. The condition, location and nature of school infrastructure have an impact on access and quality of education. Investments in repairs and maintenance are very cost effective but have historically received little priority or attention from governments or development partners. The current deficit of classrooms in Sub Saharan Africa is due in part to poor maintenance of the existing building stock (UNESCO, 2011).

Under the subsidized Free Secondary Education, the R.M.I vote head is allocated Ksh 1,886 per student in public day secondary schools and Ksh 3, 192 per student in public boarding secondary school (MoE fees guidelines, 2015). This vote head is supposed to improve the state of the physical facilities in schools to meet the

standards as stipulated in the 2008 Safety standards Manual for schools in Kenya. According to this manual, the safety of the learner is central to the provision of quality education in any country. Schools in Kenya are to ensure that appropriate colours are used in painting the inside and outside of classroom and other physical structures, learning rooms are well maintained and clean and that desks and chairs in classrooms are well maintained and clean. For cemented floors, any cracks to be repaired in good time and proper maintenance of structures and grounds to seal structural cracks through which pests and rodents can enter.

Schools are also to ensure that they have properly reinforced fence with appropriate mechanisms for repair and maintenance and that sanitary facilities and equipment are in the best state of repair, serviceable and inspected regularly. All sanitary facilities and equipment should be in the best state of repair, serviceable and inspected regularly. According to UNESCO (2003), laboratories should have enough water, drainage system, ventilations, furniture fire extinguisher, prep room fume chamber, emergency door, duster, chalk, storage room, source of heat, basic reagents and lab coats. However, findings of a study by Mwende (2014) on school based factors influencing quality of education in public secondary schools in Kitui County reveal that lack of good condition buildings in the school hindered delivery of quality education.

Findings of a study by Njihia and Nderitu (2014) on the use and usefulness of school grants: Lessons from Kenya established that the vote head for renovation of classrooms, building of toilets, repairs, maintenance, and improvement of physical facilities (R.M.I) receives the lion's share of allocation. However, when it comes to

utilization of R.M.I's vote head, all the funds are not fully used and this vote head is under spent. Sika et al. (2013) did a study on relationship between the components of unit cost and academic performance index and their significance in secondary education in Kenya: a case study of Siaya District. They found out that in most schools visited, broken furniture were being seen, implying that R.M.I fee was not being put to good use. Old buildings were still in operational and needed urgent repair and improvement.

Khamati and Nyongesa (2013) observe that FSE has led to increased enrolment resulting in the overstretching of facilities and inadequacy of the teaching staff. It has also forced principals to use money for school development on wages for the teachers hired by the school. Funds that are therefore meant to repair and maintain physical facilities in schools are diverted to pay wages of B.O.M teachers. This affects students' academic performance as achievement was directly related to cosmetic factors (Cash, 1993). Findings of Sika et al (2013) on Relationship between the components of unit cost and academic performance index and their significance in secondary education in Kenya: A case study of Siaya District show that an increase in the cost of R.M.I by one unit would lead to improved performance. The R.M.I is used for the purpose of repair of desks, furniture's, and improvement of works on buildings within the school. Since this vote head is key to provision of quality education, there was need to find out the effect of expenditure on B.O.M teachers' wage bill on expenditure on R.M.I vote head.

2.3.4 B.O.M teachers' wage bill on Local Travel and Transport vote head

Most head teachers, teachers and school workers perform functions requiring them to travel outside the school (Sika et al, 2013). Students also travel out of school to participate in co- curricular activities and attend field trips. Apart from field trips, schools also provide the money for transport for teachers to travel to workshops (Welford and Khatete, 1999). Carolyn Fry (2009) as cited by Nkereowajiro (2014) admit that taking pupils outside the comfort of the classroom can be a daunting step for some teachers, but admits strongly that field trips provide unique opportunities to apply learning to the real world. Offsted (2008) also cited by Nkereowajiro (2014) reported that when planned and implemented well, learning outside the classroom contributed significantly to raising standards and improving pupils personnel, social and emotional development. Academic trips are therefore important to both teachers and students as they provided learning opportunity outside the school confines.

Findings of a study by Sika et al, (2013) on relationship between the components of unit cost and academic performance index and their significance in secondary education in Kenya: A case study of Siaya District reveals that an increase in the unit cost of LT&T by one unit would lead to dismal performance. According to Sika et al, (2013), travelling should be treated with caution because in most cases it leads to absence of teachers' and principal from the school. The absence of teachers' and principals is one of the contributing factors to dismal performance of students. On the contrary, a study by Nkereowajiro (2014) on the impact of student's field trips on academic performances in agricultural Science in selected secondary schools in Rivers State found a significant difference between the effects of Agricultural excursions and student performance in agricultural science in secondary schools in

Rivers State. Due to the fact that Agricultural field trips make recall of learned experiences easy during tests and examinations. Agricultural field trips boost students' practical experiences. It enhances their ability in the management of practical exercises in their farm projects. This negates findings of Sika et al (2013). Funds that facilitate field trips are drawn from local travel and transport vote head. Therefore diversion of funds from this vote head to pay wages of B.O.M teachers affects provision of quality education.

This study therefore sought to determine the effect of expenditure on B.O.M teachers' wage bill on expenditure local travel and transport vote head in public secondary schools in Gem sub-County.

2.3.5 B.O.M teachers' wage bill on Electricity, Water and Conservancy vote head

Water Aids (2004) as cited by Maphoso and Mahlo (2014) found out that 104 million children worldwide did not go to school due to lack of safe water and sanitation. According to UNICEF (2004), in schools where girls were sent to fetch water there was a high rate of absenteeism and the practice negatively affected academic achievement. In South Africa, it has been pointed out that government's failure to provide water and sanitation is undermining the children's chances of obtaining education.

Studies show that safe, adequate water and sanitation facilities in schools, coupled with hygiene education, reduce the incidence of diarrhea and other water-borne diseases (UNICEF, 2009). Furthermore, inadequate access to sanitation may have a negative impact on enrolment and attendance, especially of girls, and on school performance. According to UNICEF (2011), access to potable (or 'improved') water

is important for ensuring hygienic practices within schools and reducing the spread of certain diseases which may affect pupils' well-being or educational performance. Access to potable (or 'improved') water sources includes sustainable access to pipe-borne water, protected wells, boreholes, protected spring water or rainwater. Many schools in Sub-Saharan Africa, however, have little or no access to basic services such as clean water, adequate sanitation facilities or electricity (UNICEF, 2011).

Electricity also plays an important part in schools since it provides light and facilitates many activities. Murillo and Roman (2011) as cited by Maphoso and Mahlo (2014) also show that the availability of electricity in the school has an effect on the achievement of primary education students, whilst Bacolon and Tobias (2006) as cited by (Maphoso and Mahlo (2014) discovered that schools providing basic facilities such as electricity performed much better in achievement growth than schools that did not.

From these findings, diversion of funds from EWC vote head was likely to affect many activities in schools that rely on electricity. Lack of water compromises sanitation and this may in turn affect students' academic performance. Since expenditure on this vote head has a bearing on quality of education provided in schools, the current study set out to determine the influence of expenditure on B.O.M teachers' wage bill on expenditure on Electricity, Water and Conservancy vote head in public secondary schools in Gem sub-County.

2.3.6 B.O.M teachers' wage bill on Administrative cost vote head

Administrative costs include administrative/clerical salaries, wages and benefits, general purpose equipment (personal computers fax machines, copiers, desks, chairs, file cabinets), office supplies (printers, scanners, paper, toner, post-its, markers, hole

punchers, binders, folders, forms, parts and supplies associated with repair and maintenance of general purpose equipment and facilities), general purpose books and reference materials (US Federal Register,2013). These comprehensive services enable our schools to operate efficiently and provide the necessary support to teachers so they focus on the vital tasks of teaching and learning.

A study by Jaggia and Hawke (1999) on analysis of the factors that influence student performance in Massachusetts found out that when per pupil administration expenditures increase, then the proportion of students performing poorly increases and the proportion of students performing well decreases. These findings concurred with those of Sika et al (2013) which indicated that an increase in administrative cost per student by one unit can lower performance by 6.70 units. Administration cost vote head is meant for purchase of office stationary, internet services, bank charges, annual general meetings and prize giving days (Sika et al, 2013). The administrative costs also purchase workers' uniforms, newspapers, receipt books, and all other stationary that facilitates smooth running of office work. The reviewed studies found that an increase in administrative costs lowers students' academic performance. However, they did not set to find out the effect of diversion of funds from this vote head on quality of education. This study sought to determine the effect of expenditure on B.O.M teachers' wage bill on expenditure on administrative costs vote head in public Secondary Schools in Gem Sub-County.

2.3.7 B.O.M teachers' wage bill on activity vote head

Participation in co-curricular is widely thought to play a key role in students' academic success (Leung, Ng and Chan, 2011). Fung, Lee and Chow (2007) as cited by (Leung, Ng and Chan, 2011) say that students also realize the importance of

developing competences, by joining co- curricular activities and working collaboratively with their student peers on academic work in order to gain hands on experience.

A study by Weber (2008) on student involvement in co-curricular activities and success in mathematics and reading assessments in 8th Grade Mathematics, 8th Grade Reading, 10th Grade Mathematics and 11th Grade Reading in Olathe School District, Kansas, US found out that co-curricular activities had a positive effect on all the four assessments studied. These findings concur with findings of a study by Kariyana, Maphosa and Mapuranga (2012) on the influence of learners' participation in school co-curricular activities on academic performance: Assessment of educators' perceptions. The findings of this study that was done in both private and public schools in one educational District in the Eastern Cape Province of South Africa indicate that participation in co-curricular activities helped to improve students' confidence which is vital in their academic pursuit. Therefore the importance of co-curricular activities cannot be underestimated.

To cater for activities in secondary schools, each student in public day secondary school is expected to pay Ksh 1,256 while those students in boarding schools are supposed to pay Ksh 1,398 as activity fees. However, findings of a study by Ogoch and Thinguri (2013) on an evaluation of the effectiveness of co-curricular policy in developing talent among the youth in secondary schools in Transmara West Sub-County, Kenya revealed that there was inadequate time allocated for co-curriculum activities and that most schools did not take co-curricular activities seriously. The Ministry of Education (2012) as cited by Ogoch and Thinguri (2013) notes that

although the Kenyan government allocates in excess of Ksh 400 million for co-curricular activities, not much is seen to be going on in terms of students' participation in co curriculum. Most schools concentrate on academic work examined after four years in secondary school thus effectively locking out co-curricular activities – a central component of the curriculum offered in our secondary schools.

A study by Munda and Odebero (2014) on the influence of education costs on students' academic performance in Kenya: A case study of Bungoma County secondary schools found out that some schools, in an effort to address their financial problems were cutting costs of what were perceived as non-core activities so as to concentrate at excelling in a limited number of important activities rather than trying to do everything. This was evident in the area of sports and academics where schools scaled down on subjects and sports whose combinations were unsustainable in view of the teacher establishments in departments.

From the reviewed studies, it is evident that co-curricular activities are very important and therefore diversion of funds from this vote head to pay wages of B.O.M teachers may affect provision of quality education. The current study therefore sought to determine the effect of expenditure on B.O.M teachers' wage on expenditure on activity vote head in public secondary schools in Gem sub-County.

2.3.8 B.O.M teachers' wage bill on Personal Emolument (P.E) vote head

A number of non-teaching personnel is employed in schools to meet students' needs and complement teachers' professional roles and responsibilities (Saskatchewan Teachers' Federation Report, 2005). According to Turner (2012), the success of any

school depends on the drive and the commitment of the whole school force. Whilst the role that teachers provide is vitally important, the role of non-teaching staff must never be underestimated. The functions undertaken by teaching assistants, catering staff, librarians and cleaners are all essential in the drive to improve standards in schools

Although many support staff in New Zealand schools consider that they work in very supportive environments where they are valued and respected, there are also significant numbers who have concerns related to pay, status and school cultures (Support staff workforce working group, 2011). Gilmore and William (2009) as cited by Nalweyiso (2012) say that monetary rewards play an essential role within an organization due to the fact that, wages, bonuses and salaries usually have a positive influence on the commitment of employees. Yuvaraj (2003) also cited by Nalweyiso (2012) says that monetary rewards increase the employees‟ financial position thus making their life better off the job hence maintaining employee commitment.

A study by Nalweyiso (2012) on rewards and commitment of the non-teaching staff in public universities in Uganda: A case of Makerere College of Education and External Studies Makerere University, Kampala, Uganda found a positive significant relationship between monetary and non-monetary rewards on the commitment of non-teaching staff at the College of education.

The Government of Kenya recognizes the contribution of the non-teaching staff and hence allocates Kshs 5,755 per student in public day secondary schools and Ksh 8, 672 per student in public boarding secondary schools towards personal emolument of

non-teaching staff (MoE, 2015). Ndiku, Shiundu, Achoka & Maiyo (2012) say that in the memorandum of understanding between the Ministry of Education and the Kenya Union of Domestic, Hotels, Educational Institutions, Hospitals and Allied Workers (KUDHEIHA), non-teaching staff are supposed to enjoy same terms and conditions of service as the civil servants as per the various job groups. However, schools seem to ignore the guidelines due to financial constraints. One of the challenges that KUDHEIHA is facing is diversion of personal remuneration meant for workers to pay teacher members of B.O.M and to pay tours for the teachers (Education International, 2014). Therefore schools divert funds from the personal emolument vote head that is meant for wages on non-teaching staff to pay wages for B.O.M teachers.

A study by Wichenje (2011) on Human resource management: Challenges for head teachers in public secondary schools in Kakamega East District, Kenya found out that since the Ministry of Education allocates less funds particularly for support staff and does not provide for teachers employed by the B.O.Gs, head teachers therefore struggle to pay the B.O.G teachers by use of Personal Emolument (PE) funds meant for the support staff. This resulted in shortage of funds making the support staff go for long without pay. Basing on Wichenje's (2011) findings, there was therefore need to find out the influence of the B.O.M teacher's wage bill on personal emolument vote head in public secondary schools in Gem sub-County.

2.3.9 B.O.M teachers' wage bill on medical vote head

Health is an excellent indicator for the academic success of students. Research also supports the idea that healthy students learn better (Dilley, 2009). Schools with school

based health centers report increased school attendance, decreased dropout rates, suspension and higher graduation rates (McCord, Klein, Foy and Fohergill, 1993).

A study by Dilley (2009) on Research Review: School-based health interventions and academic achievement in schools in Washington States found out that school-based health centres for mental health, counseling, physical health, or a combination of these services, were shown to improve academic outcomes in high schools. The Seattle School District has offered a variety of services through school-based health centers for more than 20 years. About 75 percent of students who use the centers say that they are receiving services that they otherwise would not get. Their services include asthma care, immunizations, family planning, and mental health counseling (Dilley, 2009).

According to Bundy, Shaeffers, Jukes et al. (2006), the focus of school health and nutrition in low income countries has shifted significantly over the past two decades away from a medical approach that favoured elite schools in urban centres and toward an approach that improves health and nutrition for all children particularly the poor and the disadvantaged.

In line with the Child Rights and Millennium Development Goals (MDGs) the Ministry of Public Health and Sanitation and the Ministry of Education in collaboration with partners developed a National School Health Policy and Guidelines 2009. The two Ministries essentially have come up with a comprehensive School Health Programme addressing child rights, child protection, responsibilities, special needs, disabilities and rehabilitation among others. One objective of this programme

is to provide medical services in schools, basic medical skills and distribution of First Aid (Republic of Kenya, 2011).

The MoE (2015) fees structure indicates that a student in public day secondary school should pay Ksh 689 while a student in public boarding school ought to pay Ksh 786 as medical fees. Schools use the medical vote head to pay medical bills in the local hospitals where students seek medical attention from. They also spend this money on buying first aid drugs and handling other emergency cases. According to the MoE safety Standard manual for schools in Kenya (2008), schools should have an adequately trained teacher in health education. Boarding schools should have sanatoria (sick bays) equipped with first line treatment drugs. Schools should also ensure that they have working and adequate First Aid Kit and facilities to provide emergency care in schools.

A study by Sika et al (2013) on Relationship between the components of unit cost and academic performance index and their significance in secondary education in Kenya: A case study of Siaya District, found out that an increase in medical cost per student would impact positively on students' performance. Therefore lowering of the medical fee would reduce performance by the same margin as students would spend most of the time going to the nearby health center as in the District day schools. The implication is that valuable time will be lost and lesson attendance would reduce. This implies that diversion of funds from medical vote head to pay wages for B.O.M teachers would reduce performance amongst students. Basing on these findings, this study therefore sought to determine the effect of expenditure on B.O.M teachers'

wage bill on expenditure on medical vote head in public secondary schools in Gem sub-County.

2.4 Expenditure on B.O.M teachers' wage bill on school fees charged

Salaries are usually the greatest cost in any education system (Saavedra, 2002). For this reason, most governments take the responsibility of paying teachers' salaries. In Latin America (Nicaragua, Guatemala and Ecuador), the central government assumes the main financial responsibility for education and education-related costs, including teacher salaries. According to National Education Research (2013), public education in the United States is a joint enterprise between local, state, and federal governments. However, states pay the teachers' salaries. In India, states pay the teachers' salaries. In China, local authority pay salaries for primary and secondary teachers while in Indonesia, the Ministry for home affairs is responsible for primary school teachers (Tan and Mingat, 2002). In Uganda, 85% of the primary recurrent budget is absorbed by teacher wages while secondary school wages takes 43% of the secondary recurrent budget. The teachers are paid by the government (Ministry of Education and Sports, 2013). In Kenya, the government uses over 80% of its recurrent expenditure on teachers' salaries alone (Gogo, 2012).

However, due to teacher shortages, most countries in Africa, Asia and Latin America have resorted to recruitment of unqualified or not fully qualified teachers – so-called volunteer, contract or community teachers (Fyfe, 2007). These teachers are hired by the government or the local communities (Duthilleul, 2005). According to Saavedra (2002), in some countries, the government is able to provide all teachers and discourages or prohibits communities from employing teachers because it is anxious to retain control of standards and access to education. In others, government resources

are inadequate even for providing teachers and communities have to employ their own. Such countries include Chad, China, Mali, Myanmar and Nepal.

In Sub Saharan Africa, in response to an insufficient number of teachers, contract teachers are often hired for secondary teaching and paid through school or community fees (Mulkeen, Chapman, DeJaeghere and Leu, 2007). In Uganda, contract teachers are hired either by School Management Committees (SMCs), local government or municipalities. However, Saavedra (2002) warns that charging tuition fees and other direct costs to families need to be weighed carefully for their consequences over equity, but also over access to education. The wage bill of contract teachers is therefore a hidden cost of education that is to be borne by parents and it can negatively affect the students' academic performance. Households pay for the overwhelmingly largest share of total private financing. They do so by incurring both direct and indirect costs. Direct costs include tuition fees, transportation to and from school, uniforms, teaching materials, and so on (Saavedra, 2002).

A study by Horgan (2007) on the impact of poverty on young children's experience of school in Northern Ireland found out that school levies on school dinners, uniforms and school trips are the biggest costs associated with school. Children in disadvantaged schools were considerably more aware of all the costs associated with school and of the difficulties parents face in meeting those costs. Such children showed a reluctance to ask their parents even for 50p to bring to school. Blaugh (1995) as cited by Njoroge (2013) says that in some developing countries, such as Mauritius, primary and secondary schooling is free, but parents still incur

considerably private expenditure or private tuition to supplement regular school instructions.

In order to facilitate and allow for the schooling of all children, many Sub Saharan African countries have already adopted policies of tuition-free education. Governments have assumed responsibility for the operational expenses of schools, replacing the income of schools previously derived from payments made by parents or parents' associations (UNESCO, 2011). These policies have been encouraged by development partners. In 2005, the World Bank, jointly with UNICEF, launched the School Fee Abolition Initiative (SFAI).

Following the appointment and submission of the Dr.Kilemi Mwiria's Taskforce Report on Secondary school fees in Kenya, the Ministry of Education Science and Technology (MoEST) issued a press under article 35(3) on the new fees guidelines to public secondary schools effective from February, 2015. One of Dr. Kilemi Mwiria's recommendations on Taskforce Report on Secondary school fees in Kenya was that before the Ministry of Education introduces the new fees guidelines to public secondary schools, employment of adequate teaching staff for all schools was to be done in order to remove the burden of salaries of B.O.M/PTA teachers from parents (MoEST, 2015).

However, the new fees guidelines were effected in all public secondary schools in Kenya from January, 2015 without putting the above recommendation into consideration. The government subsidy for FSE was increased from Ksh 10, 265 to Ksh 12, 870. Parents with children in public day secondary schools are to pay Ksh

9,374 while parents for public boarding secondary schools are to pay Ksh 53, 553. Apart from the above recommended fees, parents are also expected to pay any other levies that have been approved by the cabinet secretary in consultation with the County education board (MoEST, 2015). This implies that parents funding for public boarding secondary education in Kenya is 81%. Kiberia and Ndiku (2011) as cited by Mualuko and Muhavi (2013) observe that apart from school fees, parents are supposed to meet other expenses such as uniform, personal effects, and lunch for day school students among other expenses (Kaberia and Ndiku, 2011).

Chabari (2010) says that in Kenya, Board of Governors (BoGs) hire additional teachers paid from fee income to fill teaching positions for which no Government teachers have been assigned. On average, households' contribution to the funding of secondary education in Kenya amounts to 60%, while government's financing constitutes 40% of the aggregate. However, some schools charge far beyond 60% which becomes unaffordable especially to most poor parents (Orodho, 2003). As a result, the financing of secondary education, has become problematic as parents have to shoulder an increasingly larger portion of the costs, thus, creating a negative impact on poor and vulnerable households (Njeru and Orodho, 2009). Ohba (2009) observes that the fees or levy charged in schools are major obstacles to children accessing and participating in secondary education and thereby affecting the transition rates.

A study by Munda and Odebero (2014) on the influence of education costs on students' academic performance in Kenya: An empirical study of Bungoma County secondary schools found out that County schools had many vote heads which did not exist in approved government fee guidelines, but against which students were levied or

the votes were levied beyond the approved ceilings. B.O.M teachers' salary is one of such vote heads. Findings of a study by Ndulu (2015) on influence of cost sharing on students' academic performance in secondary schools in Kenya: A case of Kitui County revealed that hidden costs has led to an increase in school fees and a high dropout rate among learners at secondary school level**.** Findings of a study by Njoroge (2013) on influence of hidden costs in education on academic performance in public primary schools in Gatanga District, Kenya found that school levies have an influence on academic performance.

Njoroge (2013) looked at expenditure on school fees, lunch, transport, school uniforms, opportunity costs met by the learner which are not covered under FPE programme and their influence on academic performance while Ndulu (2015) looked at the influence of PTA funds, Development fees, Motivational fees and transportation fees on students' academic performance in secondary schools. However, little has been done on B.O.M teachers' wage bill. This study intends to find out the influence of the B.O.M teachers' wage bill on fees paid by parents.

2.5 Expenditure on B.O.M teachers' wage bill on K.C.S.E performance

Teachers are a central factor in the learning process that takes place in schools, and teachers' attitudes and effectiveness can vary depending on the incentives they face. Pay structure is potentially an important incentive-tool in the hands of the education policy maker and merit pay proposals have recently been discussed in several countries and applied in some (Kingdon and Teal, 2005). Findings of a study by Figlio and Kenny (2007) on individual teacher incentives and student performance using the United States data indicate that test scores are higher in schools that offer individual financial incentives for good performance.

However, according to Arsen and Ni (2012) as cited by Whitley (2014), there is a rising apprehension that school administrations consume too much of the educational dollar in traditional public schools, diverting much needed resources from classrooms and hampering efforts to improve student outcomes. The difficulty arises with the fact that administrators and teachers still need to be paid for their work which is the reason that not all the financial resources can make it to the classroom.

According to Yu (2007), around 50% of the School Effectiveness Research studies (those reviewed in Fuller (1987), Lockheed and Hanushek (1988), Lockheed and Verspoor (1991), plus some 40 studies conducted from 1987-1993 in developing Countries showed significant positive associations between academic achievement and school input as well as process variables like classroom, pedagogy and organization and school management. However, class size and teacher salaries had inconsistent or no effects on student academic achievement. Forojalla (1983) says that due to salaries of personnel, particularly teachers, maintenance and upkeep of schools and the provision of the needed teaching materials and welfare of facilities tend to be sorely neglected. He further notes that the most expensive item in recurrent cost in African educational systems (primary and secondary) is the salaries of personnel, particularly teachers.

A study by ILO (2010) on Micro factors inhibiting education access, retention and completion by children from vulnerable communities in Kenya found out that in schools in Kinango, Msambweni and Matuga sub counties in Kwale County, PTA/B.O.M teachers' salary is one of the factors that influences drop outs. Findings of a study by Mwende (2014) on school based factors influencing quality of education

in public secondary schools in Kitui County, Kenya indicate that one of the ways of reducing fees charged by schools to students is employment of enough teachers to cut down cost of paying B.O.M teachers. Lack of enough funds to run schools triggers need for students being send home for fees hence interfering with learning of the students. Such disturbances eventually have a negative effect on performance of students.

Citing Abagi (1997), Sisungo, Kaberia and Buhere (2014) observe that while teachers are crucial for quality education, their contribution will be incomplete if there are no important inputs like textbooks. Fleshman (2005) says that due to teacher shortage in Kenya, head masters in many schools are diverting funds for supplies and construction to hire more teachers. This implies that if money that is meant to purchase educational inputs is diverted to pay teachers' salaries, learning outcomes are likely to be affected.

A case study of Siaya District by Sika, Gravenir, Riechi and Ogeta (2013) on relationship between the components of unit cost and academic performance index and their significance in secondary schools in Kenya found out that variable such as bursary, activity, medical, E.W.C and tuition were significant predictors of performance. However, the above study did not consider wage bill of B.O.M teachers as a component of unit cost. The current study therefore was set to determine whether expenditure on B.O.M teachers' wage bill affects K.C.S.E performance in public secondary schools in Gem sub-County.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section covered research design, description of the area of study, the study population, sample and sample techniques, data collection instruments, validity of instruments, reliability of data instruments, data collection procedures, methods of data analysis and ethical consideration and informed consent.

3.2 Research Design

This study used both descriptive survey and correlation designs. Survey studies are conducted to collect detailed description of existing phenomena with the intent of employing data to justify current conditions and practices or make more intelligent plans for improving them. On the other hand, correlation studies are concerned with determining the extent of relationship existing between variables (Koul, 1997).

Descriptive survey design was therefore suitable for this study because it enabled the researcher to collect detailed description in relation to wage bill of B.O.M teachers in public secondary schools in Gem sub County, effect of B.O.M teachers' wage bill on approved vote heads and influence of B.O.M teachers' wage bill on fees paid by parents. Correlation research design was also suitable for this study as it enabled the researcher to compute a correlation coefficient that was used to determine the extent of relationship between expenditure on B.O.M teachers' wage bill and expenditure on teaching and learning materials, Boarding equipment and stores, repair, maintenance and improvement, local travel and transport, electricity, water and conservancy,

administrative costs, activity, personal emolument medical vote heads, school fees and K.C.S.E performance of public secondary schools in Gem sub-County.

3.3 Area of Study

This study was carried out in Gem Sub-County in Siaya County. Gem Sub-County is divided into two administrative divisions namely Wagai and Yala Township. Gem District is located between longitudes 34° 22' – 34° 33' East and latitudes 0° 03'South - 0° 05'North at an average altitude of 1400 metres above mean sea level (See Appendix H). The District borders Vihiga District to the east, Butere – Mumias District to the north-east, Ugenya District to the north, Siaya District to the west, Bondo District to the south-west and Kisumu District to the south-east. According to the 2009 Kenya National Population Census Report, Gem Sub County covers an area of 405 km2 with a population of 160,675 and a population density of 397 persons per km2. Gem sub-County was selected for this study since it had the highest shortage of teachers in Siaya County. The main reason behind the high teacher shortage in the sub County is the coming up of many day mixed secondary due to increased enrolment following the introduction of Free Day Secondary Education in 2008. Due to high shortage of TSC teachers, most public secondary schools in Gem sub-County have employed B.O.M teachers to curb the teacher shortage.

3.4 The Study Population

Target population comprised of 38 public secondary schools in the sub County, 38 principals, 190 Heads of Departments and 214 B.O.M teachers (DEO Gem, Report 2014). The total target population was 442 respondents.

3.5 Sample and Sampling Procedures

For the sampling distribution of Pearson's coefficient of correlation (r) to be normal, the size of the sample should be 30 or greater (Koul, 1997). Since this study was to use a correlation research design, saturated sampling technique was used because the target population was only 38 schools and therefore selecting a sample would have made the sampling distribution skewed (Koul, 1997). Saturated sampling technique is used when the study population is small hence there is no need for a sample (Marshall, Cardon, Poddar and Fontenot, 2013).

Out of the 38 public secondary schools in Gem sub-County, four schools (2 mixed day schools, 1 girls' boarding and 1 boys' boarding secondary school) were used for pilot study. Piloting should be about 10% of the entire sample size (Orodho, 2012). Therefore 34 schools (29 mixed day schools, one girls' day, two girls' boarding and two boys boarding secondary schools) were used for the main study. According to Gem secondary schools data (See p.134), the shortage in these 34 public secondary schools was 194 teachers. All heads of departments and B.O.M teachers in each of the 34 public secondary schools were included in the study. The study therefore used 34 principals, 140 Heads of Departments and 194 B.O.M teachers. A sample population of 368 respondents was used in the study. Table 3.1 shows the sample frame of the study.

Table 3.1

Sample Frame of the Study

Category of Respondents	**Study population**	**Accessible population**	**Sample size**	**Percentage**
Principals	38	34	34	100
Heads of Departments	190	140	140	100
B.O.M teachers	214	194	194	100
Total	**442**	**368**	**368**	**100**

3.6 Research instruments

The research instruments used for data collection in the study were the questionnaire and the document analysis guide. The questionnaire was filled by the principals, Heads of Departments and B.O.M teachers. The selection of the questionnaire tool was guided by; the nature of data that was supposed to be collected, the time available for research as well as objectives for the study. The following documents were perused: PTA project reports, school budgets, B.O.M teachers' payrolls, non-teaching staff payrolls and fees structures. Information on student enrolment, expected income, expenditure estimates on approved vote heads obtained was filled in the document analysis guide.

3.6.1 Principals' Questionnaire (PQ)

This questionnaire was structured to seek information on the wage bill of B.O.M teachers the influence of the B.O.M teachers wage bill on: Teaching and learning materials vote head, BES vote head (for boarding schools only), RMI vote head, LT&T vote head, EWC vote head, administrative cost vote head, activity vote head, PE vote head and medical vote head, influence of B.O.M teachers' wage bill on school fees paid and the influence of B.O.M teachers' wage bill on K.C.S.E performance (See Appendix A). The questionnaire for principals was divided into three parts. Part one sought for demographic information. Part two sought information on the wage bill of B.O.M teachers while part three sought information on influence of B.O.M teachers' wage bill on essential vote heads and parents' fees.

3.6.2 Heads of Departments Questionnaire (HODQ)

The Heads of Departments questionnaire was structured to seek information on the number of TSC teachers and the number of B.O.M teachers in the department and the influence of B.O.M teachers' wage bill on essential vote heads (See Appendix B).

This questionnaire was divided into two parts. Part one sought information on the period of time the teacher had served as a head of department. Part two sought information on the availability of teaching and learning materials, co- curricular activities, boarding facilities (Boarding schools only), medical services, availability of water, availability of electricity, availability of funds for local travel and transport and physical condition of school infrastructure.

3.6.3 B.O.M Teachers' Questionnaire (B.O.MTQ)

This questionnaire was structured to seek information on the wage bill of B.O.M teachers (See Appendix C). This questionnaire had only one part which sought information on the qualifications of the B.O.M teachers, length of stay in the current station, monthly wages of B.O.M teachers, the frequency of payment of wages, the adequacy of the wages and the challenges faced by the B.O.M teachers.

3.6.4 Document Analysis Guide

The following documents were perused: PTA project reports, school budgets, B.O.M teachers' payrolls, non-teaching staff payrolls and fees structures. The document analysis guide was structured to seek information on how much the schools receives cumulatively from the government and from fees paid by parents under the teaching and learning material vote head, B.E.S vote head, R.M.I vote head, L.T&T vote head, E.W.C vote head, administrative cost vote head, activity vote head, P.E vote head and medical vote, how much the schools spend on each vote head and how much schools spend on B.O.M teachers' wage bill (See Appendix D).

3.7 Validity of Data Instruments

Citing Amin (2005), Candle (2010) observes that a research instrument is valid if it actually measures what it is supposed to measure and when the data collected through it accurately represents the respondents' opinions. To determine validity of

instruments for this study, the questionnaires and document analysis guide, having been drawn in accordance with the study objectives, were presented to experts in research methodology and the researcher's supervisors in the Department of Education Management and Foundations, Maseno University who scrutinized and advised on their content. These experts also made amendments and modifications concerning face validity. Their comments were then incorporated in the revised instruments for eventual data collection. This ensured content and face validity of the instruments.

3.8 Reliability of Data Instruments

Mugenda and Mugenda (2003) define reliability as the measure of the degree to which a research instruments yields consistent results or data after repeated trials. This study used test- retest to assess the reliability of the research instruments. Four schools (10% of the entire population) were used for piloting (Mugenda and Mugenda, 2003). The instruments were administered to respondents twice in a lapse of two weeks as recommended by Orodho (2009). The scores of the two tests were then correlated using Pearson's product moment correlation where reliability co-efficient of 0.78, 0.81 and 0.85 was attained for principals' Heads of Departments and B.O.M teachers' questionnaires respectively. According to Danel (1979) reliability co-efficient of 0.6 to 0.8 should be attained to indicate a high degree of reliability. The findings were used to remove inconsistencies, ambiguities and weaknesses to make the instruments reliable.

3.9 Data Collection Procedures

Prior to collection of data, the researcher obtained a permit and research authorization letter from Maseno University Ethics Review Committee (MUERC). The researcher then sought permission from Gem sub-County director of education and the principals of the schools in the sample showing intention to conduct the research and the

intended dates. The researcher then visited the various schools to administer the questionnaires and document analysis guides. A total number of 368 questionnaires were delivered by the researcher in person so as to have an opportunity to explain the purpose of the study, make questions precise and concise, clarify difficult questions, request for financial documents and assure participants of total confidentiality. From the PTA project reports, school budgets, B.O.M teachers' payrolls, non-teaching staff payrolls and fees structures for the years 2013 and 2014, the researcher extracted information on B.O.M teachers' wages, non-teaching staff salaries, expected income, fees charged per vote head and annual expenditure per vote head. The information obtained from each school was recorded in a separate document analysis guide. Questionnaires were collected after two weeks for analysis.

3.10 Method of Data Analysis

Data obtained from the instruments was organized so as to be sure that it is accurate, consistent with other facts gathered, uniformly entered as complete as possible and well arranged to facilitate coding and tabulation. Coding was then done so that responses could be put into a limited number of categories or classes. After coding, the data was tabulated for analysis. Different tables, charts and bar graphs were used to present demographic characteristics of principals, heads of departments and B.O.M teachers, Curriculum Base Establishment of sampled schools, expenditure on approved vote heads versus expenditure on wages of B.O.M teachers, availability of various educational in-puts and performance in K.C.S.E. Closed ended questions were transferred into a summary sheet by tabulating them. The responses were then tallied to get frequencies which were converted to the percentage of total number of respondents. Qualitative data from questionnaires was categorized into themes and sub themes, coded and analyzed on an ongoing process. Descriptive statistics was

analyzed using scores from a Likert scale. The Likert scale had both negative and positive questions to gauge whether schools used funds meant for educational in puts to pay B.O.M teachers' wages. In the scale, the points were awarded by the researcher as follows: Strongly Agree (SA) = 5; Agree (A) = 4; Undecided (U) = 3; Disagree (D) = 2; Strongly Disagree (SD) = 1. Pearson correlation was also used to explore the strength and extend of relationship between independent and dependent variable (Gall et al, 1996). Employing SPSS version 11.5, correlation was computed to show the effect of expenditure on B.O.M teachers' wage bill on expenditure on approved vote heads, on school fees and on K.C.S.E performance at a set confidence level of 0.01.

3.11 Ethical consideration and informed consent

A permit and research authorization letter were obtained from Maseno University Ethics Review Committee. An introductory letter seeking respondent's permission to be part of the study was given to all potential participants. To enhance informed consent, participants were thoroughly briefed beforehand on the research problem, the need for scientific research on the problem, the reasons behind the setting of the research (area of the study) and the benefits, rights and dangers involved in their participation. They also signed a consent form. Privacy and confidentiality is of paramount importance because each person has the freedom to decide the time, extent, and circumstances under which they would withhold or share information they have (Kombo and Tromp, 2006). Confidentiality of the following information was specifically strictly observed in the study: the wages of B.O.M teachers and salaries of non-teaching staff and fees charged by each school. Great care was also taken to avoid real identification of specific participants against their derived information. Respondents were also not required to indicate their names on the questionnaires.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents results and discussion of the findings of the study on influence of B.O.M teachers' wage bill on provision of quality education in public secondary schools in Gem sub-County. The results and discussion of the findings of the study are based on the objectives of the study which were: to establish the wage bill of B.O.M teachers in public secondary schools in Gem sub County, to determine the effect of expenditure on B.O.M teachers' wage bill on expenditure on approved vote heads, to determine the effect of expenditure on B.O.M teachers' wage bill on school fees charged and to determine the relationship between expenditure on B.O.M teachers' wages and K.C.S.E performance.

4.2 Questionnaire return rate

The researcher went to the field to collect data by administering questionnaires to the principals, heads of departments and B.O.M teachers. These were the main respondents who could give objective view on the variable under the study. The return rate is shown in Table 4.1.

Table 4.1

Questionnaire return rate

Category of respondents	**Questionnaires administered**	**Questionnaires returned**	**Percentage**
Principals	34	26	76.47
Heads of departments	140	112	80.00
B.O.M teachers	194	140	72.16
Total	**368**	**278**	**75.54**

Table 4.1 presents the rate of questionnaires returned by principals, heads of departments and B.O.M teachers in 34 schools. A total of 34 questionnaires were administered to the principal respondents. Only 26 questionnaires were returned for analysis which formed 76.47% return rate. Similarly, 112 out of 140 heads of departments responded hence the response rate was 80.00%.On the same note, 140 out of 190 B.O.M teachers responded hence the response rate was 72.16%. Mugenda and Mugenda (2003) notes that a response rate of 50% is adequate for analysis and reporting, a response rate of 60% is good and that of 70% and above is very good. This therefore meant that the questionnaire return rate of 76.47%, 80% and 72.16% which equals to 75.54% was appropriate for the study. The questionnaire return rate was high because the researcher ensured that the respondents had been sensitized prior to administration of the questionnaires.

4.3 Demographic characteristics of respondents

This section presents demographic characteristics of B.O.M teachers, Heads of Departments and principals are given in Tables 4.2, 4.3 and 4.4.

4.3.1 Demographic characteristics of B.O.M teachers

This section presents the demographic characteristics of B.O.M teachers whose views were captured by the study. The demographic characteristics that were captured were: school category, professional qualification, length of service and subject combinations as shown in Table 4.2 and Table 4.3 on page 49, Table 4.4 on page 50 and figure 4.1 on pages 51. These characteristics were important to the study as they enabled the researcher to understand the magnitude of teacher shortage.

Table 4.2

B.O.M teachers by school category

School category	**Frequency (f)**	**Percentage (%)**
Boarding County Girls	23	16.43
Boarding County Boys	8	5.71
Boarding extra County Boys	9	6.43
Day Girls	6	4.29
Day Mixed	94	67.14
TOTAL	140	100

Table 4.2 shows the demographic characteristics of the B.O.M teachers. Majority of B.O.M teachers were in mixed schools 94(67.14%) followed by boarding County girls' schools at 23(16.43%), boarding extra County boys at 9(6.43%), boarding County boys 8 (5.71%) and day girls 6 (4.29%). The high number of B.O.M teachers in mixed day schools could be due to the increase in the number of new day mixed secondary schools since the inception of Free Day Secondary Education. In Kenya, teacher shortage is worse in day schools that are upcoming (Makori and Onderi, 2013). According to Muhindi (2012), other factors that contributed to teacher shortage were the rate of mushrooming of new secondary schools that was not accompanied by addition of more teachers.

Table 4.3

Qualifications of B.O.M teachers (n=140)

QUALIFICATIONS	**Frequency (f)**	**Percentage (%)**
Graduate with B.ED degree	57	40.71
University student	44	31.43
Graduate with Diploma in Education	15	10.71
Untrained (form four)	23	16.43
Any other (Specify)	1	0.71
TOTAL	**140**	**100**

Table 4.3 shows the qualifications B.O.M teachers. This was important because most schools pay B.O.M teachers' wages depending on their qualifications. Majority of B.O.M teachers (40.71%) were graduates with Bachelor of Education Degrees followed by University student 44 (31.43%), form four leavers 23 (16.43%), Graduates with diploma in Education 15(10.71%) and lastly any other (P1 teacher) 1(0.71%). Most schools peg the payment of B.O.M teachers on qualifications. Hiring of form four leavers to teach could be a solution to the teacher shortage in the sub-County but could also affect the quality of education as these teachers are untrained.

Table 4.4

Length of stay of B.O.M teachers (n=140)

LENGTH OF STAY (IN MONTHS)	**Frequency (f)**	**Percentage (%)**
1-12	91	65
13-24	26	18.57
25 and above	23	16.14

B.O.M teachers were also asked to indicate the period they had taught in their respective schools. This was important since some schools paid B.O.M teachers depending on the length of stay. Most of B.O.M teachers 91 (65%) had only worked in their respective schools for a period of not more than one year. Those who had worked in their stations for a period of between one and two years were 23 (18.57%) and those who had worked for more than two years were 23(16.43%). The high percentage of B.O.M teachers who had worked in their stations for only one year or less indicates the high turnover rate of B.O.M teachers. The high turnover rate of teachers may end up affecting students' academic performance. B.O.M teachers were also asked to indicate their teaching subjects. This was important to the study in

identifying the subject combinations that had the highest teacher shortage. The findings are shown in Figure 4.1.

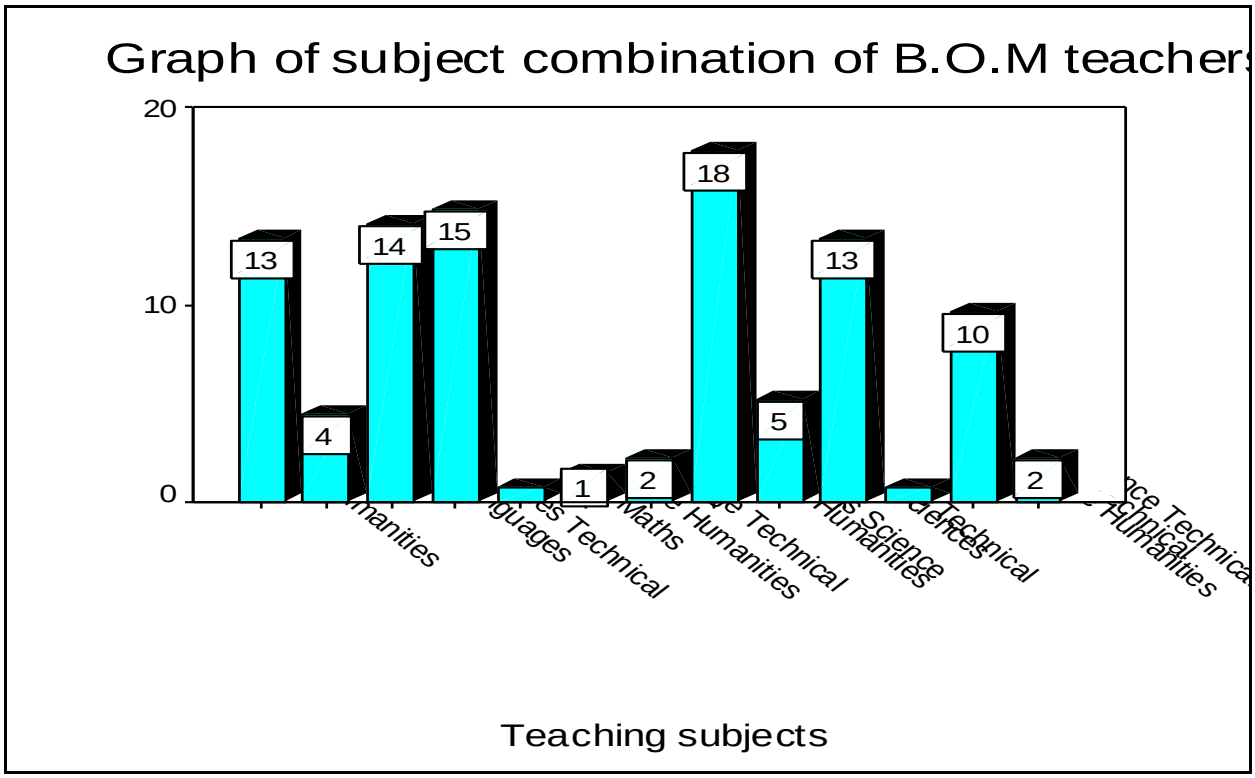

Figure 4.1: Subject combinations of B.O.M teachers

Figure 4.1 shows that Mathematics Science is the subject combination that had hired the highest number of B.O.M teachers at 19.3%. Language Humanities had 14.3%, Languages, Sciences and Humanities had each 13.6%, Science Technical comprised of 9.3%, Maths Technical had 5.0%, Humanities Technical had 4.3%, Maths Technical and Technical had each 2.1%, Maths had 1.4% and the subject combinations that had the least number of B.O.M teachers were Science Humanities and Language Technical at 0.7% each.

4.3.2 Demographic characteristics of Heads of Departments

This section presents the demographic characteristics of Heads of Departments. The demographic characteristic captured length of experience as the head of department. This information was crucial as it provided insight on availability of educational inputs catered for by the essential vote heads. This information is captured in Table 4.5.

Table 4.5

Period of service as Head of Department (n = 112)

Period	Frequency (f)	Percentage (%)
1 – 2 years	23	20.53
3- 4 years	42	37.50
5 – 6 years	29	25.89
7- 8 years	15	13.39
Above 9 years	3	2.68

From Table 4.5, 42 (40.78%) heads of departments had served in that position for three to four years. Those who had served for one to two years were 23 (22.33%). This is an indication that the sampled heads of departments had headed the departments long enough to give reliable information on availability of educational resources in the departments. Some of the schools had less TSC teachers and therefore the B.O.M teachers were serving as heads of the departments.

4.3.3 Demographic characteristics of principals

This section captures the demographic characteristics of principals whose views were captured by the study. The demographic characteristics that were captured were: headship experience and students' enrolment between 2013 and 2014. This information was important to the study as it provided information on the wage bill of B.O.M teachers. This is shown in Table 4.6 and Table 4.7.

Table 4.6

Professional experience of principals (n=26)

Professional experience	**Frequency (f)**	**Percentage (%)**
1-2 years	6	23.10
3-4 years	5	19.23
5-6 years	6	23.10
7-8 years	7	26.92
Above 9 years	2	07.69

Two principals (7.69%) had experience of above nine years while seven (26.92%) had experience of between seven and eight years. Six principals (23.1%) had experience of between five and six years, five principals (19.23%) had experience of between three and four years while six principals (23.1%) had experience of between one and two years. This is an indication that the sampled schools principals had been in school and the profession long enough to give reliable information on wage bill of B.O.M teachers. According to Calloids (1989) as cited by Ajwang (2014), the longer in administration could mean that they have acquired better methods of leadership and can give useful insight that would promote good academic standards.

Table 4.7

Students' enrolment in sampled schools in 2013 and 2014

Students' enrolment (2013)			Students' enrolment (2014)	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Below 100 students	2	7.69	1	3.85
101 -200	13	50.00	12	46.15
201 - 300	5	19.23	6	23.07
301 - 400	1	3.85	1	3.85
401 - 500	2	7.69	2	7.69
501 - 600	2	7.69	2	7.69
Above 600 students	1	3.85	2	7.69

Table 4.7 shows students' enrolment in public secondary schools for the years 2013 and 2014. In the year 2013, only one school (3.85%) had a student population of above 600 students, two schools (7.69%) had s student population of between 501 and 600 students, two schools (7.69%) had a population of between 401 and 500 students, one school (3.85%) had a population of between 301 and 400 students, five schools (19.23%) had a population of between 201 and 300 students, 13 schools (50%) in had a population of between 101 and 200 students and two schools (7.69%) had a

population of below 100 students. In the year 2014, two schools (7.69%) had a student population of above 600 students, two schools (7.69%) had a student population of between 501 and 600 students, two schools (7.69%) had a population of between 401 and 500 students, one school (3.85%) had a population of between 301 and 400 students, six schools (23.07%) had a population of between 201 and 300 students, 12 schools (46.15%) had a population of between 101 and 200 students and only one school (3.85%) had a population of below 100 students. Majority of public secondary schools in Gem sub-County therefore have student enrolment of between 101-200 students. Student enrolment of between 101- 200 students implies that the schools do not enjoy the economies of scale. Since education funding is based on the number of students per school, this implies that most public secondary schools in Gem sub-County received very little funds from the government due to low student enrolment. Therefore by schools spending the little financial resources they get from the government to pay wages of B.O.M teachers leaves them with very little money to spend on other educational resources and this in turn affects provision of quality education.

4.4 The wage bill of B.O.M teachers in public secondary schools in Gem sub-County

The first objective of the study was to establish the wage bill of B.O.M teachers in public secondary schools in Gem sub-County. This was crucial to this study to actually verify the amount of money that schools spend on the wages of B.O.M teachers. There were various responses to questions related to this under these sub themes: shortage of teachers in public secondary schools in Gem sub-County and wages of B.O.M teachers.

4.4.1 Shortage of TSC teachers in public secondary schools in Gem sub-County

Each school is supposed to have a specific number of teachers depending on the number of streams and the curriculum being offered. Principals were therefore asked to state the Curriculum Base Establishment of their schools. One of the assumptions of the study was that B.O.M teachers were hired in order to curb the teacher shortage in the sub-County. The principals were therefore asked to indicate the number of TSC teachers and B.O.M teachers in their schools. Their responses are shown in Table 4.8.

Table 4.8

TSC and B.O.M teachers in sampled pubic secondary schools in 2013 and 2014

CBE	schools	Cumulative CBE	TSC teachers				B.O.M teachers			
			Frequency (f)		Percentage (%)		Frequency (f)		Percentage (%)	
			2013	**2014**	**2013**	**2014**	**2013**	**2014**	**2013**	**2014**
9	18	162	102	105	62.93	64.81	95	102	58.64	62.97
17	1	17	18	18	105.88	105.88	5	1	29.41	5.88
18	2	36	15	14	41.67	38.89	18	18	50	50.00
27	2	54	19	19	35.91	35.19	34	37	62.96	68.52
34	1	34	13	13	38.24	38.24	12	12	35.29	35.29
36	1	36	12	13	33.33	36.11	16	21	44.44	58.33
48	1	48	35	36	72.92	75	13	14	27.08	9.17
TOTAL	**26**	**387**	**214**	**218**	**55.30**	**56.33**	**193**	**205**	**49.87**	**52.97**

Table 4.8 shows that most of the sampled public secondary schools (18 schools) had a CBE of nine. This implies that most of the public secondary schools in Gem sub-County are single streamed with a CBE of 9. The total CBE in the 18 schools was

162. However, there were only 102 TSC teachers (62.96%) thus creating a shortage of 60 (37.06%) teachers. However, the B.O.M teachers hired to fill the shortage of 60 teachers were 95(58.64%). This implies that more B.O.M teachers were hired than required. The excess hiring of B.O.M teachers has financial implication. The more B.O.M teachers a school hires, the higher the wage bill and this affects provision of other educational inputs that are key to provision of quality education. One school had a CBE of 17 teachers. However, the school had 18 (105.88%) TSC teachers. The school had an excess of one TSC teacher. However, the school still had five (29.41%) B. O.M teachers. Two schools had a CBE of 18 teachers with cumulative CBE of 36. The total number of TSC teachers in these schools was 15 (41.67%) therefore creating a deficit of 23(58.33%) teachers. However, only 18 (50.00%) B.O.M teachers were hired to fill the gap. This implies that even with B.O.M teachers, there was still teacher shortage in those schools.

Two schools had a CBE of 27 with cumulative CBE of 54. The total number of TSC teachers in those schools was 19 (35.19%).To curb the teacher shortage, 34 (62.96%) B.O.M teachers were hired. One school had a CBE of 34. The total number of TSC teachers was 13(38.24%). The school therefore had a deficit of 21(61.76%) teachers. However, only 12 (35.29%) B.O.M teachers had been hired to fill the gap. One school had a CBE of 36. The total number of TSC teachers was 12 (33.33%). There was therefore a shortfall of 24 (66.67%). However, only 16(44.44%) B.O.M teachers had been hired. One school had a CBE of 48 with a total number of 35(72.92%) teachers. The school had therefore hired 13 (27.0%) to fill the shortage.

Therefore in the year 2013, 25 schools (96.15%) out of the 26 sampled schools had teacher shortage of 173. Only one school (3.85%) had enough teachers with an excess of one teacher. Total number of B.O.M teachers hired in 2013 was 193. All the schools sampled had hired B.O.M teachers even the one that had no shortage.

In 2014, there was a slight increase in the number of TSC teachers in the sampled schools from 214 (55.30%) to 218 (56.33%) in 2014. This was because some schools received TSC teachers in 2014.The number of B.O.M teachers also increased from 193 (49.87%) in 2013 to 205 (52.97%) in 2014. The increase could have been due to the increase in student enrolment. Therefore in 2013 and 2014, there were 193 (49.87%) and 204 (52.97%) B.O.M teachers respectively. This implies that as student enrolment increase, the teacher shortage also increases and therefore more B.O.M teachers are hired. The increase in number of B.O.M teachers has got financial implications.

4.4.2 Wages of B.O.M teachers in public secondary schools in Gem sub-County

The B.O.M teachers were asked to indicate the amount of money that the schools pay them on monthly basis. Their responses are shown in Figure 4.2.

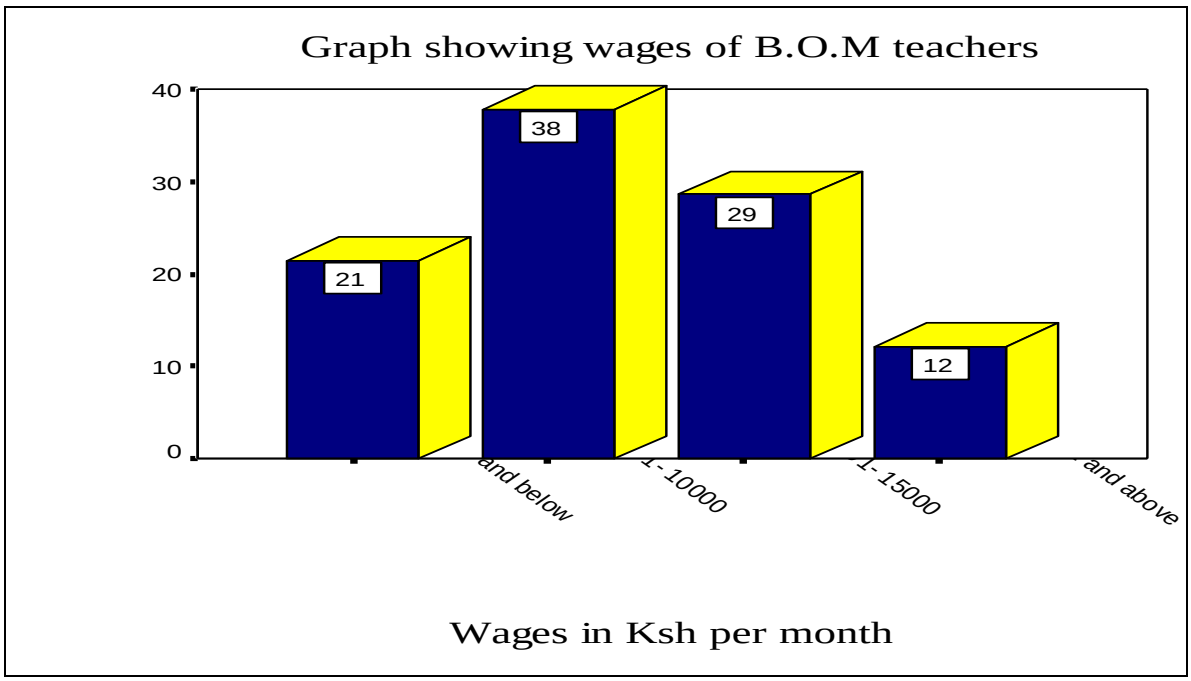

Figure 4.2: Wages of B.O.M teachers in Public secondary schools

Figure 4.2 shows the wages that the sampled schools pay B.O.M teachers. Majority of B.O.M teachers (38%) were paid wages ranging between Ksh 5001 and Ksh 10000. Those who were paid between Ksh 10001 and Ksh 15000 were 29%. Those who were paid wages of Ksh 5000 and below were 21% while those whose wages were Ksh 15001 and above were 12%. The lowest paid B.O.M teacher was being paid Ksh 3500 while the highest B.O.M teacher was being paid Ksh 17000. This concurs with findings of Getange (2013) that BOG teachers were being paid a gross salary of between Ksh 10,000 and Ksh 15,000 per month in Kisii Central District, Kisii County. From these findings, most public secondary schools in Gem sub-County spend between Ksh 60,000 and 120,000 shillings on one B.O.M teacher annually. As more B.O.M teachers are hired, more money is spent on their wages and in the long run, schools fail to purchase other vital resources that are key to provision of quality education. Figure 4.3 shows the amount of money spent on wages of B.O.M teachers in 2013.

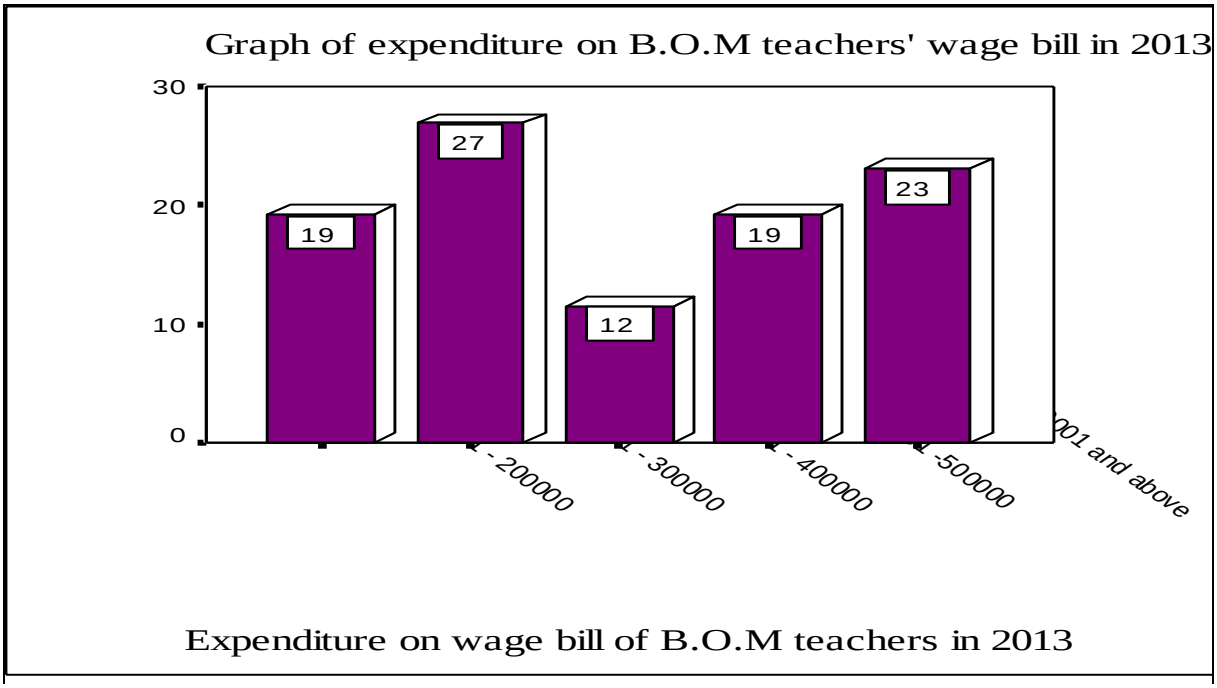

Figure 4.3: Schools' expenditure on wages of B.O.M teachers in the year 2013

Figure 4.3 shows the schools' expenditure on wages of B.O.M teachers in the year 2013. Majority (27%) of public secondary schools in Gem sub-County spend between Ksh 200,001 to Ksh 300,000 on wages of B.O.M teachers in the year while 23% of the schools spend Ksh 500,001 above to pay wages for B.O.M teachers. Of the 26 sampled schools, 19% spend between Ksh 100,001 and Ksh 200,000 on wages of B.O.M teachers. Another 19% of the schools spend between Ksh 400,001 and Ksh 500,000 to pay B.O.M wages and 12% of the schools spend between Ksh 300,001 and Ksh 400,000 to pay the 2013 B.O.M teachers' wages. In total, public secondary schools in Gem sub-County spend Ksh 20,251,384. Since B.O.M wages are not factored in fees guidelines, schools have to raise this money from approved vote heads. Therefore by the end of the year, wages of B.O.M teachers take quite a big chunk of school finances that would have otherwise been used to provide basic educational facilities. These wages therefore hinder provision of quality education in public secondary schools in Gem sub –County. Figure 5.4 shows expenditure on wages of B.O.M teachers in 2014.

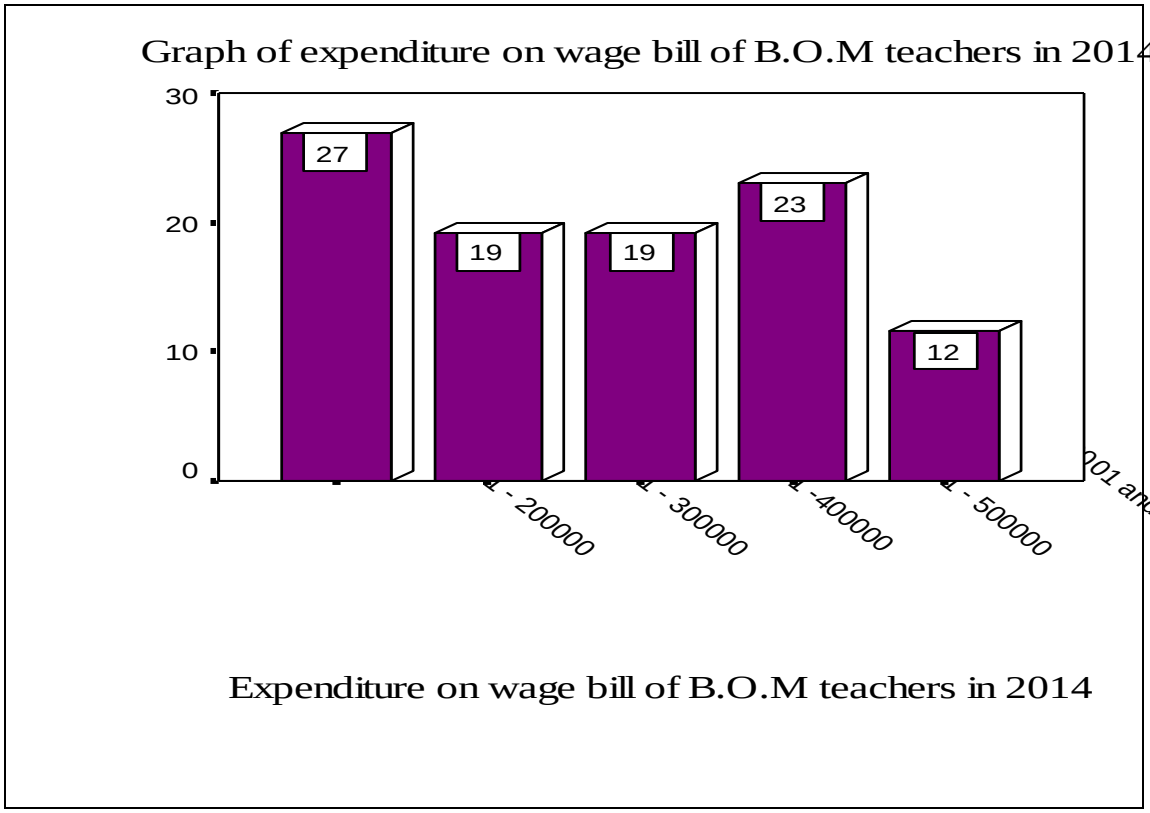

Figure 4.4: Schools' expenditure on wages of B.O.M teachers in the year 2014

Figure 4.4 shows the expenditure on wages of B.O.M teachers in 2014. The number of schools that spend between Ksh 100,001 and Ksh 200,000 rose from 19% in 2013 to 27% in 2014 while those that spend between Ksh 200,001 to Ksh 300,000 dropped from 27% in 2013 to 19% in 2014. There was also an increase in the number of schools that spend Ksh 300,001 to Ksh 400,000 and those that spend Ksh 400,001 to Ksh 500,000 from 12% to 19% and 19% to 23% in 2013 and 2014 respectively. However, schools that spend above Ksh 500,001 on B.O.M teachers' salaries reduced from 23% in 2013 to 12% in 2014. In 2014, the public secondary schools in Gem sub-County spend Ksh 20,616,498. The increase from the 2013 expenditure could have been due to the increase in the number of B.O.M teachers from 193 in 2013 to 205 in 2014. This implies that as student population increases, schools hire more B.O.M teachers and hence the wages for B.O.M teachers also increase. The B.O.M teachers

were also requested to indicate whether the wages they were being paid were sufficient or not. Their responses are captured in Figure 4.5.

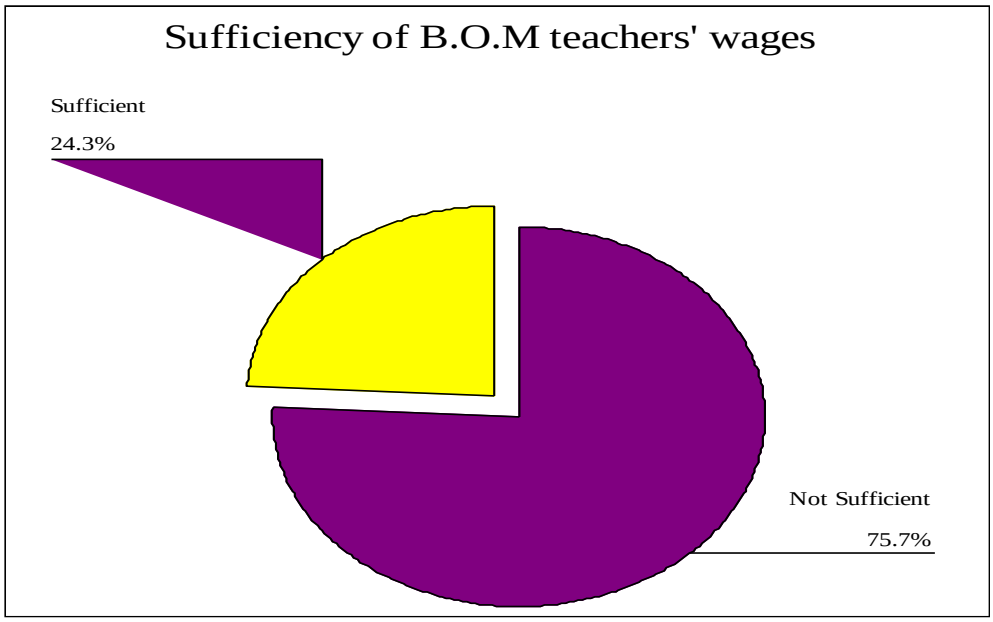

Figure 4.5: Sufficiency of B.O.M teachers' wages.

Despite the increasing amounts that are being spent on these teachers, 75.7% said that the wages are not sufficient while 24.3% said that the wages were sufficient. This high percentage of teachers who are not adequately motivated could lead to poor performance in academics. A study by Sika et al (2013) on Relationship between the components of unit cost and academic performance index and their significance in secondary education in Kenya: A case study of Siaya District found out that an increase in teachers' salaries by one unit would improve performance by 1.035. The converse would be true that lowering teachers' salaries would impact negatively on students' outcomes. The B.O.M teachers were also asked to comment on the regularity of their wages. Their responses are in shown in Table 4.9.

Table 4.9

Regularity of B.O.M teachers' wages

Regularity of Wages	Frequency (f)	Percentage (%)
Regular	129	92.10
Not regular	11	7.90
TOTAL	**140**	**100**

Table 4.9 shows the regularity of the wages of B.O.M teachers. Despite the dissatisfaction among B.O.M teachers due to insufficiency of the wages, 129 (92.10%) indicated that the wages were regular and paid on time. Only 11 (7.90%) indicated that the wages were not regular. This implies that the wages of B.O.M teachers were being given the first priority when it comes to expenditure on educational in puts.

This finding concurs with the observation made by Forojalla (1983) that in most cases, salaries have always been given the first priority in case there is a financial constraint and that due to salaries of personnel, particularly teachers, maintenance and upkeep of schools and the provision of the needed teaching materials and welfare of facilities tend to be sorely neglected. Wages of B.O.M teachers is a recurrent expenditure. This means that they have to be paid at the end of every month. This tends to affect provision of other in puts which appear not to be urgent but are vital to provision of quality education. The B.O.M teachers were also asked to state one major challenge they faced in teaching. Their responses were categorized into the following emerging sub themes: Delayed payment, harassment by TSC teachers, heavy workload, job insecurity, low pay, no allowances, poor working environment and no challenge. The results are shown in Table 4.10.

Table 4.10

Challenges faced by B.O.M teachers

Major Challenge	Frequency (f)	Percentage (%)
Delayed payment of wages	7	5.00
Harassment by TSC teachers	11	7.85
Heavy work load	15	10.71
Job insecurity	14	10.00
Low pay	47	33.57
No allowances	2	1.43
Poor working conditions	16	11.43
No challenge	28	20.00
TOTAL	**140**	**100**

From Table 4.10, the highest percentage of B.O.M teachers (33.6%) stated that low pay was their major challenge while 11.4% stated that poor working condition was their major challenge. Those who indicated that they had no major challenge were 20%. Findings of a study by Candle (2010) on factors affecting teacher turnover in Private Secondary Schools in Wakiso District, Uganda indicate that loss of group cohesion, poor working conditions, poor pay, poor management or supervision significantly affected teacher turnover in private secondary schools and that high turnover of teachers has negative consequences on students' performance. Therefore the challenge of low pay and poor working conditions as mentioned by B.O.M teachers is likely to affect students' performance in public secondary schools in Gem sub-County.

4.5 Expenditure on B.O.M teachers' wage bill on approved vote heads

The second objective of the study was to find out the effect of expenditure on B.O.M teachers' wage bill on expenditure on approved vote heads. This was done under the sub themes: B.O.M teachers' wage bill on teaching and learning materials vote head, B.O.M teachers' wage bill on Boarding Equipment and Stores vote head, B.O.M teachers' wage bill on Repair, Maintenance and Innovations vote head, B.O.M

teachers' wage bill on Local Travel and Transport vote head, B.O.M teachers' wage bill on Electricity, Water and Conservancy vote head, B.O.M teachers' wage bill on administration costs vote head, B.O.M teachers' wage bill on activity fees vote head, B.O.M teachers' wage bill on personal emolument vote head, B.O.M teachers' wage bill on medical vote head and effect of expenditure on B.O.M teachers on provision of other educational inputs.

4.5.1 B.O.M teachers' wage bill on Teaching and learning vote head

Heads of departments were asked to rate the availability of teaching and learning materials in their departments. Their responses are shown in Table 4.11

Table 4.11

Availability of teaching and learning materials

Teaching and learning materials	**Very poor**	**Poor**	**Average**	**Good**	**Very good**	**TOTAL**
Text books	4	49	39	14	8	**112**
Exercise books	9	41	21	16	25	**112**
Laboratory equipment	12	42	28	18	12	**112**
Teaching aids	13	38	38	14	9	**112**
Chalk	13	27	24	18	30	**112**
Internal exams	9	16	26	26	33	**112**
Total number of responses	**60**	**213**	**176**	**106**	**117**	**672**

Results in Table 4.11 indicate that there was total number of 672 responses responding to availability of teaching and learning resources. Out of 672, 60 responses (8.92%) rated availability of teaching and learning materials as very poor, 213 responses (31.70%) as poor, 176 (26.19%) as average, 106 responses (15.77%) as good and 117 responses (17.41%) as very good. This implies that most of the schools did not have adequate teaching and learning materials. The most affected are the teaching aids and laboratory equipment. From the results, schools seem to focus on

basic teaching and learning materials like exercise books, chalk and internal exams. However, those teaching and learning resources that improve quality of learning are inadequately availed. Findings of a study by Jagero (2013) on education production function and quality of education in day secondary schools in Kenya indicate that the most important inputs that affected the performance of the day secondary schools included amount of instructional materials supplied and expenditure in laboratory equipment.

Heads of departments were also asked to state the student text book ratio in their departments. Their responses are captured in Figure 4.6.

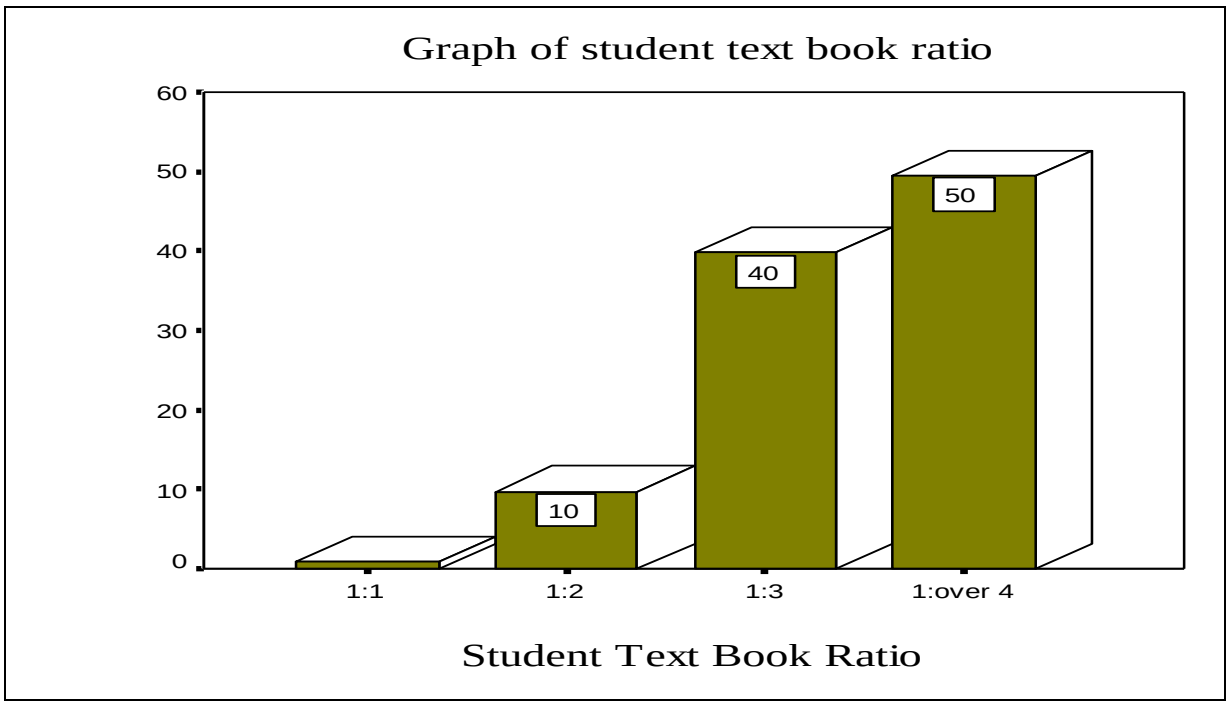

Figure 4.6: Student text book ratio

Figure 4.6 shows the student text book ratio in sampled schools in public secondary schools in Gem sub-County. Only 1% of the HODs' responses indicated that the student text book ratio in their departments was 1:1. Most of the HODs' responses indicated that the student text book ratio in the departments was 1: over 4. The

schools have therefore not adhered to the standard ministerial requirement which recommends a text/pupil ratio of 1:2 (Muhindi, 2013). This implies that schools are not buying teaching and learning materials yet they are crucial in provision of quality education. Table 4.12 shows effect of expenditure on B.O.M teachers' wages on expenditure on teaching and learning materials vote head.

Table 4.12

Pearson product moment correlation of the effect of expenditure on B.O.M teachers' wage bill on expenditure on teaching and learning materials in 2013 and 2014

		Expenditure on T/L materials in 2013	Expenditure on T/L materials in 2014
Expenditure on B.O.M teachers' wage bill 2013	Pearson correlation	-.863(**)	
	Sig. (2-tailed)	.000	
	N	26	
Expenditure on B.O.M teachers' Wage bill 2014	Pearson correlation		-.823(**)
	Sig. (2-tailed)		.000
	N		26

** Correlation is significant at the 0.01 level (2-tailed).

Table 4.12 shows the relationship between expenditure on B.O.M teachers' wages and expenditure on teaching and learning materials in 2013 and 2014. The correlation between expenditure on B.O.M teachers' wages and expenditure on teaching and learning materials was -0.863 in 2013 and -0.823 in 2014, with a p- value of 0.000. Since the p- value was less than 0.01, it means that there was a significant negative correlation between expenditure on B.O.M teachers' wages and expenditure on teaching and learning materials. This implies that an increase in expenditure on wages of B.O.M teachers' leads to a decrease in expenditure on teaching and learning materials. This explains why 50% of the HODs' responses indicated that the student text book ratio in their schools was one book for over four students. This relationship

therefore means that when more funds are used to pay wages for B.O.M teachers, funds meant for teaching and learning materials are diverted and this ends up affecting provision of quality education in schools. Findings of Olendo (2008) on relationship between mean performance in K.C.S.E and educational resource inputs in public secondary schools in Nyando District, Kenya indicate that schools that spent more on purchase of textbooks and used them as instructional material scored highly in K.C.S.E examinations. It therefore implies that as public secondary schools in Gem sub-County spend a lot of funds on the wage bill of B.O.M teachers, very little finances are left to purchase teaching and learning materials. This in turn affects the quality of education.

Table 4.13

Wages of B.O.M teachers from teaching and learning materials' vote head

Principal's response	**Frequency (f)**	**Percentage (%)**
Strongly Agree	13	50.0
Agree	9	34.6
Disagree	1	3.8
Strongly Disagree	3	11.5
TOTAL	**26**	**100**

Thirteen principals (50.0%) strongly agreed that they pay B.O.M teachers' wage bill from the teaching and learning materials vote head. Nine principals (34.6%) agreed that they pay B.O.M teachers' wages from the teaching and learning materials vote head. One principal (3.8%) strongly disagreed with the view that schools paid B.O.M teachers' wages from the teaching and learning materials vote head. Three principals (11.8 %) disagreed with the view. These results imply that most principals diverted funds from teaching and learning vote heads to pay wages for B.O.M teachers. This affects provision of teaching and learning materials in public secondary schools in

Gem sub-County. Teaching and learning materials are key to provision of quality education.

4.5.2 B.O.M teachers' wage bill on Boarding Equipment and stores vote head

The Heads of departments in these schools were asked to tick appropriately the availability of dormitories, sickbay, beds, bathrooms, lavatories, disinfectant, water, electricity and food stuffs in their schools. Their responses are captured in Table 4.14.

Table 4.14

Adequacy of boarding facilities (n = 36)

Boarding facilities	**Inadequately Available**	**Available**	**Adequately Available**	**TOTAL**
Dormitories	16	2	18	**36**
Well-equipped sickbay	21	13	2	**36**
Beds	19	13	4	**36**
Bathrooms	25	5	6	**36**
Lavatories	23	8	5	**36**
Disinfectant	20	4	12	**36**
Water	19	7	10	**36**
Electricity	10	2	24	**36**
Food stuffs	16	1	19	**36**
Total number of responses	**169**	**55**	**100**	**324**

Results in Table 4.14 indicate that in total, there were 169 (52.16%) heads of departments responses rating availability of boarding facilities as inadequately available, 55 (16.98%) as adequate and 100 (30.86%) as adequately available. This implies that most of the schools did not have adequate boarding facilities. Some of the day mixed public secondary schools had started offering boarding services to students. There were four day mixed secondary schools that had attached boarding sections to their schools despite the fact that they were registered as day schools. Most of them did not have boarding facilities. The most affected boarding facilities were bathrooms, lavatories and sickbays. Water, which is very essential, was also highly

rated as inadequately sufficient. These findings concur with a report by UNICEF (2011) which says that many schools in Sub – Saharan Africa have little or no access to basic services such as clean water, adequate sanitation facilities or electricity. However, as boarding facilities are not adequate, boarding schools are continually paying wages of B.O.M teachers at the expense of providing the facilities. This in turn affects students' academic performance since findings of studies have found a positive correlation between boarding facilities and students' academic performance (Maphoso and Mahlo, 2014). The principals in boarding schools were asked to indicate whether they used funds from the boarding equipment and stores vote head to pay for wages of B.O.M teachers. Their responses are summarized in the Table 4.15.

Table 4.15

Wages of B.O.M teachers from Boarding Equipment and Stores Vote head

Response	Frequency (f)	Percentage (%)
Strongly agree	4	50.00
Agree	1	12.50
Disagree	1	12.50
Strongly disagree	2	25.0
TOTAL	**8**	**100**

From the responses of the principals, 50.00% strongly agreed that they divert funds from B.E.S vote head to pay B.O.M teachers' salaries. Those who agreed that they use funds from the B.E.S vote head to pay B.O.M teachers' wages were 12.50%, 12.50% disagreed and 25.0% strongly disagreed. The high percentage of principals (50%) who strongly agreed with the view is a proof that public secondary schools in Gem sub-County diverted funds from B.E.S vote head to pay wages for B.O.M teachers. This diversion of funds leaves the B.E.S vote head with less funds that cannot cater for basic boarding facilities. This in turn affects the quality of education

in public secondary schools in Gem sub - County. Table 4.16 shows effect of expenditure on B.O.M teachers' wages on expenditure on boarding equipment and stores vote head

Table 4.16

Pearson product moment correlation of the effect of expenditure on B.O.M teachers' wage bill on expenditure of boarding, equipment and stores

		Expenditure on B.E.S in 2013	Expenditure on B.E.S in 2014
Expenditure on B.O.M teachers' wage bill 2013	Pearson correlation	-.896(**)	
	Sig. (2-tailed)	.000	
	N	8	
Expenditure on B.O.M teachers' Wage bill 2014	Pearson correlation		-.910(**)
	Sig. (2-tailed)		.000
	N		8

** Correlation is significant at the 0.01 level (2-tailed).

Table 4.16 shows the relationship between expenditure on B.O.M teachers' wages and expenditure on boarding equipment and stores in 2013 and 2014. The correlation between expenditure on B.O.M teachers' wages and expenditure on boarding equipment and stores was -0.896 in 2013 and -0.910 in 2014, with a p- value of 0.000. Since the p- value was less than 0.01, it means that there was a significant negative correlation between expenditure on B.O.M teachers' wages and expenditure on boarding equipment and stores. This implies that an increase in expenditure on wages of B.O.M teachers' leads to a decrease in expenditure on boarding equipment and stores. Due to increasing wage bill of B.O.M teachers, boarding schools in Gem sub-County spent less on boarding stores and equipment and this under expenditure on B.E.S vote head has implications on the quality of education.

4.5.3 B.O.M teachers' wage bill on Repair, Maintenance and Innovations' vote head

This vote head is crucial in maintenance of physical facilities in schools. The Heads of Departments were therefore requested to tick appropriately the state of classrooms, laboratories, sanitation facilities, dormitories (for boarding schools only), dining halls and staff rooms in their schools. Their responses are captured in Table 4.17.

Table 4.17

Condition of physical facilities in sampled public secondary schools

Condition of Physical facilities	Bad	Fair	Good	Not Available	TOTAL
Classrooms	68	43	1	0	112
Laboratories	42	55	15	0	112
Sanitation facilities	37	63	12	0	112
Dormitories	23	15	4	0	42
Dining Hall	23	18	16	55	112
Staff room	52	52	7	1	112
Total number of responses	**245**	**246**	**55**	**56**	**602**

Results in Table 4.17 indicate that in total, there were 245 (40.70%) heads of departments' responses that rated the condition of physical facilities as bad, 246 (40.86%) as fair, 55 (9.14%) as good and 56 (9.30%) indicated that they did not have a staff room and dining halls. The above results imply that generally, the condition of physical facilities in the sampled schools was not good. The repair, maintenance and innovations vote head was not being managed effectively. Moreover, there is no government subsidy provided to support capital development in schools (Jagero, 2013). Since schools have to pay B.O.M teachers' wages monthly from the limited finances, putting up physical facilities may not be possible for some schools. Provision of quality education therefore becomes impossible. The principals were

asked whether they used funds meant for repair, maintenance and innovations to pay B.O.M teachers. Their responses are shown in Table 4.18.

Table 4.18

Wages of B.O.M teachers from Repair Maintenance and Innovations vote head

Response	**Frequency (f)**	**Percentage (%)**
Strongly Agree	7	26.9
Agree	14	53.8
Disagree	1	3.8
Strongly Disagree	4	15.4
TOTAL	**26**	**100**

In Table 4.18, seven principals (26.9%) strongly agreed that they used money from R.M.I vote head to pay B.O.M teachers and 14 (53.8%) agreed that they used funds from R.M.I vote head to pay B.O.M teachers' wages. On the other hand, one Principal (3.8%) disagreed and 4 (15.4%) strongly disagreed that they used funds meant for repair, maintenance and innovations to pay B.O.M teachers' wages. Most principals in public secondary schools in Gem sub County diverted funds from this vote head towards wage bill of B.O.M teachers. This is likely to compromise quality of education as well maintained physical activities plays a major role in students' academic performance. Table 4.19 shows the effect of expenditure on B.OM teachers' wage bill on expenditure on R.M.I vote head.

Table 4.19

Pearson product moment correlation of the effect of expenditure on B.O.M teachers' wage bill on expenditure on Repair, maintenance and innovation

		Expenditure on R.M.I in 2013	Expenditure on R.M.I in 2014
Expenditure on B.O.M teachers' wage bill 2013	Pearson correlation	-.834(**)	
	Sig. (2-tailed)	.000	
	N	26	
Expenditure on B.O.M teachers' Wage bill 2014	Pearson correlation		-.801(**)
	Sig. (2-tailed)		.000
	N		26

** Correlation is significant at the 0.01 level (2-tailed).

Table 4.19 shows the relationship between expenditure on B.O.M teachers' wages and expenditure on repair, maintenance and innovation in 2013 and 2014. The correlation between expenditure on B.O.M teachers' wages and expenditure on repair, maintenance and innovation was -0.834 in 2013 and -0.801 in 2014, with a p- value of 0.000. Since the p- value was less than 0.01, it means that there was a significant negative correlation between expenditure on B.O.M teachers' wages and expenditure on repair, maintenance and innovation. This implies that an increase in expenditure on wages of B.O.M teachers' leads to a decrease in expenditure on repair, maintenance and innovation. These findings concur with findings of a study of the District of Columbia school system which found out that after controlling for other variables such as a student's socio-economic status, students' standardized achievement scores were lower in schools with poor building conditions (Edwards, 1992). Due to increasing wage bill of B.O.M teachers, schools in Gem sub-County spent less on repair, maintenance and innovation. The inadequate expenditure on R.M.I vote head because of the wage bill of B.O.M teachers hinders provision of quality education.

4.5.4 B.O.M teachers' wage bill Local Travel and Transport vote head

The Heads of departments were asked to rate availability of funds in their schools to cater for local travel and transport. Their responses are shown in Table 4.20

Table 4.20

Availability of funds for local travel and transport

Statement	SD	D	A	SA	TOTAL
Schools facilitate teachers to attend workshops	54	37	16	5	1I2
Schools facilitate teachers/students' travel to bench mark	58	30	9	15	112
Schools avail funds for field trips	37	45	15	15	112
Schools facilitate students' travel to participate in co-curricular	48	40	18	6	112
Schools facilitate students' travel to attend symposiums and contests	42	45	12	13	112
TOTAL	**239**	**197**	**70**	**54**	**560**

KEY: SD=Strongly Disagree D=Disagree A = Agree SA = Strongly Agree

Results in Table 4.20 indicate that in total, there were 239 (42.68%) heads of departments' responses that strongly disagreed with the statements that schools facilitate teachers and students to attend workshops, do benchmarking, go for field trips, travel to participate in co-curricular activities and attend symposiums and contests. Those that strongly agreed with the statements were 54 (9.64%). The above results imply that schools were not fully facilitating the travel of teachers and students to participate in activities that were core in improving academic standards and that funds meant to facilitate local travel and transport were not being fully utilized on this vote head. This concurs with findings of Munda and Odebero (2014) which revealed that some schools, in an effort to address their financial problems were cutting costs of what were perceived as non-core activities so as to concentrate at excelling in a limited number of important activities rather than trying to do everything. The wage bill of B.O.M teachers have forced schools to cut down budgets for approved vote heads and this affects provision of educational inputs catered for by these vote heads.

The Principals were also asked whether they used funds meant for Local Travel and Transport to pay wages for B.O.M teachers. Their responses are captured in Table 4.21

Table 4.21

Wages of B.O.M teachers from local travel and transport vote head

Wages from LT&T Vote head	**Frequency (f)**	**Percentage (%)**
Strongly Agree	8	30.8
Agree	3	11.5
Disagree	10	38.5
Strongly Disagree	5	19.2

Table 4.21 indicates that a total of 11 (42.3%) principals used funds meant for Local Travel and Transport to pay wages for B.O.M teachers while 57.7% did not use funds from this vote head to pay wages for B.O.M teachers. From the responses of heads of departments, there is an indication that though most principals did not use funds under LT&T to pay wages for B.O.M teachers, schools were not facilitating teachers and students to travel and attend workshops, do benchmarking, go for field trips, travel to participate in co-curricular activities and attend symposiums and contests. This is likely to affect the quality of education in public secondary schools in Gem sub-County. Table 4.22 shows the effect of expenditure on B.O.M teachers' wage bill on expenditure on LT&T vote head.

Table 4.22

Pearson product moment correlation of the effect on expenditure on B.O.M teachers' wage bill on expenditure on local travel and transport

		Expenditure on LT&T in 2013	Expenditure on LT&T in 2014
Expenditure on B.O.M teachers' wage bill 2013	Pearson correlation Sig. (2-tailed) N	.855(**) .000 26	
Expenditure on B.O.M teachers' Wage bill 2014	Pearson correlation Sig. (2-tailed) N		.833(**) .000 26

** Correlation is significant at the 0.01 level (2-tailed)

Table 4.22 shows the relationship between expenditure on B.O.M teachers' wages and expenditure on local travel and transport in 2013 and 2014. The correlation between expenditure on B.O.M teachers' wages and expenditure on local travel and transport was 0.855 in 2013 and 0.833 in 2014, with a p- value of 0.000. Since the p- value was less than 0.01, it means that there was a significant positive correlation between expenditure on B.O.M teachers' wages and expenditure on local travel and transport. Increase in expenditure on wages of B.O.M teachers' leads to an increase in expenditure on local travel and transport. This implies that the local and travel vote head is least affected by the wage bill of B.O.M teachers. These findings may imply that schools are spending as much on local travel and transport as B.O.M teachers'' wage bill on this vote head. While funds are being diverted from other vote heads to pay wages for BO.M teachers, this vote head is not touched. According to Sika et al (2013), traveling should be treated with caution because in most cases it leads to absence of teachers' and principal from the school. The absence of teachers' and principals is one of the contributing factors to dismal performance of students.

4.5.5 B.O.M teachers' wage bill on Electricity, Water and Conservancy vote head

The Heads of Departments were asked to indicate the availability of electricity, stand by generators, clean tap water, water tanks and bore holes in their schools. Their responses were captured in Table 4.23.

Table 4.23

Availability of electricity, water and water conservancy facilities

Electricity, Water and Conservancy	Not Available	Available	TOTAL
Electricity	08	104	**112**
Stand by generator	87	25	**112**
Clean water	70	42	**112**
Water tanks	95	17	**112**
Bore holes	77	35	**112**
Total number of responses	**337**	**223**	**560**

Table 4.23 shows that a total of 337 (60.18%) of the heads of departments' responses rated availability of electricity, stand by generator, clean water, water tanks and bore holes as not available while 223 (39.82%) rated them as available. The most affected were the water tanks meant to conserve water in schools and stand by generator. This means that most schools relied solely on electricity as the source of power. From the above findings, some schools lacked electricity and water. However, all of them spent on wages of B.O.M teachers. Munda and Odebero (2014) observe that electricity and water are important utilities which guarantee the well-being of the entire school community. Diversion of funds from this vote head makes the supply of electricity and water inadequate and this hampers provision of quality education in public secondary schools in Gem sub-County.

The principals were asked whether they used funds from Electricity, Water and Conservancy to pay wages for B.O.M teachers. Their responses are indicated in Table 4.24

Table 4.24

Wages of B.O.M teachers from Electricity, Water and Conservancy vote head

Wages from EWC Vote head	Frequency (f)	Percentage (%)
Strongly Agree	7	26.92
Agree	11	42.31
Disagree	7	26.92
Strongly Disagree	1	3.85
TOTAL	**26**	**100**

Table 4.24 shows that, 7 (27%) of the Principals strongly agreed and 11 (42%) agreed that they used funds from EWC vote head to pay B.O.M teachers' wages. On the other hand, 1 principal (4%) strongly disagreed and 7 principals ((27%) disagreed that they used funds from EWC vote head to pay B.O.M teachers' wages. This implies that most of the schools use funds meant for electricity, water and conservancy vote heads to pay wages for B.O.M teachers. When there is no adequate lighting and water in schools, the learning environment is not learner friendly and this affects the quality of education in public secondary schools. Table 4.25 shows the effect of expenditure on B.O.M teachers' wage bill on expenditure on EWC vote head.

Table 4.25

Pearson product moment correlation of the effect of expenditure on B.O.M teachers' wage bill on expenditure on Electricity, water and conservancy

		Expenditure on E.W.C in 2013	Expenditure on E.W.C in 2014
Expenditure on B.O.M teachers' wage bill 2013	Pearson correlation	-.844(**)	
	Sig. (2-tailed)	.000	
	N	26	
Expenditure on B.O.M teachers' Wage bill 2014	Pearson correlation		-.844(**)
	Sig. (2-tailed)		.000
	N		26

** Correlation is significant at the 0.01 level (2-tailed).

Table 4.25 shows the relationship between expenditure on B.O.M teachers' wages and expenditure on electricity, water and conservancy in 2013 and 2014. The correlation between expenditure on B.O.M teachers' wages and expenditure on electricity, water and conservancy was -0.844 in 2013 and -0.844 in 2014, with a p- value of 0.000. Since the p- value was less than 0.01, it means that there was a significant negative correlation between expenditure on B.O.M teachers' wages and expenditure on electricity, water and conservancy. This means an increase in expenditure on wages of B.O.M teachers' leads to a decrease in expenditure on electricity, water and conservancy local travel. Sika et al (2013) study on relationship between components of unit cost and academic performance in Siaya District established that very little conservation was being undertaken in the schools in Siaya District yet the E.W.C vote head was meant to cater for Water tanks. Water tanks are used for water storage instead of piped water which in most cases is unavailable. When public secondary schools in Gem sub-County spent more on B.O.M teachers' wages, they are left with very little for electricity, water and conservancy and this in turn hinders provision of quality education.

4.5.6 B.O.M teachers' wage bill on Administrative costs vote head

Heads of Departments were asked to indicate the availability of newspapers, internet services, postal services, office stationery, functional office computers, functional office printers and photocopiers in their schools. Their responses are indicated in Table 4.26.

Table 4.26

Availability of administrative facilities in sampled schools

Administrative facilities	Not Available	Available	**TOTAL**
Newspapers	78	34	**112**
Internet services	89	23	**112**
Postal services	23	89	**112**
Office stationery	68	44	**112**
Office computers	70	42	**112**
Office printers	79	33	**112**
Office photocopiers	65	47	**112**
Total number of responses	**472**	**312**	**784**

A total of 465 (60.20%) responses of heads of departments indicated that newspapers, internet services, postal services, office stationery, office computers, printers and photocopiers were not available while 312 (39.80%) rated them as available. The facilities with the highest frequency of unavailability were internet services and printers. Findings of a study by Ogedebe (2012) on Internet usage and students' academic performance in Nigeria Tertiary institutions: A case study of University of Maiduguri showed that there exists a positive relationship between internet usage and academic achievement. This implies that the unavailability of administrative facilities which are crucial to the smooth running of school programmmes is likely to hinder provision of quality education in public secondary schools in Gem sub-County. The principals were asked to indicate whether they used funds from administrative costs

vote head to pay wages for B.O.M teachers. Their responses are indicated in Table 4.27.

Table 4.27

Wages of B.O.M teachers from Administrative vote head

Wages from Administrative vote head	Frequency (f)	Percentage (%)
Strongly Agree	5	19.23
Agree	10	38.46
Disagree	7	26.92
Strongly Disagree	4	15.38
TOTAL	26	100

Table 4.27 shows that 19.3% of the principals strongly agreed and 38.46% agreed that they used funds from the administrative costs vote head to pay wages for B.O.M teachers while 19.23% strongly disagreed and 26.92% disagreed that they used funds from this vote head to pay wages for B.O.M teachers. Most of the schools that divert funds from this vote head to pay wages for B.O.M teachers' wages reduce the amount that is allocated for administrative facilities. This explains the unavailability of the facilities which fall under the administrative costs vote head. Inadequate expenditure on this vote head makes provision of administrative facilities inadequate. This in turn affects provision of quality education. Table 4.28 shows the relationship between expenditure on B.O.M teachers' wages and expenditure on administrative costs vote head.

Table 4.28

Pearson product moment correlation of the effect of expenditure on B.O.M teachers' wage bill on expenditure on administrative facilities

		Expenditure on administrative facilities in 2013	Expenditure on administrative facilities in 2014
Expenditure on B.O.M teachers' wage bill 2013	Pearson correlation	.896(**)	
	Sig. (2-tailed)	.000	
	N	26	
Expenditure on B.O.M teachers' Wage bill 2014	Pearson correlation		.887(**)
	Sig. (2-tailed)		.000
	N		26

** Correlation is significant at the 0.01 level (2-tailed).

Table 4.28 shows the relationship between expenditure on B.O.M teachers' wages and expenditure on administrative facilities in 2013 and 2014. The correlation between expenditure on B.O.M teachers' wages and expenditure on administrative facilities was 0.896 in 2013 and 0.887 in 2014, with a p- value of 0.000. Since the p- value was less than 0.01, it means that there was a significant positive correlation between expenditure on B.O.M teachers' wages and expenditure on administrative facilities. This means an increase in expenditure on wages of B.O.M teachers' leads to an increase in expenditure on administrative facilities. This vote head is meant for purchase of office stationary, internet services, bank charges, annual general meetings and prize giving days (Sika et al, 2013). The administrative costs also purchase workers' uniforms, newspapers, receipt books, and all other stationary that facilitates smooth running of office work. This relationship implies the administrative vote head is not affected by the wage bill of B.O.M teachers. This means that as much as public secondary schools in Gem sub-County divert funds from other vote heads to pay B.O.M teachers' wages, funds meant for the administrative vote head are not diverted.

Adequate expenditure on administrative costs ensure smooth running of the school programmes.

4.5.7 B.O.M teachers' wage bill on Activity vote head

Heads of departments were asked to rate the adequacy of co-curricular facilities in their schools. The findings are indicated in Table 4.29.

Table 4.29

Adequacy of co-curricular facilities

Co-curricular facilities	Strongly Disagree	Disagree	Agree	Strongly Agree	TOTAL
Adequate Volleyball facilities	19	50	19	24	**1I2**
Adequate netball facilities	3	42	15	10	**70**
Adequate handball facilities	50	42	13	7	**112**
Adequate indoor games facilities	67	35	7	3	**112**
Adequate football facilities	42	39	20	11	**112**
Adequate music/drama facilities	45	45	11	11	**112**
Adequate athletic facilities	42	40	19	11	**112**
TOTAL	**268**	**293**	**104**	**77**	**742**

Table 4.29 shows that a total of 268 (36.12%) heads of departments' responses strongly disagreed with the statements on adequacy of co-curricular activities facilities. However, 77 (10.38%) strongly agreed with the statements that co-curricular activities facilities were adequate. Indoor games facilities were rated as the most inadequate. Responses for netball facilities were only seventy since boys do not participate in netball. From the results, it is quite evident that most of the sampled schools lacked facilities for co-curricular activities. This concurs with findings of Munda and Odebero (2014) which revealed that some schools, in an effort to address their financial problems were cutting costs of what were perceived as non-core activities so as to concentrate at excelling in a limited number of important activities

rather than trying to do everything. The principals were asked to indicate whether they used funds from activity vote head to pay wages for B.O.M teachers. Their responses are captured in Table 4.30.

Table 4.30

Wages of B.O.M teachers from activity vote head

Wages from Activity vote head	**Frequency (f)**	**Percentage (%)**
Strongly Agree	7	26.92
Agree	10	38.46
Disagree	8	30.77
Strongly Disagree	1	3.85
TOTAL	**26**	**100**

Table 4.30 shows that 26.92% of the principals strongly agreed and 38.46% agreed that they used funds from activity vote head to pay wages for B.O.M teachers. On the other hand, 30.77% disagreed and 3.85% strongly disagreed that they used funds from the activity vote head to pay wages for B.O.M teachers. The inadequacy of games facilities could be attributed to diversion of funds meant for activities by some principals to pay wages for B.O.M teachers. A study by Kariyana, Maphosa and Mapuranga (2012) on influence of learners' participation in school co-curricular activities on academic performance: Assessment of educators' perceptions found out that participation in co-curricular activities helped to improve students' confidence which is vital in their academic pursuit. Therefore when schools in Gem sub -County spend more on B.O.M teachers' wage bill and pay and spends sparingly on co-curricular activities, provision of quality education becomes impossible. Table 4.31 shows the relationship between expenditure on B.O.M teachers' wages and expenditure on administrative costs vote head.

Table 4.31

Pearson product moment correlation of the effect of expenditure on B.O.M teachers' wage bill on expenditure on co-curricular activities

		Expenditure on co-curricular activities in 2013	Expenditure on co-curricular activities in 2014
Expenditure on B.O.M teachers' wage bill 2013	Pearson correlation	-.877(**)	
	Sig. (2-tailed)	.000	
	N	26	
Expenditure on B.O.M teachers' Wage bill 2014	Pearson correlation		-.864(**)
	Sig. (2-tailed)		.000
	N		26

** Correlation is significant at the 0.01 level (2-tailed).

Table 4.31 shows the relationship between expenditure on B.O.M teachers' wages and expenditure on co-curricular activities in 2013 and 2014. The correlation between expenditure on B.O.M teachers' wages and expenditure on co-curricular activities was -0.877 in 2013 and -0.864 in 2014, with a p- value of 0.000. Since the p- value was less than 0.01, it means that there was a significant negative correlation between expenditure on B.O.M teachers' wages and expenditure on co-curricular activities. This means an increase in expenditure on wages of B.O.M teachers' leads to decrease in expenditure on co-curricular activities. Inadequate expenditure on co-curricular activities denies students an opportunity to participate actively in co-curricular activities and nurture their talents. Quality education can only be achieved when the education system channels out an all-round student.

4.5.8 B.O.M teachers' wage bill on Personal Emolument vote head

The principals were asked to indicate the number of different categories of non-teaching staff in their schools. The results are shown in Table 4.32.

Table 4.32

Categories of non-teaching staff in sampled public secondary schools

Description of Non-teaching staff	Schools with non-teaching staff (n=26)	Percentage (%)	Schools without non-teaching staff	Percentage (%)
Bursars	5	19.23	21	80.77
Accounts clerks	20	70.00	6	23.00
Secretaries	19	73.08	7	27.92
Laboratory technicians	13	50.00	13	50.00
Caterer/cateress	5	19.0	21	81.00
Librarians	5	19.0	21	81.00
Drivers	8	31.0	18	69.00
Grounds men	15	58.00	11	42.00
Cooks	25	96.00	1	4.00
Security officers	26	100.00	0	0.00
Office messengers	6	23.00	20	77.00
Office cleaners	4	15.39	22	84.62
House keepers	5	19.00	21	81.00
Store keepers	2	15.00	24	85.00
Nurses	3	11.54	23	88.46

Table 4.32 shows the categories of non-teaching staff in public secondary schools in Gem sub-County. Seven schools (27.9%) had no secretaries, 50% of the schools had no laboratory technicians, 42% had no grounds men, 4% had no cooks and 85% had no store keepers. However, all the schools had security personnel. On the contrary, no school lacked a B.O.M teacher. This implies that B.O.M teachers were given a priority over non-teaching staff. The principals were also asked to indicate how much the schools paid the non-teaching staff. Their responses are shown in Table 4.33.

Table 4.33

Remuneration of non-teaching staff

Non-teaching staff	No of the non-teaching staff	Salary of Ksh 5000 and below	Salary Ksh of 5001-10000	Salary of Ksh 10001-15000	Salary of Ksh 15001 - 20000	Salary of Ksh 20001 and above
Bursars	5	0	0	2	0	3
Accounts clerks	20	0	9	6	4	1
Secretaries	19	0	9	7	2	1
Lab technicians	13	3	5	3	2	0
Caterer/cateress	5	0	1	2	1	1
Librarians	5	0	1	3	1	0
Drivers	8	0	2	5	1	0
Grounds men	15	7	6	1	1	0
Cooks	25	7	17	1	0	0
Security officers	26	12	12	2	0	0
Office messengers	6	1	3	1	1	0
Office cleaners	4	0	3	0	1	0
House keepers	5	0	1	3	0	1
Store keepers	6	0	3	2	1	0
Nurses	3	0	1	1	0	1
TOTAL	**165**	**30**	**73**	**39**	**15**	**8**

Table 4.33 shows that the total number of non-teaching staff in the 26 schools was 165. Out of the 165, 30 (18.182%) earned Ksh 5000 and below, 73 (44.242%) earned between Ksh 5001 to Ksh 10,000, 39 (23.636%) earned between Ksh 10,001 to Ksh 15,000, 15 (9.090%) earned between Ksh 15,001 to Ksh 20,000 and 8 (4.848%) earned Ksh 20,001 and above. This implies that 62.424% of the non-teaching staff in the sampled schools earned less than Ksh 10,000. This concurs with findings of a study by Wichenje (2011) on Human resource management: Challenges for head teachers in public secondary schools in Kakamega East District, Kenya which indicated that since the Ministry of Education allocates less funds particularly for support staff and does not provide for teachers employed by the B.O.M, head teachers therefore struggle to pay the B.O.M teachers by use of Personal Emolument (PE)

funds meant for the support staff. This resulted in shortage of funds making the support staff go for long without pay. Poor remuneration of non-teaching staff is likely to make them less dedicated to their work and this in turn hinders provision of quality education in public secondary schools in Gem sub - County. The principals were also asked to indicate whether the number of non-teaching staff was adequate in their schools. There are responses are shown in Figure 4.7.

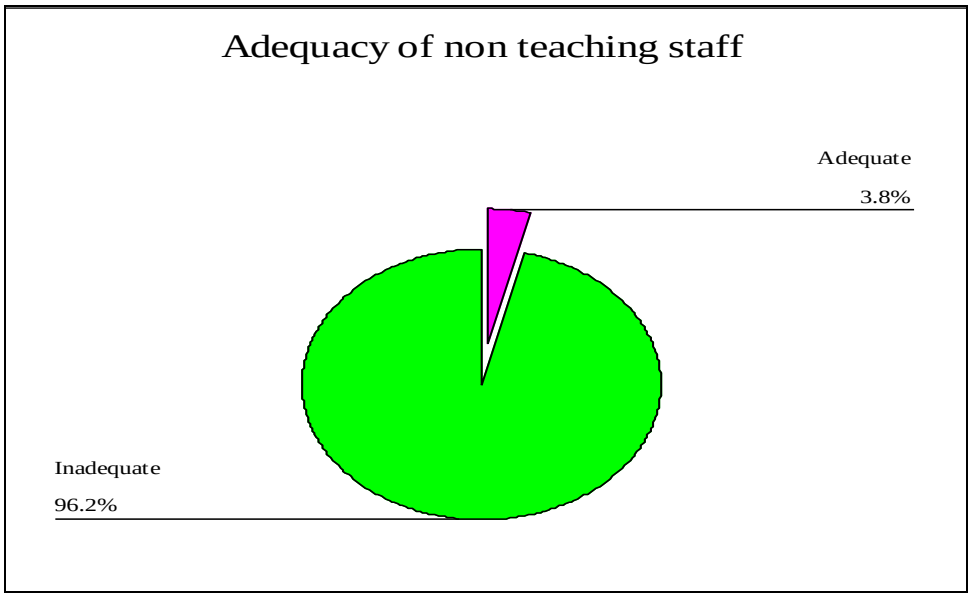

Figure 4.7: Adequacy of non-teaching staff

From Figure 4.7, 96.2% of the principals' responses in the sampled schools indicated that the number of non-teaching staff in their schools was inadequate. Inadequacy of non-teaching staff affects the smooth running of the school programmes which in turn impacts on provision of quality education. The principals were also asked to indicate whether they paid wages of B.O.M teachers' from the personal emolument. Their responses are shown in Table 4.34.

Table 4.34

Wages of B.O.M teachers from Personal Emolument vote head

Wages from personal emolument vote head	**Frequency (f)**	**Percentage (%)**
Strongly Agree	12	46.15
Agree	10	38.46
Disagree	3	11.54
Strongly Disagree	1	3.85
TOTAL	**26**	**100**

Table 4.34 indicates that most of the principals (84%) used funds meant for personal emolument to pay wages for B.O.M teachers while 16% disagreed with the view that they used funds meant for personal emolument to pay wages B.O.M teachers. From the high percentage of principals who indicated that schools used fund meant for personal emolument for non-teaching staff to pay wages for B.O.M teachers, it is quite evident that most schools diverted funds from this vote head to pay B.O.M teachers' wages. This explains why majority of non-teaching staff were paid less than Ksh 10,000 and why some schools had not employed workers in some areas yet they received funds for personal emolument as shown in Tables 4.32 and 4.33. Inadequate non-teaching staff and poor remuneration of non-teaching staff have a bearing on provision of quality education.

Table 4.35 shows Pearson product moment correlation of the effect of expenditure on B.O.M teachers' wage bill on expenditure on personal emolument in the year 2013 and 2014**.**

Table 4.35

Pearson product moment correlation of the effect of expenditure on B.O.M teachers' wage bill on expenditure on personal emolument

		Expenditure on PE in 2013	Expenditure on PE in 2014
Expenditure on B.O.M teachers' wage bill 2013	Pearson correlation	-.928(**)	
	Sig. (2-tailed)	.000	
	N	26	
Expenditure on B.O.M teachers' Wage bill 2014	Pearson correlation		-.904(**)
	Sig. (2-tailed)		.000
	N		26

** Correlation is significant at the 0.01 level (2-tailed).

Table 4.35 shows the relationship between expenditure on B.O.M teachers' wages and expenditure on personal emolument in 2013 and 2014. The correlation between expenditure on B.O.M teachers' wages and expenditure personal emolument was -0.928 in 2013 and -0.904 in 2014, with a p- value of 0.000. Since the p- value was less than 0.01, it means that there was a significant negative correlation between expenditure on B.O.M teachers' wages and expenditure on personal emolument. This means an increase in expenditure on wages of B.O.M teachers' leads to decrease in expenditure on personal emolument. Personal emolument vote head is meant for the salaries of non-teaching staff. When funds meant for non-teaching staff are diverted to pay wages for B.O.M teachers, inadequate funds are left to pay wages for non-teaching staff. As a result, these workers go for long without pay as indicated by Wichenje (2011), they are poorly remunerated and some schools do completely without them. This hinders smooth running of school programmes as the services rendered by non-teaching staff are very crucial to provision of quality education.

4.5.9 B.O.M teachers' wage bill on medical vote head

Heads of departments were asked to indicate the availability of medical services in their schools. Their responses are indicated in Table 4.36.

Table 4.36

Availability of medical services

Medical service	Not Available	Available	TOTAL
First aid kits	80	32	**112**
First line treatment drugs	61	51	**112**
Sanatoria/ sick bay	88	24	**112**
Total number of responses	**229**	**107**	**336**

From Table 4.36, a total of 229 (68.15%) heads of departments' responses indicated that first aid kits, first line treatment drugs and sanatoria/ sick bays were not available in schools while 107 responses (31.85%) indicated that these medical facilities were available. Most of the schools lacked sanatoria. Lack of basic medical facilities increases absenteeism among students and this impact negatively on their academic performance. The principals were asked whether they used funds from medical vote head to pay wages for B.O.M teachers. Their responses are shown in Table 4.37.

Table 4.37

Wages of B.O.M teachers from medical vote head

Wages from medical vote head	Frequency (f)	Percentage (%)
Strongly Agree	5	19.23
Agree	12	46.15
Disagree	7	26.92
Strongly Disagree	2	7.69
TOTAL	**26**	**100**

Table 4.37 shows that 19.23% of the principals strongly agreed and 46.15% agreed with the statement that schools used funds meant for medication to pay B.O.M teachers' wages. Those who strongly disagreed with the statement were 7.69% and 26.92 % of the principals disagreed with the statement. From these results, it is evident that schools diverted funds from medical vote head to pay wages for B.O.M teachers. This explains the unavailability of medical services and facilities in some of the sampled public secondary schools. Diversion of funds from this vote head to pay wages for B.O.M teachers makes it impossible for schools to provide basic medical facilities. These facilities ensure that students with minor ailments are attended to from school and do not have to leave the school compound to seek for medical attention. This curbs time wastage which in turn improves academic performance. Therefore lack of basic medical facilities due to expenditure on B.O.M teachers in public secondary schools in Gem sub-County hampers provision of quality education as students waste time as they leave the school premises to seek for medical attention for minor ailments. Table 4.38 shows the effect of expenditure on B.O.M teachers' wage bill on expenditure on medical vote head.

Table 4.38

Pearson product moment correlation of the effect of expenditure on B.O.M teachers' wage bill on expenditure on medical vote head

		Expenditure medical vote head in 2013	Expenditure on medical vote head in 2014
Expenditure on B.O.M teachers' wage bill 2013	Pearson correlation	-.859(**)	
	Sig. (2-tailed)	.000	
	N	26	
Expenditure on B.O.M teachers' Wage bill 2014	Pearson correlation		-.800(**)
	Sig. (2-tailed)		.000
	N		26

** Correlation is significant at the 0.01 level (2-tailed).

Table 4.38 shows the relationship between expenditure on B.O.M teachers' wages and expenditure on medical vote head in 2013 and 2014. The correlation between expenditure on B.O.M teachers' wages and expenditure personal emolument was -0.859 in 2013 and -0.800 in 2014, with a p- value of 0.000. Since the p- value was less than 0.01, it means that there was a significant negative correlation between expenditure on B.O.M teachers' wages and expenditure on medical vote head. This means an increase in expenditure on wages of B.O.M teachers' leads to decrease in expenditure on medical vote head. Findings of Sika (2011) on impact of unit cost on academic performance of public secondary schools in Siaya District, Kenya indicated that the variable medical fee had a positive coefficient of 1.943 and that an increase in medical cost per student would impact positively on students' academic performance. Public secondary schools in Gem sub-County spend less on medication since the bulk of finances are being used to pay wages for B.O.M teachers. Lowering medical fee would reduce performance as students would spend most of the time going to the nearby health centres as in the District day schools. The implication is that valuable time will be lost and lesson attendance would reduce (Sika, 2011).

4.5.10 B.O.M teachers' wage bill on provision of other educational in puts

The principals were asked to indicate whether the wage bill of B.O.M teachers affected the provision of other educational inputs in their schools or not. Their responses are shown in Figure 4.8.

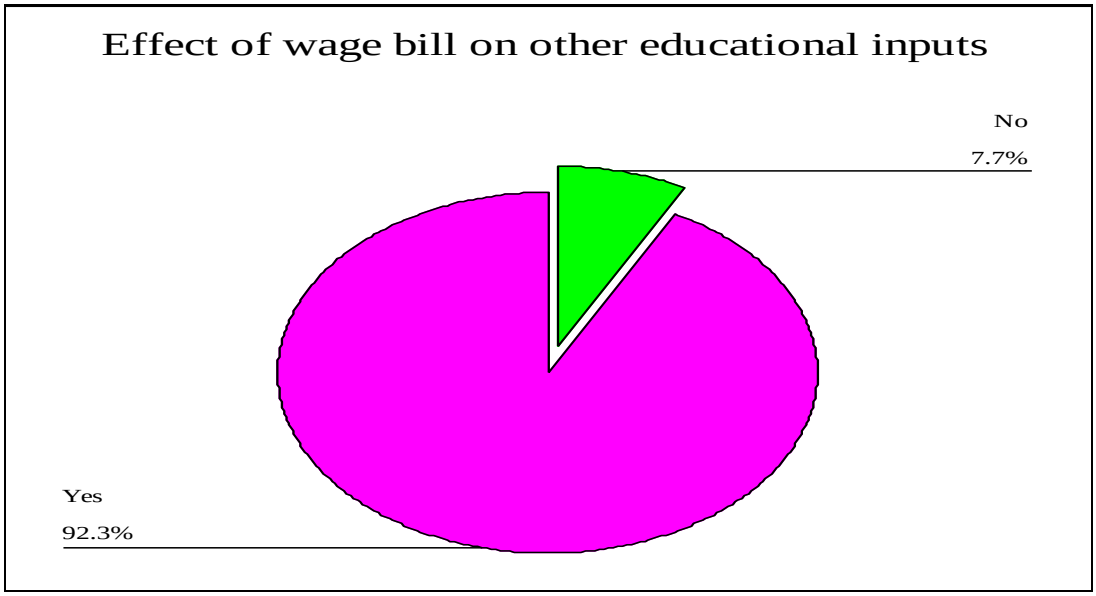

Figure 4.8: Effect of B.O.M teachers' wage bill on provision of other educational in puts

Figure 4.8 indicates that 92.3% of the principals agreed that the wage bill of B.O.M teachers affected provision of educational in puts in schools while 7.7% were of the opinion that B.O.M teachers' wage bill did not affect provision of other educational inputs in schools. These findings show that B.O.M teachers' wage bill affected provision of other educational in puts that are key to provision of quality education in public secondary schools in Gem sub-County. The principals were requested to give one reason for their answer. These reasons are captured in Table 4.39.

Table 4.39

Reasons why B.O.M teachers' wage bill affects provision of other educational inputs

Reasons	Frequency (f)	Percentage (%)
Burden to parents	2	7.69
B.O.M vote head not enough	2	7.69
Wage bill could be used to develop infrastructure	3	11.53
Keeps students away from school	1	3.85
Low pay affects B.O.M teachers' morale	2	7.69
Diversion of funds from other vote heads	14	53.85
Provision of educational inputs not affected since B.O.M Wages are budgeted for	2	7.69
TOTAL	26	100

Table 4.39 shows that most principals (53.85%) indicated that B.O.M teachers' wage bill affect provision of other educational inputs since funds are transferred from other vote heads to pay B.O.M teachers' wages. Only 2 principals (7.69%) indicated that the B.O.M wages do not affect provision of other educational inputs since it is normally budgeted for and parents pay. Therefore diversion of funds from other vote heads to pay wages for B.O.M wages is the major reason why BO.M teachers' wage bill was affecting provision of quality education in public secondary school in Gem sub-County.

4.6 Expenditure on B.O.M teachers' wage bill on school fees charged

The third objective of the study was to determine the effect of expenditure on B.O.M teachers' wage bill on school fees charged. The principals were asked whether they charged fees for B.O.M teachers' wages. Their responses are shown in Figure 4.9.

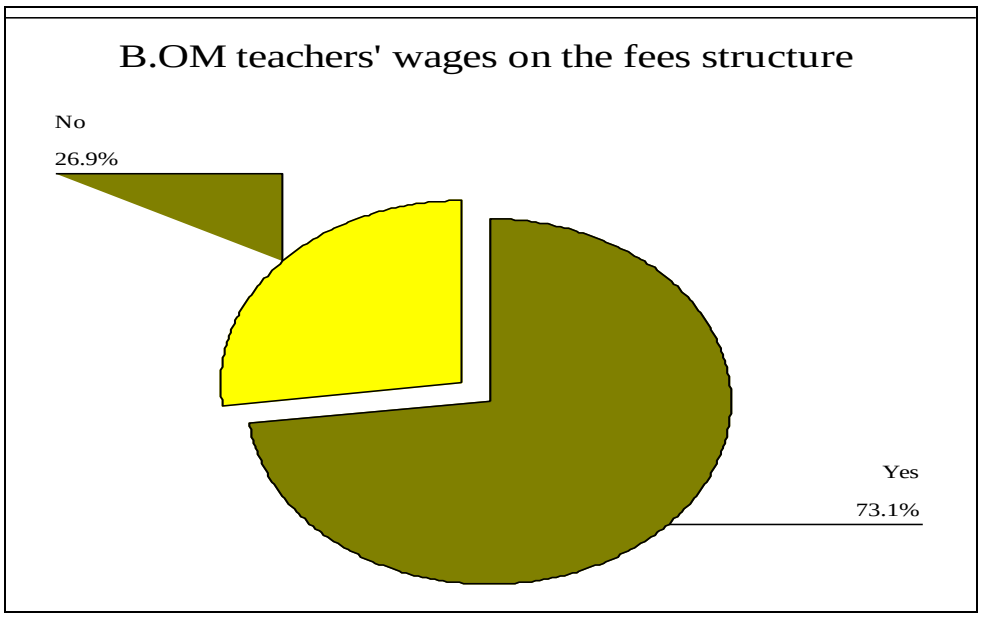

Figure 4.9: B.O.M teachers' wages in Fees structure

As shown in Figure 4.9, 73.1% of the principals' responses indicated that schools charged parents some money to pay B.O.M teachers' wages. Findings of a study by ILO (2010) on micro factors inhibiting education access, retention and completion by children from vulnerable communities in Kenya indicate that in schools in Kinango, Msambweni and Matuga sub-counties in Kwale County, PTA/B.O.M teachers' salary is one of the factors that influences drop outs. Among the reasons that principals gave as to why B.O.M teachers' wage bill influences provision of educational inputs in schools, 3.8% cited students dropping out of schools. Increasing school fees to raise wages for B.O.M teachers keeps students from poor backgrounds from school and this eventually affects their performance in exams.

The principals were also asked to indicate how much they charged parents for wages of B.O.M teachers. Their responses were captured in Figure 4.10.

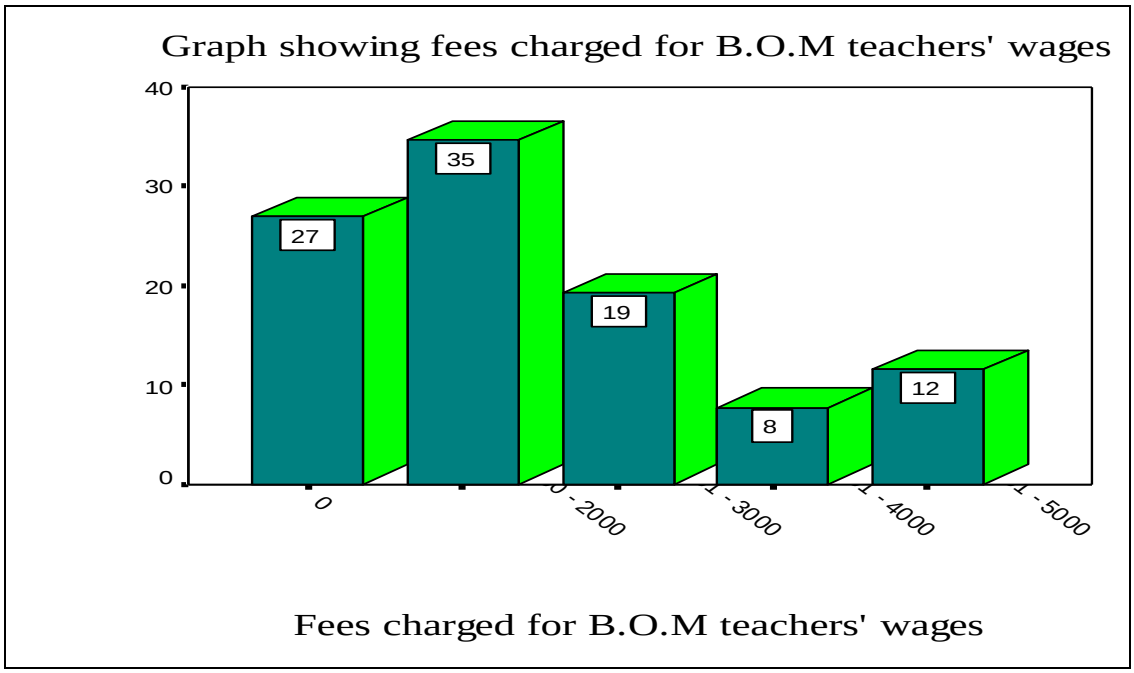

Figure 4.10: B.O.M teachers' wages from school fees

Figure 4.10 shows that 27% of the principals' responses indicated that schools did not charge parents for B.O.M teachers' wages while 73% of the responses indicated that

schools charged parents for wages of B.O.M teachers. The least amount charged by 35% of the sampled schools was Ksh 1000- 2000 while the highest amount charged by 12% of the sampled schools was Ksh 4001- 5000. This implies that in most of the schools, parents are made to bear the burden of paying wages of B.O.M teachers.

These findings also show that 27% of the sampled schools did not have B.O.M teachers' wages on their fees structure. B.O.M teachers' wages vote head is not among the approved vote heads by the Ministry of Education. However, all the sampled schools incurred an expense towards wages of B.O.M teachers' wages. This implies that some schools overcharged the approved vote heads in order to raise wages for B.O.M teachers. B.O.M teachers' wages is therefore among the charges that make school fees high. Munda and Odebero (2014) suggest that it is incumbent upon the government to always provide direction on optimal charges on other levies not found in the fees guidelines in order to avoid vesting in individual school management too much discretion in setting levies. Increasing school fees increases absenteeism among students and this hinders provision of quality education. Table 4.40 shows results for Pearson's correlation of effect of expenditure on B.O.M teachers' wage bill on school fees.

Table 4.40

Pearson product moment correlation of effect of expenditure on B.O.M teachers' wage bill on school fees

		Expenditure on B.O.M wages in 2013	Expenditure on B.O.M wages in 2014
Total fees per school	Pearson correlation	.831**	.773**
	Sig. (2-tailed)	.000	.000
	N	26	26

****Correlation is significant at the 0.01 level (2-tailed**

In Table 4.40, a correlation was done for sampled schools. There was a positive and statistically significant correlation between expenditure on wages of B.O.M teachers and total fees paid per school. The correlation between expenditure on B.O.M teachers' wages was 0.831 in 2013 and 0.773 in 2014, with a p- value of 0.000. Since p-value was less than 0.01, it means that there was a significant positive correlation between expenditure on B.O.M teachers' wages and total fees paid per school. This implies that an increase in expenditure on B.O.M teachers' wage bill leads to an increase in the total fees charged per school. Findings for surveys by Ngare (2007) and Aduta (2007) as cited by Odebero (2014) established that fees largely contributed to students' irregular attendance and eventual dropout from school; this undermined their academic performance. Therefore expenditure on B.O.M teachers' wage bill increases school fees charged and this keeps poor students away from school. Absenteeism hinders provision of quality education.

4.7 Expenditure on B.O.M teachers' wage bill on performance in K.C.S.E

This study was also meant to establish the relationship between expenditure on B.O.M teachers' wages and students' academic performance in public secondary schools in Gem sub-County. Figure 4.11 shows performance in K.C.S.E in 2013.

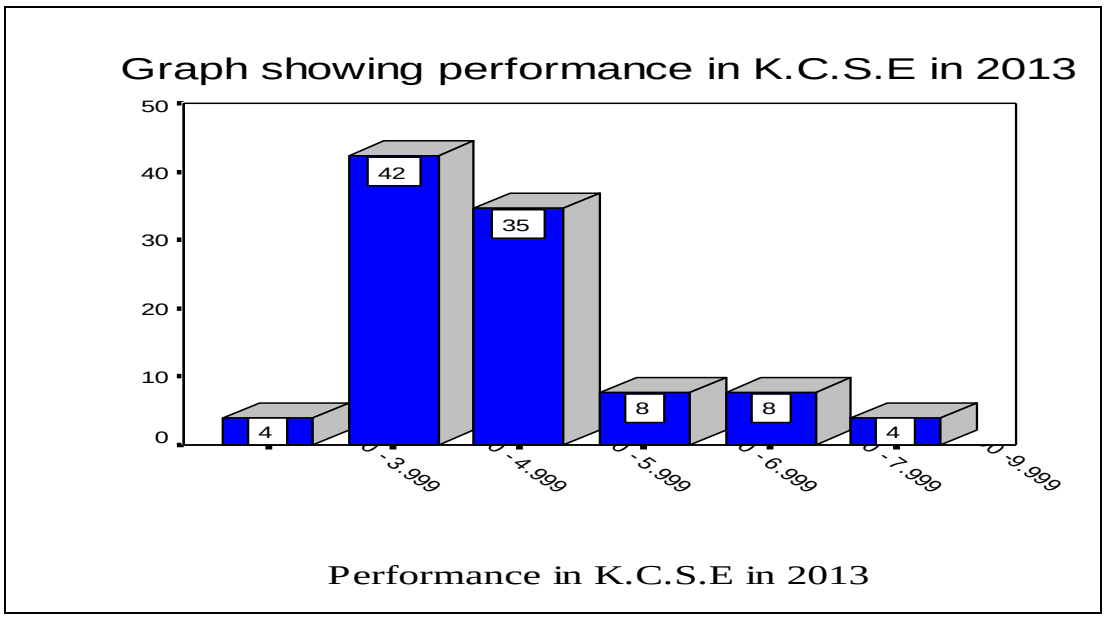

Figure 4.11: K.C.S.E performance in 2013

Figure 4.11 shows the K.C.S.E performance of public secondary school in Gem sub – County. Only 20% of the sampled schools managed to score a mean of 6.000 and above. This is equivalent to C mean grade and above. On the other hand, 80% of the sampled schools scored a mean of between 3.000 and 5.999. This is equivalent to mean grade D and C-. This implies that 80% of the students from the sampled schools who sat for K.C.S.E in 2013 scored below average. Figure 4.12 shows K.C.S.E performance in 2014.

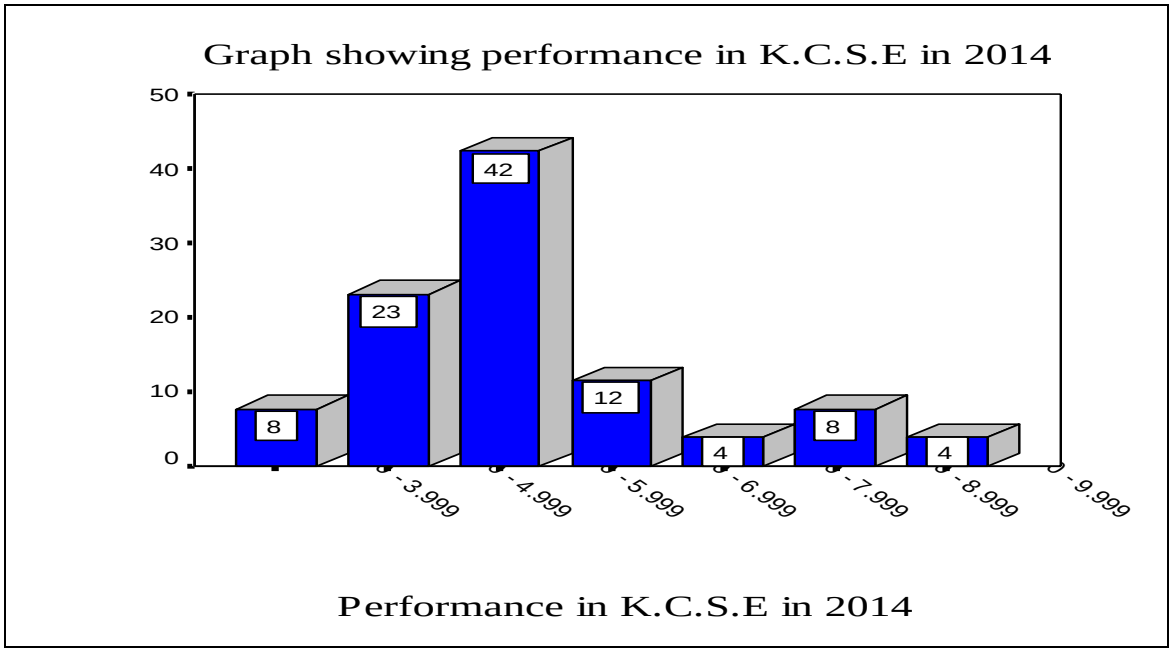

Figure 4.12: K.C.S.E performance in 2014

In 2014, there was improvement in K.C.S.E performance. The number of schools that scored a mean of between 6.000 and 9.999 increased from 20% in 2013 to 28% in 2014. However, schools that scored between 3.000 and 3.999 increased from 4% in 2013 to 8% in 2014. Most of the schools (73%) had a mean of below 6.000 which is an average score. Table 4.41 shows the results for Pearson correlation between expenditure on wages of B.O.M teachers and students' academic performance in K.C.S.E in the year 2013 and 2014.

Table 4.41

Relationship between expenditure on wages of B.O.M teachers and students' academic performance in K.C.S.E

		Performance in K.C.S.E in 2013	Performance in K.C.S.E In 2014
Expenditure on B.O.M teachers' wage bill 2013	Pearson correlation	.645**	
	Sig. (2-tailed)	.000	
	N	26	
Expenditure on B.O.M teachers' Wage bill 2014	Pearson correlation		.670**
	Sig. (2-tailed)		.000
	N		26

**Correlation significant at the 0.01 level (2-tailed)

The correlation between expenditure on B.O.M teachers' wages and performance in K.C.S.E was 0.645 in 2013 and 0.670 in 2014, with a p- value of 0.000. Since the p-value was less than 0.01, it means that there was a significant positive correlation between expenditure on B.O.M teachers' wages and performance in K.C.S.E 2013. This implies that an increase in expenditure on wages of B.O.M teachers' leads to an increase in K.C.S.E mean. This concurs with findings of an experimental programme by of a non- profit organization, International Child Support (ICS) on Extra Teacher Programme-Kenya which indicate that providing funding to school management to hire contract teachers substantially improved average test scores in the short-run (Duflo, Dupas & Kremer, 2009). These findings imply that paying B.O.M wages well motivates them this in turn increases students' academic performance in K.C.S.E. However, 33.57% of the B.O.M teachers indicated that their major challenge is low pay. This means that if they are not well remunerated, there performance in class would be affected and would lower students' academic performance.

To control for K.C.S.E performance resulting non B.O.M teachers, a correlation was done to find out whether there was a relationship between the number of B.O.M teachers and students' academic performance. Table 4.43 shows the relationship between number of B.O.M teachers and students' academic performance in K.C.S.E in 2013 and 2014.

Table 4.42

Relationship between number of B.O.M teachers and students' academic performance in K.C.S.E

		Performance in K.C.S.E in 2013	Performance in K.C.S.E In 2014
Number of B.O.M teachers In 2013	Pearson correlation	.601**	
	Sig. (2-tailed)	.001	
	N	26	
Number of B.O.M teachers In 2014	Pearson correlation		.659**
	Sig. (2-tailed)		.000
	N		26

**Correlation significant at the 0.01 level (2-tailed)

Table 4.42 shows that the correlation between number of B.O.M teachers and performance in K.C.S.E was 0.601 in 2013 and 0.659 in 2014, with a p- value of 0.001 in 2013 and 0.000 in 2014. Since the p-values were less than 0.01, it means that there was a significant positive correlation between number of B.O.M teachers and performance in K.C.S.E. This implies that an increase in number of B.O.M teachers leads to an improved performance in K.C.S.E. Table 4.43 shows the relationship between number of TSC teachers and students' performance in K.C.S.E.

Table 4.43

Relationship between number of TSC teachers and students' academic performance in K.C.S.E

		Performance in K.C.S.E in 2013	Performance in K.C.S.E In 2014
Number of TSC teachers In 2013	Pearson correlation	.598**	
	Sig. (2-tailed)	.001	
	N	26	
Number of TSC teachers In 2014	Pearson correlation		.506**
	Sig. (2-tailed)		.008
	N		26

**Correlation significant at the 0.01 level (2-tailed)

Table 4.43 shows that an increase in number of TSC teachers leads to an improved performance in K.C.S.E. However, compared to B.O.M teachers, the level of significance is higher in increase in number of B.O.M teachers than an increase in number of TSC teachers. This implies that an increase in number of B.O.M teachers leads to more improved performance in K.C.S.E than an increase in number of TSC teachers. This means that B.O.M teachers have major influence on students' academic performance. These findings concur with findings of a study by Duflo, Dupas and Kremer (2009) which show that students of contract (B.O.M) teachers performed 0.18 standard deviations higher on achievement exams than their counterparts in classes taught by civil service teachers and that this could potentially be due either to the stronger incentives faced by these teachers or to the fact that they were hired from the local community. Caution must therefore be taken when it comes to wages of these teachers. If expenditure on their wages is low, the students' performance would also drop. As much as B.O.M teachers are hired by schools' Boards of management to reduce class size and hence improve performance (Duflo, Dupas & Kremer, 2009), if not adequately remunerated, then improved academic performance would not be realized.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter contains a summary of the research findings, conclusions of the issues that the study focused on, recommendations for policy and recommendations for further researcher.

5.2 Summary of Research Findings

The study had four objectives namely: to establish the wage bill of B.O.M teachers in public secondary schools in Gem sub-County, to determine the effect of expenditure on B.O.M teachers' wage bill on expenditure on the approved vote heads in public secondary schools in Gem sub-County, to determine the effect of expenditure on B.O.M teachers' wages on school fees charged and to determine the relationship between expenditure on B.O.M teachers' wages and K.C.S.E performance.

5.2.1 Wage bill of B.O.M teachers in public secondary schools

An analysis of the first objective of the study revealed that public secondary schools in Gem sub-County had a shortage of TSC teachers. Most of these schools had therefore hired B.O.M teachers to fill the deficit. Data analysis and interpretation of responses revealed that majority of the schools (38%) paid B.O.M teachers between Ksh 5,001 and Ksh 10,000 while 21% of the schools paid B.O.M teachers below Ksh 5000. The lowest paid teacher earned Ksh 3500 while the highest B.O.M teacher earned Ksh 17,000. The total amount of money spent on B.O.M teachers in the sampled schools in 2013 was Ksh 20,251,384. This rose by 1.80% to Ksh 20,616,498 in 2014. This means that although B.O.M teachers' wage bill is not among the approved vote heads, public secondary schools in Gem sub-County were spending huge amounts of money on B.O.M teachers' wages.

5.2.2: Wage bill of B.O.M teachers on approved vote heads

The second objective of the study was to find out the effect of expenditure on B.O.M teachers' wage bill on expenditure on approved vote heads. In 2013, the study found a significant negative correlation of -0.863, -0.896, -0.834,-0.844, -0.877, -0.928 and -0.859 between expenditure on B.O.M teachers' wage bill and expenditure on teaching/learning materials, B.E.S, R.M.I, E.W.C, activity P.E and medical vote heads respectively and a significant positive correlation of 0.855 and 0.896 between LT&T and administrative costs vote heads. In 2014, the study found a significant negative correlation of -0.823, -0.910, -0.801,-0.844, -0.887, -0.864 and -0.864 between expenditure on B.O.M teachers' wage bill and expenditure on teaching/learning materials, B.E.S, R.M.I, E.W.C, activity P.E and medical vote heads respectively and a significant positive correlation of 0.833 and 0.887 between LT&T and administrative costs vote heads.

This implies that an increase in expenditure on B.O.M teachers wage bill leads to a decrease in expenditure on teaching and learning resources, boarding, equipment and stores, repair maintenance and innovations, electricity, water and conservancy, activity, personal emolument and medical vote heads. On the other hand, an increase in expenditure on B.O.M teachers' wage bill leads to an increase in expenditure on local travel and transport and administrative costs vote heads. Majority of the principals (92.3%) indicated that the wage bill of B.O.M teachers affected approved vote heads in schools while 7.7% were of the opinion that B.O.M teachers' wage bill did not affect essential vote heads in schools. Most of the principals (93.8%) indicated that B.O.M teachers' wage bill affect approved vote heads since funds are transferred

from these vote heads to pay B.O.M teachers' wages. Only 2 principals (6.2%) indicated that the B.O.M wages do not affect provision of other educational inputs since it is normally budgeted for and parents pay.

5.2.3: Expenditure on B.O.M teachers' wage bill on school fees charged

An analysis of the third objective established that the correlation between expenditure on wages of B.O.M teachers and total fees charged was 0.831 in 2013 and 0.773 in 2014, p- value 0.000< 0.01. Since p- value was a value less than 0.01, it meant that there was a significant positive correlation between expenditure on B.O.M teachers' wages and total fees paid per school. The study found out that in public secondary schools in Gem sub-County, an increase in expenditure on wages of B.O.M teachers lead to an increase in school fees charged.

5.2.4: Relationship between expenditure on B.O.M teachers' wages and K.C.S.E Performance

An analysis of the fourth objective established that the correlation between expenditure on wage bill of B.O.M teachers and students' performance in K.C.S.E was 0.645 in 2013 and 0.670 in 2014 at a p- value of 0.000 < 0.01. Since the p-value was less than 0.01. Since the p- value was less than 0.01, it means that there was a significant positive correlation between expenditure on B.O.M teachers' wages and performance in K.C.S.E. This means that as much as B.O.M teachers' wages affect the provision of vital educational inputs, if they are well remunerated, then students' performance in K.C.S.E will also improve.

5.3 Conclusion

From the research findings, the following conclusions and generalizations emerged in view of the objectives that were set and from the summary of findings given on wage bill of B.O.M teachers in public secondary schools, effect of expenditure on B.O.M

teachers' wage bill on expenditure on approved vote heads, effect of expenditure on B.O.M teachers' wage bill on school fees charged and effect of expenditure on B.O.M teachers' wage bill on K.C.S.E performance and their implication on provision of quality education.

5.3.1 Wage bill of B.O.M teachers in public secondary schools in Gem sub – County

a) Public secondary schools in Gem sub-County spend huge amount of money to pay wages for B.O.M teachers yet B.O.M teachers' wages was not among the approved vote heads.

5.3.2 Expenditure on B.O.M teachers' wage bill on expenditure on approved vote heads

a) Public secondary schools diverted funds from the approved vote heads to pay wages for B.O.M teachers.

b) Diversion of funds from approved vote heads to pay wages of B.O.M teachers affects provision of other educational in puts that are vital to provision of quality education.

5.3.3 Expenditure on B.O.M teachers' wage bill on school fees charged

a) An increase in expenditure on wages of B.O.M teachers leads to an increase in the amount of school fees charged.

5.3.4 Expenditure on B.O.M teachers' wage bill on performance in K.C.S.E

a) An increase in expenditure on B.O.M teachers goes hand in hand with improved performance in K.C.S.E.

5.4 Recommendations

5.4.1 Recommendations for policy

From the research findings, the following recommendations were made for policy:

1. From the study findings, it is evident that due to introduction of FDSE, student enrolment has increased and this has led to shortage of teachers. Most public secondary schools hire B.O.M teachers paid from fees income to fill this shortage. The study recommends that the Ministry of Education should merge non-viable and uneconomical schools to free the otherwise thinly spread teaching force and should also come up with a policy on hiring and remuneration of B.O.M teachers
2. It is evident from the study that schools spend huge amount of money to pay wages for B.O.M teachers and that they divert funds meant for other educational in puts to cater for these wages. The study recommends that the government should cater for wages of teachers employed by Boards of Management in schools since B.O.M teachers have become part and parcel of the education system in Kenya. Schools should be encouraged to start income generating projects to assist them pay B.O.M teachers' wages instead of diverting funds meant for other educational inputs.
3. The findings of the study showed that increase in expenditure on B.O.M teachers' wage bill leads to an increase in school fees charged. The study also revealed that some schools had employed more B.O.M teachers than they required. The study therefore recommends that Boards of Management should employ the exact number of B.O.M teachers that a school requires as over employment of B.O.M teachers has financial implications on parents. Caution should also be taken while charging money for payment of B.O.M teachers' wages as this increases the fees charged and it can lead to increased students' drop-out and absenteeism.

4. The study also revealed that an increase in expenditure on B.O.M teachers' wage bill leads to an increase in students' performance in K.C.S.E. The study recommends that B.O.M teachers should be adequately remunerated as their wages have a bearing on student's academic performance.

5.4.2 Recommendations for further research

1. The findings of the study indicated that schools employed B.O.M teachers with varying qualifications ranging from untrained form four leavers to graduates with bachelors in education. Further research is therefore necessary to determine the effect of B.O.M teachers' qualifications on students' academic performance.
2. The findings also indicated that an increase on expenditure on wages of B.O.M teachers leads to an increase in students' performance in K.C.S.E. A study should be conducted to determine the extent to which use of B.O.M teachers increases performance in K.C.S.E as compared to use of TSC teachers.

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APPENDIX A: CONSENT FORM

I Norich Muindi Munyasia a post graduate student at Maseno University in the Department of Educational Management and Foundations would like to carry out a research on **Influence of B.O.M teachers' wage bill on provision of quality education in public secondary schools in Gem sub-County, Siaya County, Kenya.**

Gem sub-County has the highest shortage of secondary school teachers in Siaya County. Most of the schools' Boards of Management have therefore hired B.O.M teachers to curb the teacher shortage. These teachers are hired at the schools' own expense. This compromises the quality of education as huge amount of money meant for educational inputs is diverted from the approved vote heads to pay B.O.M teachers' wages. There is therefore need to determine the influence of B.O.M teachers' wage bill on provision of quality education in public secondary schools in Gem sub-County. Questionnaires for principals, heads of departments and B.O.M teachers will be administered to collect data on the wage bill of B.O.M teachers, the effect of expenditure on B.O.M teachers' wage bill on expenditure on the approved vote heads, the effect of expenditure on B.O.M teachers' wage bill on school fees charged and the relationship between expenditure on B.O.M teachers' wage bill and K.C.S.E performance. The questionnaires will be collected after two weeks from the time of administration. The findings of this study will be useful to schools' Boards of Management, the Ministry of Education and Teachers' Service Commission on policy formulation regarding hiring and remuneration of B.O.M teachers. Participation or any other involvement in this research is voluntary. The participant has a right to withdraw himself or herself from this research as he/ she wishes. I assure the participants that the information shared will be highly confidential and will not be displayed to any other party whatsoever. No information that reveals identity of any study participant will be released or published without consent. Numbers will be used instead of names of schools to maintain confidentiality of the research records and materials.

PARTICIPANT'S CONSENT

I have read and understood the information regarding the research study and the research study has been explained to me by the researcher. I also understand that my participation in this study is entirely voluntary and I can withdraw at any time. I voluntarily give my consent to participate in this study.

Participant's signature: _____ Date: _____

Researcher's signature: _____ Date: _____

For any questions or concerns about this study, please contact me through:
Email: munyasianorich@yahoo.com, Tel no: +254 722 298 100

For any questions pertaining to rights as a research participant, contact:
The secretary, Maseno University Ethics Review Committee, Private Bag, Maseno
Telephone numbers: 057-51622, 0722 203 411, 0721 543 976, 0733 230 878
Email address: muerc-secretariate@maseno.ac.ke;secretariate@gmail.comNDICE

APPENDIX B: PRINCIPALS' QUESTIONNAIRE (PQ)

By copy of this questionnaire, you have been selected to participate in the study. You are therefore; kindly requested to answer the questions below displaying utmost good faith. The study is purely for academic purpose and all information provided will be treated confidential. Your prompt response will be highly appreciated.

PART ONE: This section seeks brief background information about yourself and your school which will assist in the analysis of data. (Where possible, use (√) tick)

1. Please tick your school category.

a). **Boarding** (i) Extra County [ ] (ii) County [ ] (ii) Sub County [ ] (iv) Girls [ ]

(v) Boys [ ] (vi) Mixed [ ]

b). **Day** (i) Girls [ ] (ii) Boys [ ] (iii) Mixed [ ]

2. How many years have you served as principal of the school? _____

3. From your records, kindly, indicate the number of students in each form for the period indicated in the table below

Year	Form 1	Form 2	Form 3	Form 4
2013				
2014				

PART TWO: The wage bill of B.O.M teachers

1. What is the CBE of the school?

   _____

2. From your record, indicate the number of teaching staff that the school has had in the following years.

Year	**2013**	**2014**
T.S.C teachers		
B.O.M teachers		
Total No of teachers		

3. Indicate the wages paid to the following categories of B.O.M teachers in your school.

Qualifications	**Monthly wages**
Graduate with a B.ED degree	
University student	
Graduate with a Diploma in education	
Untrained (Form four leaver)	
Any other (Specify)	

4. Does your fee structure have a vote head for B.O.M teachers' wages?

_____

PART THREE: Influence of expenditure on B.O.M teachers' wage bill on expenditure on approved vote heads

1) Please indicate how much the school spent on each of the indicated vote heads

Vote head	**2013**	**2014**
Tuition		
B.E.S (for boarding schools only)		
R.M.I		
L.T & T		
E.W.C		
Administration		
Activity		
P. Emolument		
Medical		
Lunch (For day schools only)		
Development		
Mock		
B.O M teachers		

2) Please indicate the details of the following non-teaching staff in your school where applicable.

Establishment	**No**	**Monthly earnings**
Bursar		
Accounts clerk		
Secretaries		
Laboratory technician (s)		
Caterer/ Cateress		
Librarian		
Driver (s)		
Grounds men		
Cooks		
Security officers		
Office messenger		
Office cleaner		
House keeper		
Store keeper		
School nurse		

3. From the numbers indicated above, is the non-teaching staff adequate in your school?

   Yes ( ) No ( )

4. Kindly rate using a tick (√) the following sources of wages for B.O.M teachers in your school. SA= Strongly Agree, A=Agree, D= Disagree, SD= Strongly Disagree

Vote head	SA	A	D	SD
Teaching and learning materials				
B.E.S (for boarding schools only)				
R.M.I				
L.T & T				
E.W.C				
Administration				
Activity				
P. Emolument				
Medical				
B.O.M vote head paid for by parents				

5. In your opinion, do you think the wage bill of B.O.M teachers is affecting the provision of other educational inputs in your school?

   Yes ( ) No ( )

6. Give one reason for the answer given above.

_____
_____
_____
_____

PART FOUR: B.O.M teachers' wage bill on school fees charged

1) Please indicate how much money parents/ guardians in your school pay under the following vote heads.

Vote head	**Fees paid by parents in Ksh**
Teaching and Learning materials	
B.E.S (for boarding schools only)	
R.M.I	
L.T & T	
E.W.C	
Administration	
Activity	
P. Emolument	
Medical	
Lunch (For day schools only)	
Development	
Mock	
B.O M teachers	

2. Does the school collect 100% fees from the parents?

Yes [ ] No [ ]

3. If no, please indicate the fee arrears in the following table

Year	**2013**	**2014**
Fee arrears		

PART FIVE: Relationship between expenditure on B.O.M teachers' wage bill and K.C.S.E performance

1) Please indicate the school mean in K.C.S.E in the table below.

Year	**2013**	**2014**
K.C.S.E mean		

APPENDIX C: QUESTIONNAIRE FOR HEADS OF DEPARTMENTS (HODQ)

By copy of this questionnaire, you have been selected to participate in the study. You are therefore; kindly requested to answer the questions below displaying utmost good faith. The study is purely for academic purpose and all information provided will be treated as confidential. Your prompt response will be highly appreciated.

PART ONE: Information about the department

1. Please tick your school category.

a) Boarding (i) Extra County [ ] (ii) County [ ] (ii) Sub County [ ] (iv) Girls [ ]

(v) Boys [ ] (vi) Mixed [ ]

b). Day (i) Girls [ ] (ii) Boys [ ] (iii) Mixed [ ]

2. Name of the department.

_____

3. For how long have you headed this department?

_____

PART TWO: Wage bill of B.O.M teachers

1) Kindly indicate the number of teachers that your department has had in the following years.

Year	2013	2014
T.S.C teachers		
B.O.M teachers		
Total No of teachers		

PART THREE: Influence of expenditure on B.O.M teachers' wage bill on expenditure on approved vote heads

1. Kindly rate the availability of the following teaching and learning materials in your department.

a) Tuition vote head

Teaching/learning materials	V. Good	Good	Average	Poor	V. poor
Text books					
Exercise books					
Laboratory equipment					
Teaching Aids					
Chalk					
Internal exams					

What is the text book- student ratio in your department? Tick appropriately.

1:1 [ ] 1:2 [ ] 1:3 [ ] 1: over 4 [ ]

b) B.E.S Vote head (Boarding schools only)

1. Please tick appropriately to availability of the following basic facilities in your school? Use a tick (√).

Basic facilities	Adequately available	Available	Inadequately available
Dormitories			
Well equipped sickbay			
Beds			
Bathrooms			
Lavatories			
Disinfectant			
Water			
Electricity			
Food stuffs			

c) R.M.I vote head

1. Please tick appropriately to show the state of the following facilities in your school? Use a tick (√).

Physical facilities	Good	Fair	Bad
Classrooms			
Laboratories			
Sanitation facilities			
Dormitories			
Dining Hall			
Staff room			

d) Local Travel and Transport vote head

1) Kindly rate using a (√) tick the availability of funds in your school towards local travel and transport.

SA=Strongly Agree, A= Agree, D= Disagree, SD= Strongly Disagree

Availability of funds for local travel and transport	**SA**	**A**	**D**	**SD**
The school always facilitates teachers' travel to attend workshops				
The school always facilitates teachers/students' travel to attend bench marking				
The school always avails funds for field trips				
The school always facilitate teachers/students' travel to participate in co-curricular activities				
The school always facilitates students' travel to attend symposiums and contests				

e) Electricity, Water and Conservancy vote head

1) Indicate using a (√) tick the availability of the following items in your school.

ITEM	**Available**	**Not available**
Electricity		
Stand by generator		
Adequate clean Water		
Water tanks		
Bore hole		

f) Administrative cost vote head

1) Indicate using a (√) tick the availability of the following items in your school.

ITEM	**Available**	**Not available**
Newspapers		
Internet services		
Postal services		
Office stationery		
Functioning office computers		
Functioning office printers		
Functioning photo copiers		

g) Activity vote head

1) Kindly rate using a (√) tick the adequacy of the following co-curricular facilities in your school. SA=Strongly Agree, A= Agree, D= Disagree, SD= Strongly Disagree

Co-curricular facilities	**SA**	**A**	**D**	**SD**
Adequate volley ball pitch /facilities				
Adequate netball pitch/ facilities				
Adequate handball pitch/facilities				
Adequate indoor facilities				
Adequate football pitch/ facilities				
Adequate music/ Drama facilities				
Adequate athletic field/ facilities				

h) Medical vote head

1) Indicate using a (√)the availability of the following medical services in your school

Medical service	**Available**	**Not available**
First aid kit		
First line treatment drugs		
Sanatoria/sick bay		

APPENDIX D: QUESTIONNAIRE FOR BOARD OF MANAGEMENT TEACHERS (B.O.MQ)

By copy of this questionnaire, you have been selected to participate in the study. You are therefore; kindly requested to answer the questions below displaying utmost good faith. The study is purely for academic purpose and all information provided will be treated confidential. Your prompt response will be highly appreciated.

PART ONE: PERSONAL INFORMATION

1. Please tick your school category.

a**). Boarding** (i) Extra County [ ] (ii) County [ ] (ii) Sub County [ ] (iv) Girls [ ]

(v) Boys [ ] (vi) Mixed [ ]

b) Day (i) Girls [ ] (ii) Boys [ ] (iii) Mixed [ ]

2. Please use (√) to indicate your qualification**.**

Qualifications	**(√)**
Graduate with a B.ED degree	
University student	
Graduate with a Diploma in education	
Untrained (Form four leaver)	
Any other (Specify)	

1. Which subjects do you teach?

_____

2. How long have you taught in this school?

_____

PART TWO: Wages of B.O.M teachers

1. How much is your monthly wages?

_____

2. Is it sufficient?

_____

3. Does the school pay you regularly?

Yes ( ) No ( )

4. State one major challenge you face as a teacher hired by B.O M.

_____

_____

_____

APPENDIX E: DOCUMENT ANALYSIS GUIDE

OFFICE	DOCUMENT	YEAR	REQUIRED INFORMATION
Principal's office	CBE	2013 – 2014	TSC teachers
		2013 -2014	B.O.M teachers
	Class registers	2013 - 2014	Students enrolment
Examination office	K.C.S.E analysis records	2013 - 2014	School mean scores
Accounts office	Payroll for B.O.M teachers	2013 -2014	Wage bill of B.O.M teachers
	Payroll for non-teaching	2013 – 2014	Wage bill of non-teaching staff
	staff	2013 – 2014	Expenditure on school project
	Approved PTA Project	2013 – 2014	Expected income
	School annual budget	2013 -2014	Expenditure on approved vote heads
		2013 - 2014	School fees charged
	Fees stricture		

APPENDIX F: GEM SUB-COUNTY SECONDARY SCHOOLS DATA

School	School type	Enrolment	No of Streams	CBE	TOD	Shortage
1	Mixed Day	139	1	9	1	8
2	Mixed Day	120	1	9	3	6
3	Mixed Day	160	1	9	3	6
4	Mixed Day	145	1	9	7	2
5	Mixed Day	99	1	9	1	8
6	Mixed Day	215	1	9	7	2
7	Mixed Day	224	1	9	8	1
8	Mixed Day	175	1	9	8	1
9	Mixed Day	100	1	9	1	8
10	Mixed Day	225	1	9	6	3
11	Mixed Day	150	1	9	3	6
12	Mixed Day	562	2	17	12	7
13	Mixed Day	159	1	9	7	2
14	Mixed Day	259	1	9	6	3
15	Mixed Day	324	1	9	7	2
16	Mixed Day	341	1	9	6	3
17	Mixed Day	295	1	9	7	2
18	Mixed Day	197	1	9	6	3
19	Mixed Day	168	1	9	5	4
20	Mixed Day	102	1	9	8	1
21	Mixed Day	217	1	9	4	5
22	Mixed Day	121	1	9	1	8
23	Mixed Day	160	1	9	7	2
24	Mixed Day	209	1	9	3	6
25	Mixed Day	408	2	17	19	1
26	Mixed Day	437	2	17	11	6
27	Mixed Day	172	1	9	2	7
28	Mixed Day	205	1	9	8	1
29	Mixed Day	200	2	17	9	8
30	Mixed Day	648	4	29	18	11
31	Mixed Day	159	1	9	1	8
32	Mixed Day	138	1	9	1	8
33	Mixed Day	216	1	9	8	1
34	Mixed Day	140	1	9	2	7
35	Mixed Day	32	1	9	1	8
36	Mixed Day	50	1	9	1	8
37	Mixed Day	77	1	9	1	8
38	Mixed Day	40	1	9	1	8
39	Mixed Day	50	1	9	1	8
40	Mixed Day	54	1	9	1	8
41	Boys Boarding	995	5	47	27	20
42	Boys Boarding	1046	5	47	38	9
43	Boys Boarding	854	4	35	20	15
44	Girls Boarding	210	1	9	6	3
45	Girls Boarding	518	2	17	12	5
46	Girls Boarding	536	3	26	19	7
47	Girls Boarding	532	2	23	14	9
TOTAL		12,683		616	348	269

APPENDIX G: FEES STRUCTURE FOR PUBLIC SECONDARY SCHOOLS IN KENYA FOR THE YEAR 2008

Vote head	**Day schools**	**Boarding schools**		
	GOK subsidy	**GOK subsidy**		
			Parents' fee	Total
Tuition	3600	3600	0	3600
B.E.S	0	0	13034	13034
R.M.I	400	400	400	800
L.T&T.	400	400	500	900
E.W.C	500	500	350	850
Administration cost	500	500	1500	2000
Activity	600	600	0	600
P.E.	3965	3965	2743	6708
Medical	300	300	100	400
Total	10, 265	10, 265	18, 627	28,892

Source: Ministry of Education, 2008 Circular

APPENDIX H: FEES STRUCTURE FOR PUBLIC SECONDARY SCHOOLS IN KENYA FOR THE YEAR 2015

Vote heads	Sub County/ Day Schools (KES)	National, Extra County & County Boarding (KES)	Special Needs
Teaching Learning Materials	4,792	4,792	9,067
BES and Meals/L	0	32,385	32,385
Repairs, Maintenance & Improvement.	1,886	3,192	2,422
Local Travel and Transport	1,833	2,421	2,144
Administration Costs	1,572	3,316	1,900
EWC	3,151	7,802	4,047
Medical	689	786	1,614
Activity Fees	1,256	1,398	1,462
Personal Emolument	5,755	8,672	13,155
Approved PTA Development. Projects	0	0	0
Insurance (Medical & Property)	1,310	1,660	1,614
Total School Fees	22,244	66,424	69,810
Less GOK Subsidy	12,870	12,870	32,600
Total Fees Less Government Funding	9,374	53,553	37,210

Source: Ministry of Education, 2015 Circular

APPENDIX J: MAP OF GEM SUB-COUNTY ADMINISTRATIVE BOUNDARIES