

**EFFECTS OF PROCUREMENT METHODS ON COST
EFFECTIVENESS OF PUBLIC SECONDARY SCHOOL SUPPLIES IN
NYATIKE DISTRICT, KENYA**

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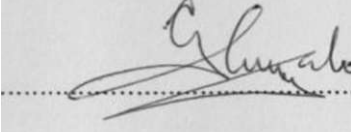
**A Research Project Submitted in Partial Fulfilment of the Requirement of
the Master of Education Degree in Economics of Education**

University of Nairobi

2011.

DECLARATION

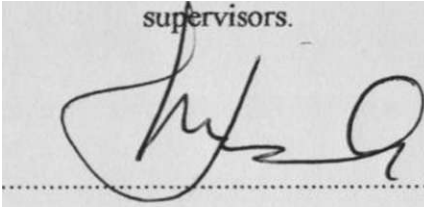
This research project is my original work and has not been presented for the award of a degree examination in any other university.



George Ogalo Oketch.

This research project has been submitted for examination with our approval as university

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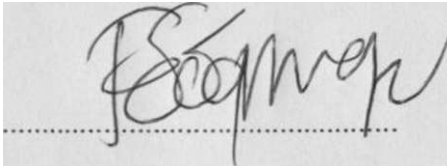


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DEDICATION

This work is dedicated to my wife Awinja Dinah and our two children Otieno Bravil and daughter Akinyi Laurah.

Dr. L. L. Ochieng and Mr. Ferdinand Njoroge my supervisors for they provided continuous commitment to my work and kept me on track the entire way through. The University of Education, Kisumu, Kenya, Dr. Grace Njoroge for her guidance during the study. Mrs. Rosemary Lango who taught me the importance of education which had the foundation knowledge for the development of this project. My interests in the field of Education were strengthened during my first master's class at University of Kisumu. Lastly, in a more personal note, I would like to thank my father Ochieng Gilbert and my mother Akinyi Agyei for they crossed the way of education for life. To all my friends and the community who showed unwavering support not just through this academic journey, but through every day of my life. Thank you all.

Bosho

ACKNOWLEDGEMENT

I would like to thank each member of the department of Educational Administration and Planning for their time and careful guidance throughout this research project.

Dr Loise Gichuhi and Mr Ferdinand Mbeche my supervisors for they provided relentless commitment to my work and kept me focused the entire way through.

The Chair of the department of Educational Administration and Planning, Dr Grace Nyaga for her guidance during the study. Mrs Rosemary Imonje who taught me research methods in education which laid the foundation knowledge for the development of this project thanks for your assistance.

My interests in the Economics of Education were strengthened during my first master's class of Economics of Education. Lastly, on a more personal note, I would like to thank my father Oketch Gilbert and my mother Akeyo Joyce for they showed me the way of education for life. To all my friends and the economics class who showed unyielding support not just through this extended research project, but through every day of my life. Thank you all.

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LISTS OF ABBREVIATIONS

ADB	African Development Bank.
AEO	Area Education Office.
BOG	Board of Governors.
DCs	District Commissioner
DEO	District Education Office.
FPE	Free Primary Education.
FDSE	Free Day Secondary Education.
GATT	General Agreement of Trade and Tariff.
GDP	Gross Domestic Product.
GNP	Gross National Product.
IMF	International Monetary Fund.
KNUT	Kenya National Union of Teachers.
	I
KUPPET	Kenya Union of Post Primary Education Teachers.
MEAT	Most Economically Advantageous Tender.
MoEST	Ministry of Education Science and Technology.
PPDA	Public Procurement and Disposal Act.
PPOA	Public Procurement Oversight Authority.
SAP	Structural Adjustments Programmes.
SPSS	Statistical Programme for Social Sciences.
SIC	School Infrastructure Committee.
USA	United States of America.
WTO	World Trade Organization.

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ABSTRACT

The study aimed at finding the effects of procurement methods on cost effectiveness in acquiring supplies in public secondary schools in Nyatike district, Kenya. Many public secondary schools have been realised not to be following procurement procedures as required by the law hence making schools supplies acquisitions at high prices. This has trickled to high schools fees hence hindering educational accessibility to many children from poor families.

To investigate this researcher used descriptive survey technique in twenty secondary schools sampled in the district. Questionnaires were then developed and administered in the sampled schools to twenty head teachers, twenty deputies and twenty teachers who are also a member of tendering committee. Ten Head teachers were further interviewed to find out how they had constituted their tendering committees.

Documents analysis was also done in ten schools to authenticate if findings from questionnaires and interviews were true.

The collected data was then analysed using qualitative and quantitative techniques. This included tables, percentages, mean and correlation coefficients (r). Quantitative data was analysed by recording the data on note cards. They then analysed based on the demographic characteristics, procedural composition and execution of tendering in schools. The results were then recorded in tables to illustrate their frequencies in occurrences.

The findings of the study were based on the objectives. On establishment of tendering committees in schools, out of twenty schools studied, only two had

constituted and had operating tendering committees procedurally. This was further authenticated by interviews and minutes of tendering committees. On effects of procurement methods on prices and quality of school supplies, majority of head teachers did not recommend tendering while, 60% of deputies and 45% of teachers recommended it.

In conclusion the study found that open tendering was not being practised in the majority of the twenty schools studied. Further it came out that if instituted properly, then a lot of financial savings can be realised in schools. It was therefore recommended that since procurement procedures are formed by the government to benefit the public, the PPOA and the MoEST should strictly enforce their application in public secondary schools. This would make schools acquire quality supplies at fair prices hence making schools acquire more educational resources i.e. buildings and other learning facilities. This in the long run would make education accessible and affordable as the fees charged would have reached an affordable level.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Education is known globally to promote individual earning, promotes technology adoption, health improvement and fertility reduction (Psacharopoulos and Woodhall, 1985), and promotes democracy and better governance (Rias, 2008). On the other hand, about two billion children, 85.00 percent of the world's total live in the developing countries (World Bank, 2008). Their future and those of their children depend on whether they go to school and how much they learn. These benefits and demand for education in developing countries has made the world to pay a greater attention to this sector. This has been shown by considerable level of budgetary expenditure and aid allocated to the sector so as to realise its benefits.

In comparison developed countries spend more of their public education expenditure in secondary than primary while the school aged children population is much higher in developing countries (World Bank, 2008). United States of Americas and United Kingdom spent 32.33 percent in secondary and 26.46 percent in primary and 36.04 percent and 35.12 percent in secondary education respectively in the year 2005. Mexico spent 39.80 percent in primary and 30.26 percent in secondary education in the year 2005 while South Africa spent 42.95 percent and 32.58 percent respectively (World Bank, 2008). These figures reflect only allocated resources, as opposed to what the students might actually be receiving. For instance, even when sufficient expenditures are

intended to go towards education, some money may be skimmed off through corrupt practices in the procurement process.

Although there has been financial commitment by the states and other educational financiers, educational resources acquisition has faced various challenges. According to Hallack and Poisson (2007) procurement by public bodies amount to 15.00 to 25.00 percent of gross domestic product (GDP) and in contracting for the goods and services, the risk of corruption is higher and represent as much as 30.00 percent of total procurement costs. In Japan, university officials from city of Tokyo were accused of defrauding 94 million yen on school construction project, in Philippines, pay offs ate 20 to 65 percent of textbooks and that bribes given to regional officials and schools represented up to 20.00 percent of the total costs (Hallack and Poisson, 2007).

Educational expenditure in Kenya depicts the same trend in other developing countries. In the year 2006, it spent 7.00 percent of GDP in education in which case 22.00 percent was spent in primary while 22.30 percent went to secondary sector (World Bank, 2008). These figures are likely to go up especially with the introduction of Free Day Secondary Education (FDSE). On the other hand, the demand for education is much higher, for instance in 2008, net enrolment in primary and secondary schools were 82.00 percent and 49.00 percent respectively (World Bank, 2008). These statistics indicates the nature of students still not enrolled in schools. For example in secondary schools, only 49.00 percent of pupils are enrolled. There is therefore need to find ways through which those not yet in schools can be enrolled. One way through

which this can be done is by expanding educational opportunities through improving or constructing additional educational facilities so as to accommodate more pupils in schools.

Procurement methods therefore are the central point through which these resources can be acquired in a cost effective manner. In response to this need the government developed Public Procurement and Disposal Act (PPDA) in the year 2005 mainly to streamline the methodology of acquiring assets and services in the public sector (Republic of Kenya, 2005). This act spelt out the procedures and methods that have to be followed in order to enhance cost effectiveness and value for money in purchases.

Despite this initiative by the government, several financial leakages have persisted in the public sector, education inclusive. In the year 2010, several education officials were suspended due to fraud in procurement process of educational goods and services (Adan, 2010). Presently the ministry of education is under investigation over financial fraud in which about Kshs 4.3 billion is lost partly due to faulty procurement process in acquiring goods and services. Koros, Ngware and Sang (2009) established in their study that several public secondary school head teachers did not follow financial guidelines in running their schools. This had retarded the growth and expansion of educational facilities in public secondary schools.

Besides financial leakages due to faulty procurement, the incidence of poverty is rampant and unevenly spread in Kenya. The United Nations Human

Development report 2010 placed Nyanza province as the second poorest after North Eastern province. The multidimensional poverty index on a scale of 0.00-1.00 placed Nyanza province at 0.43 while Central province the second best after Nairobi stood at 0.82 (Lisa, 2010). This calls for even better ways of spending the little resources that the country has in order to maximise the output.

Similarly, the net secondary school enrolment rate in 2007 placed Migori district at 12.50 percent. This was the second lowest after Siaya which had 11.70 percent. The neighbouring districts Kuria, Homabay and Suba had 22.50, 25.00 and 16.60 percentages respectively (Republic of Kenya, 2007). Nyatike district where the study was carried is located in the former Migori district and was the poorest and hardship division in the former greater Migori district.

These educational demands, educational resources procurement challenges and poverty due to slow economic growth have signalled the need to lower educational budgetary allocation as well as instilling effective and efficient procurement system that enhances cost reduction in school supplies. School supplies include both physical assets and consumables. Physical assets are land, buildings, beds, motor vehicles. Consumables include food stuff, tuition materials, and text books, works and services. In purchasing these items, head teachers are expected to adhere to the laid down procedures for procuring public utilities (Republic of Kenya, 2005).

Educational researchers have long been interested in the internal efficiency and educational quality where cost effectiveness has been one of the important areas (Psacharopoulos and Woodhall, 1985). Procurement on the other hand has been studied as one of the corruption areas (Odhiambo and Kamau, 2003) and (Hallack and Poisson, 2007). Exceptional studies however have looked at how procurement could bring cost reduction in education (World Bank, UNESCO and HEP, 2004).

Economists studying education in the developing world have increasingly used randomized evaluations to shed light on ways to help more children attend school and improve learning (Holla and Kremer, 2009). It now seems opportune moment to study how procurement methods could bring cost effectiveness in education. The study sought to find how procurement methods could be applied effectively to acquire educational resources with an aim of increasing the quantity and quality of education in Nyatike district while minimising the overall cost of education.

To this effect the Kenyan government put procurement methods for public acquisitions. These methods include single sourcing by quotation, sealed bid by invitation for bids and competitive proposal by request for proposal or competitive negotiation (Republic of Kenya, 2005). In single sourcing a single supplier is selected to supply required items. A part from its positive results of quick decision, it's prone to corruption and office abuse. In sealed bid, procurer prepares invitation to suppliers to submit their bids in a sealed

envelope. The method is good as it minimises unethical practises and cost in acquiring supplies.

In competitive bidding, the procurer prepares the advert which is released to the public notice for solicitation. The main objective is promotion of open competition and provide for allowances for discussion through pre-bid meetings. Bidders and procurers meet to discuss technical and costs matters. It's otherwise referred to as open tendering. It's the one which is highly recommended for public procurement. In public secondary schools, all these methods can be applied but under the regulations of PPDA (Republic of Kenya, 2005).

Since school supplies are financed largely through school fees paid by parents, it's important that methodology applied be regulated. This would help in reducing such cost which in turn would help in reducing the overall cost of education. This would have a backwash effect in reducing the overall fees paid by parents. The overall net effects would be increased educational facilities as well as increased educational accessibility as envisaged in the millennium development goals.

1.2 Statement of the Problem

Despite the government directive to public secondary schools to acquire school supplies in a cost effective and transparent manner through procurement process as articulated in the PPDA (Republic of Kenya, 2005), some head teachers have continued to acquire their supplies single handed

while others use BOG instead of tendering committee in their procurement process (Koros, Ngware and Sang, 2009). According to auditor's report of various secondary schools in Nyatike district, procurement practices are flawed in several schools (Nyatike district, 2011). Similarly, oral interviews of Siso- a retired secondary school head teacher in the district indicated little comply with government procurement procedures. This has made running cost of such schools very high, translating to high school fees which have pushed many students away from joining secondary schools (Otieno and Colclough, 2009).

The study sought to inquire how procurement process could be carried in a cost effective and transparent manner in public secondary schools so as to reduce the overall cost of education. This would create more educational facilities hence more learning opportunities in secondary school at affordable school fees. The study also identified policy interventions that would improve procurement process in public secondary schools as a cost effective measure.

1.3 Purpose of the Study

The study sought to establish the effects of procurement methods on cost effectiveness in acquiring public secondary school supplies in Nyatike district.

1.4 Research Objectives

- i. To determine whether public secondary schools head teachers are following government guidelines in composing tendering and procurement committees in their schools.
- ii. To establish whether tendering committees are applying tendering method actively in procuring school supplies as stipulated in the PPDA and its effects on prices and quality of supplies.
- iii. To determine the effects of tendering method on prices and quality of school supplies.
- iv. To determine the alternative procurement methods used in public secondary schools in the district and their effects on prices and quality of supplies.
- v. To suggest policy interventions that may improve the procurement process to enhance cost effectiveness in public secondary schools in Nyatike district.

1.5 Research Questions

- i. Do the public secondary schools head teachers follow the guidelines procurement guidelines in composing tendering committees in their respective schools?
- ii. To what extent does the tendering committees apply tendering method in acquiring quality school supplies at lower cost?
- iii. How does tendering method affect the prices and quality of school supplies?

- iv. Which alternative methods are used in acquiring supplies in schools and their effects on supplies quality and prices?
- v. What are the policy interventions that can be put in place to improve the procurement process to enhance cost effective in public secondary schools in Nyatike district?

1.6 Significance of the Study

Finding of this study would benefit the learners, parents, government and financial contributors in education. The learners would benefit as the funds their parents pay in schools would be spent in improving their academic and learning welfare. They would have more educational resources availed to them as the swindling practices would have been stopped.

The parents would benefit as the fee they pay would be spent in a more cost effective manner leading to expansion of secondary school facilities. In the long run school fees would reduce; more children would get access to secondary education since the fees would have reached an affordable level. The government and education donors would benefit a great deal. Since the introduction of Free Day Secondary Education (FDSE), they have spent a lot of money in secondary schools. If this money is spent in a transparent manner, teaching and learning resources would be availed to learners and therefore in future their purchase would be suspended for a while and the funds channelled towards some development project. All these benefits would accrue to Nyatike people.

1.7.1 Limitations of the Study

The study was faced with various limitations. Administrative bottlenecks at times made the school bursars not to explicitly give accurate information on procurement system in their schools. Due to the economic situation and road network in the area, the problem of non sampling error could affect the outcome of the study. Further, there were only provincial and district schools category in the district. Their study could not give the actual situation in the country as majority of them are small with few government teachers hence having inadequate number of teachers required to form tendering committee which is responsible for overseeing procurement activities in secondary schools.

1.7.2 Delimitations of the Study

The study was limited to one district and hence the results could not give a comprehensive picture of what goes on in the country. This is due to socio-economic characteristics that vary from one place to the other. The researcher was also dealing with school head teachers, deputies, bursars and a teacher sitting in tendering committee. Other important stakeholders like parents were not part of the study sample. This was because they are not involved in procurement process despite the fact that they are the major financiers of school facilities.

1.7.3 Basic Assumptions of the Study

The following assumptions were made in the study.

- i. That the information given by the respondents was honest and reliable.
- ii. That all the respondents understood the issue involved in procurement process of acquiring supplies in public secondary schools and the challenges it faces.
- iii. That if procurement procedures are followed accurately and honestly in acquiring school supplies, the overall cost of education could be reduced.
- iv. That the problems in procurement process in supplies acquisition in public secondary schools were uniform in the entire district.

1.8 Definition of Significant Terms

Cost Effectiveness- refers to the act of comparing the output achieved by combining different inputs.

Procurement - refers to acquisition by purchase, rental, lease, or by any other method of assets, works, services or goods including livestock or any combination.

Procurement Methods- refers to the procedures that are spelt out to be used in acquiring public supplies as stated in PPDA.

Procurement Process- refers to the system that is used in acquiring school supplies.

Procuring Entity- refers to a public institution making purchase and acquisition to which public procurement and disposal act applies.

Public Entity- is a public school within the meaning of education act or public institution expected to follow procuring procedures as per the procurement and disposal act.

School Supplies- refers to all the material and services including works that a public school is sourcing for and is supposed to be acquired as spelled out in PPDA.

1.9 Organisation of the Study

The rest of the study was organized as follows; chapter two looked at the reviews of related literatures. This included the global view of public procurement, global need for cost saving in education, historical account for cost effectiveness in secondary education in Kenya and development of procurement in public secondary schools in Kenya. It also looked at the methods of procurement, procurement processes in public secondary schools and modern trends in procurement. Lastly it looked at where competitive procurement had saved education costs, challenges facing procurement in public secondary schools, recommendations, summary, theoretical framework and conceptual framework.

Chapter three looked at Research methodology. This included research design, target population and sample, research instruments, validity and reliability of research instruments, data collection procedures and Data analysis techniques. Chapter four looked at data analysis techniques where discussion and interpretation of the findings was done. Chapter five looked at Summary of findings, conclusion, generalization and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter looked at global view of public procurement, global need for cost saving in education and historical account of cost effectiveness in secondary education in Kenya. Others included development of public procurement in public secondary schools in Kenya, methods of procurement, procurement process in public secondary schools, modern trends in procurement and where procurement has saved education costs. Lastly it looked at challenges facing procurement in public secondary schools, recommendations, theoretical framework, summary of literature reviews and conceptual framework.

2.2 Global View of Public Procurement

Governments' world over buys things from pens to warships so as to support its day to day operations. In accomplishing this, the government can purchase the goods directly or it can produce the goods by itself by building its own factories. Modern governments on the other hand have increasingly moved to the method of buying goods and services from the market usually on a competitive bidding (Rias, 2008).

Public procurement has in the twentieth century attracted attention of various stakeholders. Partly because of the proportion of GDP it represents and the global need for transparency in public expenditure. According to World trade organisation (WTO) estimates, the government procurement represents 10.00-15.00 percents of gross domestic product (GDP), in Some developed countries,

it even reached as high as 20.00 percent in USA in the year 1988 (Rias, 2008). With the introduction of a tighter budget, and the continuous effort to achieve good governance, more hands have been pointed at the procurement section. For many developing countries, procurement change is a key issue and one which ought to be high in the good governance agenda and development (Rias, 2008).

Besides this, the international lending bodies, the IMF, the World Bank and other regional lending institutions instituted procurement practices and procedures as criterion in allocating scarce development aids resources. This is to instil efficient procurement in the implementation and delivery of programmes to which these aids are intended for. Rias (2008) argues that where procurement is not conducted in accordance to sound principles, the door is open to corruption, wasteful expenditure, higher prices, failure to deliver, loss of faith and integrity in the public sector and many ills.

The global enforcement of the transparent, accountable and cost effective came to be realised in the 1970s. During this period, several high income countries negotiated an agreement on government procurement under the General Agreement of Tariff and Trade (GATT). Under this agreement, procurement entities had to apply tendering strictly in the acquisition of public goods and services in the public entities (Rias, 2008). During the same period through 1990s, World Bank, International Monetary Fund (IMF), African Development Bank (ADB) and other donor countries started directing increasing attention towards strengthening the procurement capacities of recipient countries

because the impact of the foreign aid is largely affected by the procurement performance of the recipient countries. Public secondary schools being public entities were expected to comply with such regulations in executing its procurement roles.

Despite the efforts being put by IMF, World Bank and World Trade Organization, procurement practices have not been implemented accordingly. The study initiated by the European Commission 1996 concluded that the major problem had been the inadequate implementation of the directives into national law. A 1997-study showed that many contracts which should be submitted for EU tender actually are not (Gelderman, Ghijssen and Brugman, 2006). An empirical study indicated that the level of compliance with the EU directives should be considered to be "highly insufficient". The estimated non-compliance by municipalities in The Netherlands ranged from 77.00 to 83.00 percent (Gelderman, Ghijssen and Brugman, 2006). These revelations indicate the level of procurement malpractices in the developed world.

In Brazil an investigated study on FUNDEF (Fund for Development and Maintenance of Elementary Teaching and Teacher Profession Improvement), a body channelling resources from Brazil's federal budget to municipalities found that on average 13.00 percent of the intended total budget was lost to procurement fraud, and some lost up to 55.00 percent of the original FUNDEF allocation; 63 .00 percent of municipalities were observed to embezzle resources by means of fraud (Transparency Brazil, 2005).

In Africa the level of financial leakages due to poor procurement system and other related fraud is quite high. In Zambia about 87.00 percent of the funds allocated to education sector were swindled through poor procurement practices and other fraud related cases. Tanzania 57.00 percent and Kenya lost about 65.00 percent. These are indication of grave loss of funds that is encountered in the education sector alone. The percentages that did not reach schools were seemingly lost between line ministries and districts and at the school levels where such purchasing were initiated (Maureen and Gunilla, 2009). These financial losses are not only affecting budgetary contribution but also affects overall educational resources endowments in schools. Procurement regulations are therefore seen as the solutions to some of these challenges.

2.2.1 Cost Saving in Education

Globally during the 1960s and 1970s total educational expenditure increased at a remarkable rate. This was witnessed in both developed and developing countries. (Psacharopoulos and Woodhall (1985) highlighted that governments do have good reasons to be concerned about the rising trends of the cost of education and about their ability to finance those cost in the future. In the 1990s World Bank, the largest education financier in the world emphasised the need for reduction in education cost (World Bank, 1998). The reason given was the increased inter sectoral financial needs. These remarks indicate towards the point that it was very urgent for countries to rethink of how the overall cost of education could be reduced.

Any attempts to reduce education costs are bound to focus on the basic variables. These are the teachers and other human resource personnel and the overall capital costs. Teacher's salary alone account for about 70.00 percent of total education recurrent cost of many developing countries (World Bank, 2005). Various factors account for this. In many countries teachers receive high salaries in relation to the general level of wages and salaries. In Tanzania for instance, secondary school teachers receive more than twenty times GNP per capita (World Bank, 2005).

Capital cost therefore has great bearing on decision about overall education costs. Capital cost encompasses construction cost of school building, maintenance and repair of buildings, cost of school supplies including boarding facilities, cost of text books, stationeries, science equipments among others. These items are usually purchased from the market at the market rates. Their acquisition is supposed to be done according to the procurement laws as spelled in the PPDA (Republic of Kenya, 2005).

2.2.2 Cost Effectiveness in Secondary Education in Kenya

According to United Nations general assembly 1970, a resolution was arrived at which called for the provision of education to all citizen in the country. This was so as education is seen as the avenue through which development can be attained (Psacharopoulos and Woodhall, 1985). Thus it's essential to expand and improve on educational facilities in a cost effective manner. Government responded by reducing their budgetary allocation to education while communities responded by constructing harambee schools to supplement the

government effort. From the year 1994, the Ministry of Education Science and Technology (MOEST), reduced secondary schools budget drastically to below 2 percent. Data from the ministry indicated a substantial decline in recurrent and development expenditure in secondary schools from 1996 to 2006 but rose as from 2008 due to FDSE (Republic of Kenya, 2007).

Earlier in 1988, due to heavy financial burden against dwindling national budgetary allocation, the government of Kenya under Structural Adjustment Programme (SAPS) implanted the cost sharing policy in provision of social services. In education sector, the government under this plan paid salaries to teachers and other educational staff while parents provided physical facilities, books and other consumables. This in effect brought the abolition of school fees guidelines and hence witnessed its great abuse by head teachers. Head teachers charged fees which were not properly accounted for and lead to increase of fees which in turn pushed many students out of school (Republic of Kenya, 2007).

In the year 1998, the government froze the employment of teachers directly from colleges till the year 2000 when it started employing teachers on demand and not on supply basis. In the year 2009, the government attempted to employ teachers on contract which the Kenya National Union of teachers (KNUT) and Kenya Union of Post Primary (KUPPET) fought but became real in the year 2010 when the two teachers organisations withdrew their court cases and succumbed to the government pressure of employing teachers on contract basis.

However despite all these, the government has not stopped from providing its basic service to the people. The introduction of Free Primary Education (FPE) and the Free Day Secondary Education (FDSE) in 2003 and 2008 respectively are evidence to show its commitments to meeting essential services which it believes are bound to impact positively on people's lives. It should be noted that this is a dear sacrifice by the government and therefore the funds disbursed to schools should be spent effectively and efficiently.

2.3 Procurement in Public Secondary Schools in Kenya

The development of procurement system in secondary schools has come hand in hand with the development of overall procurement system in the entire public sector. Odhiambo and Kamau (2003) states that from independent to early 1970s, public procurement was largely taken by external entities such as the crown agents. With the expansion of economy, the government passed the procurement process to the ministry of finance. This ministry was to enact procurement procedure in all public entities (Odhiambo and Kamau, 2003).

By 1974, Kenya had put in place an elaborate procurement system in all its ministries. Supply officers were appointed to take charge of procurement process in all departments though major procurement was done through National Tender board. In 1978, Kenya prepared the supplies guide which remained into force till the year 2001. Under this guide the minister for finance controlled procurement by issuing circulars and guidelines to procurement officers in the ministries, local authorities and other public entities. These circulars became so frequent that they overshadowed the prepared supply

guidelines. This in turn made procurement and accounting officers to manipulate tendering process in their institutions hence encouraging corruption (Odhiambo and Kamau, 2003).

Public secondary schools were not spared in this vice and so tendering process was highly flouted and supply prices was highly hiked by the school head teachers. This translated to increase of secondary school fees. This lead to a public outcry over flouting of tendering process in public secondary schools and reform was called in this department (Odhiambo and Kamau, 2003).

These concerns were related to the manner in which public procurement process was being carried. Thus the government sensed the need to review the public procurement process so as to be more accountable to the various stakeholders. In secondary schools procurement process was carried by the tendering committees which consisted of the headmaster/headmistress, the deputies, at least two members of the board of governors, the chairman of the teachers-parents association, two staff members and the matron. This way the conflict of interest arose as the supervision of the procurement process became very hard as the head teachers who is the accounting officer could not supervise themselves effectively while procuring school supplies (Odhiambo and Kamau, 2003).

In the year 2000, a draft bill on public procurement was prepared and presented to parliament but it was not passed. In the year 2001, the ministry of finance published the "Exchequer and audit public procurement regulation 2001" in the Kenya gazette supplement No 24 (legislative supplement No 16)

Legal notice No 51, March 2001. The aim of this regulation was not only to promote economy and efficiency in procurement but also to ensure that the public procurement is conducted in a fair transparent and non discriminatory manner (Republic of Kenya, 2001). Under this regulation the tender committees for all public institutions were chaired by the accounting officers. School heads became therefore the automatic chair of their respective schools tendering committees. This system empowered school head teachers to manipulate and flouted school tendering process. As a result some schools procured items at high prices with extra money being swindled by them.

In the year 2005, the public procurement and disposal act was prepared again and presented to parliament. This time it was passed. The purpose of this bill was to establish procedures for procurement and disposal of government assets under competitive bidding and ensuring accountability, transparency, efficiency and effectiveness in public institutions. Here the procurement entity shall use open tendering method and only otherwise under special considerations in procuring supplies. Standard goods, services and works with known market prices shall be procured at the prevailing real market prices. In the year 2006 December, the Kenya gazette supplement no 92, Legislative supplement No 53 Legal notice No 174 on the public procurement and disposal act, the minister for finance made changes in the composition of tendering committee for various public entities (Republic of Kenya, 2006). With regard to secondary schools, the following composition was enacted;

Chair -	The deputy principal
Vice chair-	The officer in charge of finances (bursar or account clerk).
Secretary-	The officer handling the procurement unit or store keeper.
Other members-	At least six heads of department within the school teaching staff including the matron or officer in charge of the boarding facilities.

All the above officers are to be appointed in writing by the school head teacher (Republic of Kenya, 2006). Their functions among others includes reviewing, verifying and ascertaining that all procurement and disposal has been undertaken in accordance with the act, the regulations and the terms set out in the tender documents. They also approve the selection of the successful tender or projects and award procurement contract in accordance to the act. This is the format that currently runs procurement system in public secondary schools.

Even though PPDA was instituted in the year 2005, Koros, Ngware and Sang (2009) found out in their study that financial management in the secondary schools were not delegated as was required in the act. A considerable number of head teachers were still handling all financial matters single handed. This included even procurement. Many school still had instances where tendering were still handled by the head teachers office contrary to the act which required them to be handled by the tendering committees (Daily Nation classified, 2010).

2.4 Methods of Procurement

According to PPDA there are seven methods of procuring public supplies.

These are as discussed below:-

2.4.1 Open Tendering

Here procuring public entity invites suppliers to compete for a contract. The contract is always advertised in the press or in the internet. The procuring entity will then give its particulars i.e. name, address and the tender number and all other procedures as highlighted in the act. Further it will prepare tender document in accordance to the act and regulations to allow fair competition among those who may wish to submit their tenders. The method has many steps and therefore requires ample time to complete, PPDA part V. It's the preferred method of procurement open to all tenderers who feel competent to purchase the tender documents, fill them and then submit them as specified in the tender document. It is advertised publicly and involves maximum competition.

2.4.2 Restricted Tendering

Part VI section 72 through 73 of PPDA explains that a procuring entity may use this alternative method only after obtaining written approval from its Tender Committee and if it has recorded in writing the reasons for using the alternative procedure. The advertisement is also restricted to appropriate media i.e. technical journal or newspapers. It's normally done where the contract is complex or specialised in nature. Other conditions may include the existence of few suppliers, or when the time and costs required to examine and evaluate

large numbers would be disproportionate to the value of goods, works or service.

2.4.3 Direct Tendering

Part VI section 74 through 75 of PPDA explains that a procuring entity may use this alternative method of procurement, as long as the purpose is not to avoid Competition, if; there is only one person who can supply the good, works or services being procured; there is no reasonable alternative or substitute for the goods, works and services; there is an urgent need for the goods, works or services being Procured or because of the urgency the other available methods of procurement is impracticable; and the circumstances that gave rise to the urgency were not foreseeable and were not the result of dilatory conduct on the part of the procuring entity. However this should not be done in a discriminative manner and the resulting contract must be written and signed by both supplier and the procuring entity. Further, it should get green light in writing from the tendering committee as spelled in the act.

2.4.4 Request for Projects

Part VI section 76 through 87 of PPDA explains that the procuring entity shall prepare notice inviting interested persons or entities to submit their expressions of interest over the supply of a particular commodity, service or works. It's usually used when procuring commodities or services or intellectual or advisory services that can only be supplied by some selected suppliers.

2.4.5 Requisition for Quotation

Part VI section 88 and 89 of PPDA explains that the procuring entity, prepare request for quotation from prospective suppliers. The request may be given to as many persons as possible to avoid biasness, enhance effectiveness, competition and must be given to at least three persons unless otherwise allowed by the tendering committee. The successful quotation shall be the one that give the lowest price that meet the requirement set out in the request made. It's usually used for goods which are readily available and for which there are established market and the value of goods being procured is less or equal to the prescribed maximum value of the commodity.

2.4.6 Low Value Procurement

Part VI section 90 and 91 of PPDA highlights that in low level procurement method, the procurement entity will acquire goods or services directly if the value is less than or is equal to the maximum value for which that low value procurement and must fulfil all the other requirement or conditions set in the PPDA.

2.4.7 Specially Permitted Procurement Procedure

Part VI section 92 of PPDA explains that under this procedure, procurement entity will seek special authority which may include concession and design competition. In concessioning, procurement may involve mobilization of private sector resources for purpose of public financing i.e. built-own and operate and transfer. In design competition may go for services which are

creative in nature and which as well require that part of the service be carried as part of the bid to facilitate its evaluation. In public secondary schools, the preferred procurement method is open tendering thus any method so felt fit by the procuring entity; the suppliers must undergo vetting by the tendering committee to meet the requirement as spelt in the act.

2.5 Procurement Process in Public Secondary Schools

According to PPDA part V, public secondary schools are classified under class C public entities. The recommended method is usually open tendering; however other methods can also be used so long as the rules guiding each method are followed accordingly. This is usually codified within standing orders that usually prescribe the cash limit above which tenders must be invited, the forms of contract to be used and to whom and under what circumstances responsibility for evaluation of tenders may be delegated (Republic of Kenya, 2005).

Republic of Kenya (2005) explains that this will follow the following steps:-

Step I: Issue of public advert inviting tenders from prospective suppliers.

Step II: Issue of tender documents to those who responded to the tender advert.

This normally includes; letter of invitation and instruction to tenderers, pricing document and or form of tender, specification/schedule rates, conditions of contract, any relevant supporting invitation document and the pre- addressed tender return label. The document will include a date by which tenders must be submitted and other conditions.

Step III: On the date arranged for the opening of the tenders, appointed officers from the school procurement department and an external observer such as school treasurer will attend to witness the activity.

Step IV: Listing and entry of tenders on an analysis sheet showing details of prices, rates, carriage charges, delivery, settlement terms and any other information necessary for their evaluation.

Step V: Tenders are then evaluated on an agreed basis such as lowest bid or Most Economically Advantageous Tender (MEAT).

Step VI: Successful tenderer is then notified.

Step VII: Unsuccessful tenderer will also be notified although they will not be automatically be given reasons for their tenders not being rejected though should be made available if it is required. The entire above are carried by the school tendering and procurement committees.

The procurement process can either be centralised or decentralised. In a centralised process, the procurement process is done centrally. This helps in maintaining the system, consistency and the standards. It also reduces the cost of maintenance and support and usually enjoys the huge economy of scale. In decentralised one, there is shifting of responsibilities for managing procurement from central top level to bottom level. Authorities are given to individual public entities. However in both cases tendering process is prescribed (Weele, 2006).

2.6 Modern Trends in Procurement

Due to enormous technological development, e- procurement has been developed. This is done electronically through a web based interface. The procurer sets a website where eligible suppliers can bid for a single item or a multiple items within a specified time. The rest of the procedures are then done online. The European Union adapted this system since 2004 (Moon, 2005). In USA e-procurement was adopted in mid 1990s and has spread through different organizations in the entire state.

This system on one hand is useful as it improves procurement performance, process simplification, quickening of tendering process and cost saving. On the other hand it proves hard in case people cannot use ICT solutions hence it's not widely used in the developed world (Leipold, Klemon, Holloway, Vaydia, 2004).

2.6.1 Rationale for Competitive Procurement in Education

In United States of America, empirical studies document that appropriate use of competitive tendering and contracting in public procurement can raise efficiency and thereby allow a constant quality service to be provided at a lower cost. The estimated cost varies in the range of 10.00 to 30.00 percent (Lundsgard, 2002). In Chile through tendering of national feeding programme of children from poor background where about 1.30 million children are served with breakfast, lunch and supper, and about US \$180 million is spent, they were able to save US \$ 40 million equivalent to the cost of feeding

300,000 children (Rafael, Lysette, Jaime, Weintraub, Martinez and Espejo, 2004).

In South Africa, it was observed that the cost of construction reduced tremendously through decentralised tendering managed at the school levels (Verspoor, 2008). In Mali and Zimbabwe through World Bank capacity building programme on financial management, in the bank supported projects, procurement was identified as area of concern. The bank supported the programme in effect which entrenched tendering as a method of procuring supplies in the public educational institutions. The net effects were reduced cost of procuring supplies in Zimbabwe 1987 and Mali 1990 (Verspoor, 2008).

2.6.2 Challenges Facing Procurement in Public Secondary Schools

Lack of knowledge on how to operate procurement in public secondary schools is eminent. Most school head teachers, teachers and BOG are not acquainted with the procurement process hence cannot operate an efficient procurement system (PPOA, 2007). Most head teachers are not willing to use procurement guidelines as prescribed in PPDA. The inclusion of teachers in tendering/ procurement committees is seen as an intrusion into the role of the head teacher (PPOA 2007).

The financial flow in most rural secondary schools is very poor. The fees default rate is above the manageable level hence the school head teachers find it hard to plan with funds in line with the government procedures (Musyoka, 2008).

2.7 Summary of Literature Reviewed

This section analysed the procurement system in the whole world and its effects on costs of public supplies. From developed to developing countries, emphasis is on procedural acquisition of public resources. Most of the studies in procurement have been based on corruption rather than enhancement of cost effectiveness in education (Gelderman, Ghijsen and Brugman, 2006), (Rias, 2008) and (Maureen and Gunilla, 2009). The argument being, without clear procurement strategies, public procurement is bound to encounter corruption and financial leakages which leads to high cost of supplies. Public secondary schools being public entities are required by law to follow the same suit.

However there is evidence that some schools have not embraced procurement system as expressed in the procurement and disposal act (Daily Nation 2011). This may result due to lack of misunderstanding of procurement procedures by the school management or just mayor disregard of government directives. On the other hand it's evident that following competitive bidding for school supplies, quality educational resources can be acquired at affordable prices which may enhance educational access through affordable school fees and increased educational resources (Rafael, Lysette, Jaime, Weintraub, Martinez and Espejo, 2004). There is therefore need to implement the PPDA in all public secondary schools in order to acquire educational resources in a cost effective manner so as to increase educational accessibility.

2.8 Theoretical Framework

This study employed the Theory of Input Output Relationship as postulated by Leontief in 1951 (Jhingan, 2007 39th Edition) and reviewed by Psacharopoulos and Woodhall in 1985 as education production function. Psacharopoulos and Woodhall (1985) explain that education is a production process which incorporates inputs and produces outputs. A simple education function would be $Ce-f(Ot, Rt, Dt, Rp... \text{ and so on})$ where Ce- cost effectiveness, Ot- open tendering, Dt- direct tendering and Rp- request for project and so on. This function postulates that cost effectiveness in education can be attained if supplies acquisition is done through procurement methods.

They classify inputs into two categories i.e. exogenous and endogenous. Exogenous factors include political factors, parental income, poverty levels among others and they cannot be controlled by the school. Endogenous factors on the other hand are school facilities, students, teachers' school finances, text books and procurement systems. These on the other hand can be controlled by the school management. Schools can minimise costs and maximise results by efficient and cost effective procurement of capital resources. Output is measured in terms of number of graduates, grades obtained, achievements like knowledge, skills, attitude and competencies which enables the graduates to meet societal expectations. Like firms, education incurs costs, and is more effective when it minimises costs and maximises output.

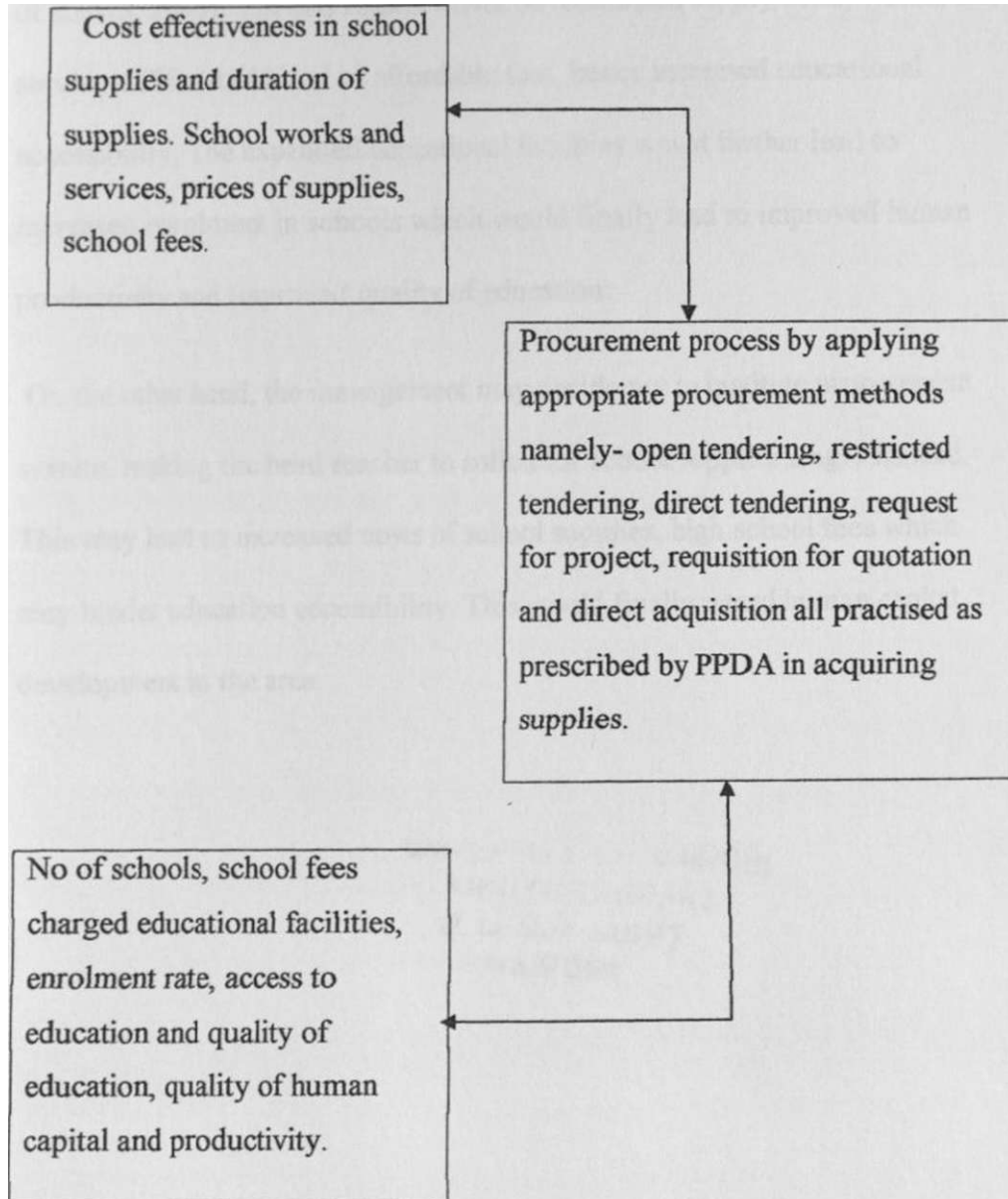
This theory was applied to the study in the sense that for costs to be minimised, the method of acquiring inputs has to be effectively put in place

and the structures and principles followed. This is the procurement method where school supplies should be acquired through the principle of transparency, integrity and value for money.

Integrity enhances fairness that is free from favouritism hence curbing corruption and financial leakages. **Effectiveness** implies that the procurement of goods, works, and services are meeting the commercial and the regulatory goals of the government. **Transparency** implies openness without flouting the tendering process and lastly **Value for money** which implies that the goods, works and services meets the requirement standards i.e. the contract concluded on the best available terms otherwise referred to as cost effectiveness. If these measures are put in place the end result would be minimised cost of education which increase accessibility, the opposite would be increased cost of education which hinders accessibility.

2.9 Conceptual Framework

Effects of Procurement Methods on Cost Effectiveness of Public Secondary Schools' Supplies



Source : Adapted from Welle 2005.

The conceptual framework indicated that school management is in charge of acquiring school inputs. They can do this in a cost-effective manner hence improving quality, timely delivery and at affordable costs. These can be done through competitive bidding and other methods prescribed by PPDA (republic of Kenya, 2005). The end results would be minimised supply costs, works, and services. This would lead to affordable fees, hence increased educational accessibility. The expanded educational facilities would further lead to increased enrolment in schools which would finally lead to improved human productivity and improved quality of education.

On the other hand, the management may decide not to institute procurement system, making the head teacher to solicit for school supplies single handed. This may lead to increased costs of school supplies, high school fees which may hinder education accessibility. This would finally retard human capital development in the area.

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CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter looked at research design, location of the study, target population, sampling and sampling techniques. It also looked at research instrument, instrument validity and reliability, data collection procedures and data analysis techniques.

3.2 Research Design

This study used descriptive survey design. This involved examination of existing records of procurement in public secondary schools and how this had been applied in various schools by management. It also looked at what head teachers are saying about the current method of procurement of school supplies in public secondary schools. Further it looked at the composition of tendering committees in various secondary schools and their level of operations.

Examination of proper documentation of tendering document to justify that real tendering is carried in acquiring school supplies was also sought to authenticate the outcome of the study. This design was chosen due to its simplicity and its ability to investigate phenomenon in their natural setting as well as their ability to help in solving problems from a wider perspective (Mugenda and Mugenda, 2003). It is also a very useful design in developing research instruments and tools for data collection.

3.3 Target Population

There are twenty four public secondary schools in the district. This study targeted all of them. This was so as the government procurement is prescribed to all of them. Besides that they lack basic educational resources such as science laboratories, class rooms, dormitories etc. Further there are only two girls boarding secondary school and one boys secondary school in the district which operate both day and boarding where as the demand is very high.

Therefore twenty secondary school head teachers, twenty deputies and twenty teachers who are directly linked to procurement process were targeted for the study. For document analysis, ten secondary schools were asked to avail their procurement documents for the study while ten head teachers were interviewed for the study. Those documents analysed included tendering adverts, tendering committee member's appointment letters, school list of suppliers, minutes of tendering committee, composition of tendering committee members and school price lists.

3.4 Sampling and Sampling Techniques

Different scholars use different techniques depending on the population of the study and its characteristics. Mugenda and Mugenda (2003) suggest that where time and resources are available, a researcher should take as big sample as possible. They argue that a large sample increases salient characteristics of the adaptable population to an acceptable degree. On the other hand a small sample would increase the sampling error which may not give the true outcome of the

population. If the study population is small, especially less than 30 in number, at least 75.00 percent of population is recommended for the study.

Consequently for the purpose of this study twenty schools out of the twenty four i.e. 83 percent were studied. This population was selected as it struck the aspect of regional and gender balance. The sampling technique used was the stratified random sampling. This was used to ensure inclusion in the sample subgroups which otherwise would be omitted entirely by other sampling method because of their smaller number in the population. This is the case with boys and girls schools.

3.5 Research Instruments

The researcher used questionnaires, interview schedule and document analysis. Mutahi (2000) indicated that different research instrument is suited to some situations better than others. Yet in another way they can complement each other producing different outcome but mutually supporting the expected overall outcome. Thus this study used questionnaires to obtain the overall information about the application of procurement law in schools hence covering the quantitative aspect of the research. Different questions were used in the questionnaire i.e. closed and open ended to avoid distortion of the outcome.

The researcher also used interview method to address qualitative aspect. Thus the researcher interviewed ten school head teachers. This was done to enhance collection of in-depth data which is not possible to get using questionnaire

(Muuenda and Mugenda, 2003). The questions for interview were developed from the research objectives in order not to deviate from the theme of the study. The document analysis was done on the various tender documents i.e. tender adverts, tender agreements, tender documents, minutes and files of the previous tender committee meetings were also scrutinised to authenticate if the correct tendering procedures were followed.

3.6 Pilot Study

This was done by administering sampled instruments to the sampled population of the same characteristics in two schools within the district. The researcher used test retest method to validate reliability and validity. Questionnaires were administered in the two schools and the results noted. Two weeks later similar questionnaires were administered again and their findings noted. The two sets of finding were then analysed and their results correlated. The resultant correlation coefficient $r = 0.79$. This indicated that the questionnaires were capable of collecting the same information from different respondents with minimal or no bias. One of the advantages of conducting a pilot study is that it helps in giving advance warning about where the main research project could fail or succeed.

3.7.1 Validity

Validity is the accuracy and meaningfulness of inferences based on the research results (Mugenda and Mugenda, 1999). To adhere to this, the questionnaires were tested for content validity by ordering them from general

to specific and were related to the research questions. This was done to remove ambiguity.

3.7.2 Instrument Reliability

In order to ensure the research instruments adhered to reliability, a pilot study was carried prior to the actual study. The study questionnaires were administered to two pilot schools through test-re-test method. The findings of the two sets of the study were correlated giving a correlation coefficient $r = 0.79$. This indicated that the instruments were capable of collecting similar responses from the same respondents with minimal bias. The instruments were therefore certified for the study. Other samples of questionnaires were also discussed with the supervisors for their authentication, guidance and comments before the actual research were conducted. This was done to help in removing such doubt that would jeopardise the study.

3.8 Data Collection Procedure

The researcher sought permission from the MOEST through the National Council of Science and Technology at Utalli house. This helped in seeking permission from the DEOs office through the DCs office to visit the AEOs office and the selected schools for study. The researcher upon getting cleared first visited schools for introduction and familiarization with the subject of the study. For the questionnaires, the researcher presented them to the sampled respondents for filling and collected them immediately upon completion. This was done to avoid duplication of responses from the same school.

For the interview schedule, the researcher sought for permission from the intended respondents on when they would be ready for interview after which the interview was conducted as agreed. For document analysis, the researcher arranged with the selected respondents on when to avail them for analysis. Documents analysed included tender adverts, tender agreements, tendering committee appointment letters and minutes and files of the previous tender committee meetings among others.

3.9 Data Analysis Techniques

The data collected was analyzed using the quantitative and qualitative techniques. First the data was summarized using descriptive statistics. This was done to describe meaningfully the data using frequency distribution tables, percentages. The mean and median were also applied to give summarized statistics of variables studied. This included average prices, respondents' responses, the modal procurement prices as well as the median prices. For the purpose of variability, range was used to determine the highest scores and the lowest scores.

To facilitate qualitative analysis, the researcher read thoroughly the questionnaires and used note cards to record data available. These recorded data were analyzed based on various categories, themes and patterns. This however was done using the computer SPSS research analysis programme. This was done by converting the data into numerical codes representing characteristics of the outcome. The coded data was then feed into the computer to facilitate SPSS analysis.

CHAPTER FOUR

DATA ANALYSIS, DISCUSSION AND INTERPRETATION.

4.1 Introduction

This chapter presented the research finding as was collected from the respondents. It begins with the analysis of questionnaires response rate, demographic characteristics of the respondents and the discussions of the main findings of the study. The study was to investigate the effects of procurements methods on cost effectiveness of public Secondary School supplies in Nyatike District, Kenya. The findings of the study are divided into sub-topics based on the objectives of the study. These include the composition and existence of tendering committees in schools, conducts of procurement by tendering committees in schools, effects of tendering method on prices and quality of schools and the policy option that may help improve procurement in public Secondary Schools to enhance cost effectiveness.

4. 2 Questionnaires Response Rate

The study used three different categories of questionnaires. These include Head teacher's questionnaires, Deputy Head teachers' questionnaires and teachers' questionnaires. The researcher administered the questionnaires by presenting them to the respondents after which he collected them immediately upon filling. Thus their return rate was 100.00 percent save for those respondents who were not available or were reluctant to answer questionnaires. Thus the return rates were as follows:-

Table 4.1: Questionnaire Respondents Response Rate

Respondents	No issued	No received	Response rate (%)
Teachers	20	20	100.00
Deputy H/Teacher	20	18	90.00
Head teacher	20	17	85.00

From the above it is evident that the response rate was not uniform and went down with seniority in schools structure. All teachers responded and answered their questionnaires, 90.00 percent of the deputies answered questionnaires while only 17 head teachers i.e. 85.00 percent responded to the questionnaires. This was occasioned by the nature of duties of head teachers and their deputies. Some head teachers due to their added administrative duty were occasionally not in school and therefore could not be reached to answer questionnaires while two head teachers were reluctant to respond to questionnaires even though they were present. Asked why they could not answer the questionnaires, one of them responded he was very busy while the other did not give reason and instead directed me to work just with the deputy.

Going with the nature of the study, it was realized that it was a sensitive topic and therefore some head teachers were not comfortable with answering the questionnaires. This even though they did not say was visible in their faces. Deputies on the other hand responded but some were not in their stations during the period of the study.

4.3 Data Collection Challenges

The reluctance of the head teachers in general to answer questionnaires was the greatest challenge during this study. Some head teachers were unwilling to respond to questionnaires while others were not ready to be interviewed over the study. This however was overcome by persistence in visiting schools severally and explaining to head teachers that the questionnaires were mainly for education and nothing else.

The other challenges were the vastness and spatial spread of schools in the district. Some schools were almost 15 kilometres apart thus moving from one school to another at times took thirty (30) minutes riding the motorcycles. Since the study was conducted during rainy season, adverse weather conditions at times proved challenging as the topography of the area is also not uniform. All these challenged the study but were overcome by patience and staying focused on the study. Some respondents also kept the researcher waiting almost a whole day to have questionnaires and interviews done.

4.4 Demographic Information

The respondents' characteristics are very important in any study. The gender, age, education level, students' population, staff establishment within the school all plays a major role in the study. The researcher therefore sought to know them as part of the study. Their discussions are as follows:-

4.4.1 Respondents Gender

The study targeted head teachers, deputies and teachers sitting in tendering committee. In each category, twenty respondents were selected and their responses were as follows.

Table 4. 2: Gender of Respondents of the Study

Respondents	Responses		Response (%)	
	M	F	M	F
Head teacher	13	4	76.50	23.50
D/teacher	16	2	88.90	11.10
Teacher	14	6	70.00	30.00

In overall the gender of the respondents were not balanced as majority of the respondents were male.

4.4.2 Age and Experience of the Respondents

The age of the respondents is very important. Young head teachers are known to be enthusiastic in their work hence are bond to adhere to changes than their old counterparts. Thus they are likely to adhere to new procurement methods unlike old head teachers. On the other hand, old head teachers are bound to have adequate experience which would make them run their institutions professionally and efficiently. The same would be applicable to teachers and deputy head teachers.

Table 4. 3: The Age Bracket of the Study Respondents

Teachers	D/Head Teachers	Head Teachers	Age Bracket
-	-	-	25-29
9	-	-	30-34
6	2	-	35-39
3	7	6	40--44
1	6	7	45-49
1	3	2	50-54
-	-	-	55-60
20	18	17	Total

Head teachers and Deputies were almost of the same age while 45.00 percent of the teachers were young falling in the age group of 30 - 34. This generation gap between the head teachers and teachers was likely to affect the procurement in either way. On one hand head teachers are likely to differ in opinion with regard to inclusion of such young teachers in procuring school supplies, while the young teachers may have a different opinion and see such inclusion in the tendering committee as the opportune moment to stamp their feet on financial management in schools.

4.4.3 Professional Qualification of the Respondents

Professional qualification is very important in undertaking a particular role/task in a given area of work. An experienced and highly qualified officer

is bound to perform his work professionally hence increasing efficiency in their work. On the other hand individuals with low qualification may have dismal performance of their duties. A qualified head teacher is bound to constitute and delegate duties with ease to the various departments while a low qualified leader may take everything to him/her, perhaps due to inferiority phobia. Over the study, the researcher sought to establish the professional qualification and the outcome were as follows.

Table 4. 4: Professional Qualification of the Study Respondents

Category	Masters	Degree	Diploma
Head teacher	2	15	
D/head teacher	1	13	4
Teacher	-	19	1
Total	3	47	

4.4.4 Schools Enrolment

School enrolment is usually influenced by its category. Most parents prefer taking their children to boarding single sex schools. High school enrolment attracts more teachers hence having adequate number required to constitute tendering/procurement committee. On the other hand low enrolment is bound to make schools have small number of teachers which is likely to inhibit head teachers from constituting such committees due to lack of quorum.

Table 4. 5: Schools Enrolments Population

Enrolment Population	No of Schools
Below 200	5
201 -320	12
321 -480	2
481 and above	1

4.4.5 Staff Establishment in Schools

Tendering committee according to PPDA is supposed to be composed of teachers in the public secondary schools (Republic of Kenya, 2005). Thus schools with adequate number teachers are bound to adhere to this requirement than those with low staff establishment.

Table 4. 6: Staff Establishment in Schools

No. of Teachers	No. of Schools
T 5	10
6- 10	4
11-15	5
16-20	1

From the above table, half of the school are understaffed hence do not have adequate forum of teachers required to constitute various procurement committees. This is likely to create loopholes where head teachers can procure

school supplies single handed. Findings of the study also confirmed the same trend, the two schools that had functional tendering committees had staff establishment under the group of 11-15.

4. 5 Establishment of Tendering Committee

In public Secondary Schools, procurement is supposed to be carried out by the tendering committee, Procurement committee and evaluation committee (Republic of Kenya, 2005). These committees plays a vital role as they are the one which are supposed to tender and evaluate the tender qualification, prices and the quality of goods and services the prospective, supplies are bound to supply to schools. Consequently this study sought to establish procedural composition and existence of such central committees. The questionnaires response was as bellow:-

Table 4.7: Establishment of Tendering Committee

Respondents	No of schools	Yes	No
H/teachers	17	15	2
Deputy H/teacher	18	13	5
Teachers	20	11	9

From the above on average the majority i.e.70.90 percent of the schools had tendering committees though similar responses were not from the same schools. This contradicts PPOA (2007) evaluation of procurement system in

Kenya which found that procurement governance was lacking in many public institutions and thus 89.20 percent of all procurement in the public sector was done through quotation. This affected the transparency and openness in which such purchases were done hence affecting the overall prices and quality of the supply.

Koros, Ngware and Sang (2009) found that parents and students perceived head teachers to be misusing the fees paid in schools. This they attributed to single handedness with which they were conducting their financial transactions. They concluded that this was hurting the resources acquisition in schools hence contributing to lack of teaching and learning resources. There was therefore room for improvement. Gelderman, Ghisen and Brugman (2006) found that compliance to tendering procures was 9.00 percent in schools and higher vocational education in European Union Countries. This study was in line with the findings of the study.

4.5.1 Constitution of Tendering/Procurement Committees

The researcher further sought to establish whether tendering committees were composed as spelled out in the procurement and disposal act. The responses from questionnaires was as illustrated in the table below:-

Table 4. 8: Constitution of Tendering Committees in Schools

Questionnaires responses	No of Respondents	Yes	No
Head teacher	17	10	7
Deputies	18	12	6
Teachers	20	11	9

The response was varying with seven out of 17 head teachers and six out of 18 deputies giving incorrect response about the composition of tendering committees in their schools. The incorrect responses gave a contradictory familiarization with management of supplies acquisition in schools. This finding showed some head teachers were not properly acquainted with procurement management in their schools.

According to the World Bank, UNESCO and IIEP (2004) many educational institutions did not have procurement system put in place. This was a case study involving Kenya, Mongolia, Laos and Cambodia. Sang (2009) further found that management challenges were facing many secondary school head teachers more so in financial management. Such findings influence negatively the conduct of various committees within the schools such as tendering which eventually influence the overall prices and quality of supplies.

Teachers on their part responded differently, a majority eleven teachers out of twenty confirmed that they had tendering committee in their school though they could not verify whether they were correctly constituted or not. This confirmed the findings of Koros, Ngware and Sang (2009) that teachers were minimally involved in financial management of school fund therefore were hardly trained in financial management.

4.5.2 Functionality of Tendering Committee

The researcher sought to verify if the schools had functional tendering committees which were procedurally constituted. The table below shows the result obtained from the questionnaires.

Table 4.9 Functionality of tendering committees in schools from interview responses

Responses sources.	No of Respondents	Yes	No
Interviews	10	9	1
Letter of appointment	10	2	8
Tendering committee minutes.	10	2	8

The interview responses above revealed that nine out of ten schools had tendering committees while only two schools had issued letter of appointment to that effect. The minutes of tendering were also not correctly kept in eight schools. PPOA (2007) found that some public institutions did not have proper documentation of procurement records. The reasons given by head teachers were varying. Four head teachers responded that they did not have any physical facility project and therefore had not convened tendering committee meetings. Two head teachers where economic stimulus package project is going on responded that their projects tendering were handled by Schools Infrastructure procurement Committee (SIC) where teachers were non members. The rest were adamant to give reasons.

These findings indicated to the fact that tendering was not properly handled by tendering committees in schools. Odhiambo and Kamau (2003) indicated that many educational institutions did not have proper procurement committees. Thus the purchases were largely sourced single handed by the head teachers and may be in consultation with the deputies.

4.6 Conduction of Procurement in Public Secondary Schools

The researcher sought to establish the general conduction of procuring school supplies in various secondary schools.

4.6.1 Procurement in Public Secondary Schools

Procedurally school supplies procurement is overseen by the school head teachers through tendering committee (Juma, 2009). Even if the school is to use single sourcing in acquiring supplies, it has to be approved by the tendering committee and minutes be drawn and reasons given as to why such methods are being used (Republic of Kenya, 2005). Questionnaires were used to establish this as well as the interviews and document analysis.

When asked about how much confidence head teachers had in their teachers in procurement, the response was eleven confidences and six were not confidence in their teacher's role in procurement. Deputies' head teachers on the other hand responded on half basis with regard to the same question.

When teachers were asked whether the head teachers had confidence in their involvement in procurement, 11 teachers answered no while nine answered yes. These responses contradicted those from the head teachers and deputies.

While the administrators i.e. head teachers and deputies felt that the teachers had confidence in them, the study found that teachers did not have confidence in them and that decisions they made in their various tendering committee meetings were not always taken into consideration. Ngware, Koros and Sang (2009) found that minimal involvement of teachers in financial management affected their overall confidence which impacted negatively in learning.

Hallack and Poisson (2005) in their study on procurement not limited to teachers and head teachers found that teachers' confidence in head teachers' financial management impacts positively on financial transaction in their schools. Such confidence would enhance delegation of duties including formation of active procurement committees consisting of teachers. This therefore affects procurement prices of supplies.

4.6.2 Democratic Operation of Procurement Process

To enhance open, transparent and democratic financial management in schools, head teachers are expected to involve all relevant committees in their work actively. The researcher sought to know if such principles were adhered to.

Table 4. 10: Democratic Involvement of Teachers in Procurement

Respondents	No.	Always	Often	Sometimes	Rarely	Never
Deputy	18	8	1	4	1	4~
Teacher	20	6	1	4	3	6
H/Teacher	17	9	3	5	0	0

The results correlation coefficients of various respondents were calculated i.e. between head teachers and teachers, between head teachers and deputies and between deputies and teachers. The results were as bellow;

Table 4. 11: Correlation Coefficients (r) between Various Respondents

Respondents	(r)
Teachers and head teacher	0.28
Teacher and deputy	0.82
Head teachers and deputy	0.78

The results above indicates that the general assumption made by the head teachers that their procurement process were democratic, open and transparent was not in tandem with the teachers feeling as shown with correlation coefficient of 0.28 while the one between head teacher and deputies was 0.78 and deputies and teachers was 0.82. PPOA (2007) found that 89.70 percent of public institutions were using quotations in their purchases in which case those

in authority choose the suppliers without tendering for them openly. This method is non democratic and lacks transparency.

This showed perhaps that the head teachers and deputies had more information on procurement operation which the teachers did not know. Since teachers are the committee members, it may be concluded that such operation were not democratic as envisaged by the PPDA. Koros, Ngware and Sang (2009) found that many schools head teachers were not actively involving teachers in management and that they were doing everything by themselves. They argue that this was hurting learning as there was always constant suspicion about how school fund was being used. This was not emanating from teachers only but also from parents and students.

4.7 Effects of Procurement Methods on Prices and Quality of Suppliers

Procurement methods have drastic effects on the prices of goods and services. The researcher therefore sought to establish if effective procurement was being carried and its net effects on prices and quality of supplies.

4.7.1. Effects on Prices

Procurement procedure and methods are constituted to provide value for money (Lundsgaard, 2002) and (Holla and Kremmer, 2009). Value for money envisages high quality products at the lowest price possible. Thus this section sought to establish if the procurement practices in schools were enhancing these values.

The researcher sought to know this by using questionnaires, interviews and documents analysis. A question sought to establish whether tendering prices were lower than single sourced. The responses were as below;

Table 4.12: Prices Comparison through Tendering and Single Sourcing

Respondents	No.	Always	Often	Sometimes	Rarely	Never
D/ head teacher	18	5	5	0	4	4
Head Teachers	17	2	0	9	3	3

When Correlation coefficient of the above data was done the value of $r = -0.98$. This showed a great inverse relation between the deputies and head teachers response. Perhaps it could be brought about by the deputies' lack of knowledge of how purchases were done and the prices at which they were bought. Further it reveals the level of secrecy with which head teachers were buying items without disclosing them to their deputies. This finding contradicts the procedure as the tendering is supposed to be run by the deputies as the chair where they are the ones supposed to determine the prices of all school supplies (Republic of Kenya, 2005).

Teachers on their part were asked if they knew some of the supplier and the prices at which they were supplying their goods/service. Out of twenty respondents fifteen teachers answered yes while five answered no. Of those who knew when asked whether they knew the prices at which the supplies were made, fourteen answered yes while one said no. About price comparison with the market prices, nine responded same, three responded low while two

responded same. This result indicates that 45.00 percent accepted that the prices at which they were procuring supplies were as per market prices, 15.00 percent answered low while 10.00 percent answered high. The rest 30.00 percent did not know anything about prices at which supplies were made and that it was known only to head teachers and the suppliers. This mainly indicates that teachers in general did not know much about supplies prices. This contradicts PPDA which requires that teachers as members of tendering committees should always be at a position of determining the prices of school supplies (Republic of Kenya, 2005).

Mahmood (2010) explains that poor financial governance impedes institutions efforts to meet its goals. They destroy citizens' faith in their institutions. They deter the foreign and domestic investment. And they undermine the ability of development partners to sustain their support for the country. This has been the case in Kenya. When institutions are not involving relevant departments in decision making, the results are poor or low output coupled with high costs.

4.7.2 Interview and Documents Analysis

The researcher further interviewed the head teachers and analysed various tendering documents to justify procedural conduction of tendering process. On price lists, the seventeen schools had no appropriate form of price lists or list of suppliers. Apart from the book publishers' catalogues and the orange book from the MoEST, other forms of price lists were non existence.

PPOA (2007) found that some public institutions did not have proper documentation of procurement documents. This was a weakness as they could not account properly on prices and quality and only relied on the market information. This clearly shows the schools had no prices to compare the tender applicants prices apart from those quoted in the various shops around.

4.7.3 Effects on Quality of Goods and Services

Rafael, Lysette, Jaime, Weintraub, Martinez and Espejo (2004) found that application of competitive bidding improved the quality of school meals while lowering the prices hence reducing the overall cost of feeding school children significantly in Chile. During the study, the head teachers' responses were as follows, three answered always, two responded never, three answered rarely and nine responded sometimes. This response implied that majority of head teachers did not believe in tendering as a means of acquiring quality supplies at low prices. This contradicts the findings above in Chile.

Twelve (12) deputies responded always, three rarely, one often and two sometimes. This implied that majority of the deputies i.e. 60.00 percent believed in tendering as the surest method of acquiring quality goods and services in schools at good prices. Teachers on their part responded nine for always, four responded often, five responded sometimes while two did not answer questions.

From the responses above, apart from the head teacher where a minority two were for the tendering, the deputy head teacher and teachers had 60.00 and

45.00 percentages acceptance respectively. This was in line with Hallack and Poisson (2005) findings that competitive procurement method was the surest way of acquiring quality goods at fair prices. This could be either because the head teachers were more acquainted with procurement and knew the best ways of acquiring quality goods and services at good prices and that deputies and teachers since they had not handled contract were responding out of ignorance. On the other hand teacher and deputies would vote tendering as it was the area they are supposed to run and were confirming lack of practices in their schools. Cost reduction measures should target the expansion of quality educational resources, efficiency utilization of teachers, and streamlined procurements (Ngware, Onsomu and Muthaka, 2009).

4.8 Alternative Methods Used in Procurement in Schools

Procedurally schools are free to use other alternative procurement methods as prescribed in PPDA. This however should be discussed and allowed by the tendering committee. It's the tendering committee that has the authority to sanction an alternative method that has to be used. The head teacher is expected to explain in writing and give reasons as to why he has to use the alternative method (Juma, 2009).

During the study, the researcher sought to know the alternative methods that were being used in schools apart from open tendering. The responses were as tabulated bellow.

Table 4.13 Alternative Procurement Methods used in Schools

Respondents	Methods		
	Single sourcing	Quotation	Direct tendering
Teachers	15	2	1
D/head teachers	11	4	1
Head teachers	0	9	6
total	26	15	8

From above, on average majority of the acquisitions i.e. 53.06 percent were done through single sourcing. When teachers and deputies were asked about the single sourcing they were referring to, they answered that this is where the head teacher single handed source for supplies from the market without consulting any other person. PPOA (2007) had indicated that 89.20 percent of the purchase done in the public sector was through quotation.

Respondents wise according to teachers, 83.33 percent purchases were done through single sourcing. Deputies had 68.75 percent while head teachers had none. This probably indicates lack of coordination of school purchases within the three school organs i.e. teachers, deputies and the head teachers. Sang (2009) found that generally head teachers had shortcomings in general administrative duties; planning and financial management, keeping of school records, personnel management and development of teamwork in the school. This probably was the reasons why they were hardly involving teachers in procurement.

Head teachers on their part had 30.00 percent for direct tendering and 60.00 percent quotation. This indicated that head teachers in general were more comfortable with the methods that they could manipulate than those requiring them to relinquish control. Sang (2009) found that head teachers were always manipulating financial operation in their schools.

Although PPDA requires that open tendering be used often, majority of the head teachers used quotation. This finding was in line with PPOA (2007) which found that majority of purchases in the public sector was done through quotation. When asked whether they had given reasons for using excessive quotations in writing as required by the act, none admitted. This was a direct show that they were not following financial guidelines as indicated in the financial guidelines to secondary schools and colleges (Juma, 2009).

4.9 Challenges facing Cost Effective Acquisition of Supplies in School

During the study the researcher sought to know challenges facing procurement in secondary schools. The respondents highlighted challenges as arising from procurement committees, the head teachers and the suppliers.

4.9.1 Challenges Faced by the Procurement Committee

Tendering committee in public secondary schools is run by the deputy head teachers and various heads of department who are teachers (Republic of Kenya, 2005). Questionnaires were administered to this effect to establish the challenges they were facing and their responses noted.

One of major challenge sighted by the deputies was reluctance by the head teachers to constitute procurement/tendering committee. PPOA (2007) found the same scenario, and that procurement process was wholesomely carried by the head teacher and bursars. Verbal appointment of tendering committees without letters written to them was hampering the effectiveness of their work.

The next challenge was none or minimal involvements of tendering committee in procurement in schools. Out of the twenty teachers whose opinion were sought in involvement, only two teachers said were actively involved while the rest eighteen responded they were either minimally or never involved in procurement of supplies. This left the whole process to be run by principals. This could be attributed to excessive use of quotation as was found by the PPOA (2007) study which revealed that 89.20 percent of public purchases were done through quotation.

Another challenge sighted was the interference by the head teachers who did not respect decisions made by the tendering committee and went ahead to award tenders to their friends who never applied and whose prices were never discussed. Rias (2008) found that those in authority were always not ready to delegate procurement responsibilities. They were always using those methods that could give them lee ways to control the whole process.

4.9.2 Challenges faced by the Head Teachers

One of the challenges the head teachers faces is the lack of adequate staffing to constitute various procurement committees. Although the schools studied had

teachers, fourteen schools had six TSC teachers and below including head teachers. This proved a very big challenge in constituting such committees which required a membership of five and above. Republic of Kenya (2005) spelt out that procurement committees are to be composed of heads of departments who are TSC teachers. These teachers are lacking in many secondary schools.

The other challenge was the conflict of interest. The tendering committee, the head teachers and the BOG were experiencing conflict in different ways. The head teachers who are the school accounting officers felt that their management role was being overstepped on by the tendering committees. The BOG also felt the same. Ngware, Onsomu and Muthaka (2007) found that conflict of interest was hampering efficient financial management in schools and that there was need to streamline the roles of each authority. This case was sighted by thirteen head teachers and eighteen teachers.

Nine head teachers sighted the under quotation of prices by tender applicants to win tenders which affected the schools budget as the next challenge.

Occasionally tender applicant under quoted their prices and this caused frequent revision of prices which trickled to schools budget plan. PPOA (2007) pointed out that lack of contractors regulations would lead to such unethical practices like lowering prices to win tenders.

4.9.3 Challenges arising from the Suppliers

Inability of the suppliers to make their supplies on time caused delays in supply hence inconveniencing the schools. Hallack and Poisson (2005) found that some suppliers did not adhere to the terms of contracts hence caused delays or supplied low quality goods. This made schools to frequently revise tender contracts.

Some commodities like vegetables are also seasonal in nature and thus experienced shortages during dry spell. Therefore getting a supplier who would make their supplies out of season at time was hard to come by. Some would make promises and win tender but fail to supply during dry spell. This made schools to look for new suppliers which proved expensive to them.

CHAPTER FIVE

SUMMARY, CONLUSSION AND RECOMMENDATIONS

5.1 Introduction

This chapter focuses on the summary conclusion and recommendations based on the findings of the study. This is derived from the objectives of the study.

This study had four objectives from which it drew its findings.

5.2 Summary of the Study

The study sought to find the effects of procurement methods on cost effectiveness of public secondary school supplies in Nyatike district, Kenya.

Education industry uses resources mainly human and physical resources.

Human resources are usually sourced from the public by the government following specific qualifications requirements which also spell their costs.

Physical resources however are supposed to be sourced using prescribed methods. These are the procurement methods. Before the year 2005, procurement of public supplies did not have a detailed structure and depended largely on regular supplement directives from the ministry of finance. PPOA (2007) pointed out that hither to 2005; procurement in the public sector did not have a formal structure to oversee its operation. It used to operate on circulars which kept on changing every now and again. Against these conditions procurement was flawed with many unethical practices.

The objectives of the study were among others to determine whether public secondary schools head teachers were following government guidelines in composing tendering and procurement committees in their schools, establish whether tendering committees were carrying out their duties of procuring school supplies as stipulated in the PPDA to promote cost effectiveness in education, to determine the effects of tendering method on prices and quality of school supplies and lastly to suggest policy interventions that may improve the procurement process to enhance cost effectiveness in public secondary schools in Nyatike district.

To conduct this study, the researcher used descriptive survey design. Twenty secondary schools were then sampled for the study. The questionnaire, interview and document analysis were used to collect data. The questionnaires were administered to teachers who are the members of tendering/procurement committees, the deputies who by the nature of their position are supposed to be the chair of tendering committees and the head teachers who are supposed to constitute the various procurement committees in their schools and appoint them in writing. Ten head teachers were further interviewed to establish if they were carrying out procurement procedurally in their schools. Ten secondary schools tendering documents were analysed to establish if the conduction of procurement process were properly documented as required by PPDA. The finding were then analysed based on the objectives of the study.

The data collected were presented in tables and discussed. The major findings were that most schools did not have accredited tendering committees. On the

general conduction of tendering process in schools, many teachers and deputies pointed to the fact that it was not being conducted procedurally while majority of the head teachers claimed they were doing their best. Involvement of teachers in tendering was also minimal as shown by correlation coefficient of 0.01. Majority of deputies 60.00 percent and 45.00 percent of teachers recommended open tendering as the best method of acquiring supplies cost effectively. While only two out of seventeen head teachers voted for it. The teachers and deputies finding was in line with Hallack and Poisson (2005).

The overall finding was thus that about 80.00 percent of the schools studied were operating on a shrouded procurement system which was not open and transparent. It was therefore recommended that the MoEST and PPOA institute corrective measures and ensure that the schools adhere to the procurement methods strictly if cost effectiveness has to be realised in public schools procurement.

5.3: Major Findings of the Study

The study came up with the following findings. They were based on the objective.

5.3.1 Establishment of Tendering Committee in School

As highlighted earlier, procurement in public secondary schools is mainly run by the tendering committee. Hence the study sought to establish if such committees were put in place in the various secondary schools. Questionnaires

from head teachers, deputies and teachers all indicated to the direction that majority of the schools had tendering committees.

The interview however pointed to a different direction. Out of ten interviewed head teachers, only two schools had tendering committees which were constituted according to the procurement procedures and regulations. The rest were either operating on verbal appointment or had their terms expired and some schools had none at all.

Document analysis also found the same thing. Out of tens schools whose documents were analysed, only two had substantial tendering documents. Five had documents which were held in 2009. This year's tendering minutes were lacking in seven schools. In the three schools which had minutes, two committees had this year's appointment letters written while one was waiting for such letters to be issued. Sang (2009) found many schools to be lacking proper documentation of school records. In short they were operating on verbal appointments.

Overall this indicated that most schools did not have accredited tendering committees. This condition created a fertile ground for manipulation of tendering process by the head teachers. They would therefore solicit suppliers single handed or just use those expired tendering committees, get minutes of their meetings and use them to make purchases as they wished.

5.3.2 Conduction of Procurement in Public Secondary Schools

The researcher sought to establish the general conduct of procurement in secondary schools. The general responses from head teachers and deputies was that tendering was being carried in schools as was show by the result of 94.10 percent and 55.50 percent for head teachers and deputies respectively for tendering. Teachers on their part scored only 40.00 percent. This result indicate that although head teachers and deputies were insinuating that tendering committees were actively working teachers did not, teachers also indicated lack of confidence and non democratic financial operation in their schools.

The study also found that where as head teachers felt that their financial systems were open, transparent and democratic, teachers felt that such principles were largely lacking in their schools financial system. This was indicated by correlation coefficient of 0.28 between teachers and the head teachers responses.

The documents analysis also revealed the same trend. Out of ten schools whose documents were analysed, only two schools had substantial procurements documents. The absence of up to date minutes of the tendering committee meetings indicated that no meeting were held to discuss school supplies. This indicated that tendering was not genuinely carried in those schools.

On quality and prices of the school supplies, the researcher sought to know the opinions of various respondents on how tendering affected the prices and quality of supplies. The response from head teachers and deputies were then given values and regressed to determine their correlation coefficient. The overall score was $r = -0.97$ this showed a great inverse relation between head teachers and deputies' response. It indicated that either while head teachers felt tendering could lead to expensive low quality supplies, the deputies felt the opposite. This was the opinion of teachers who also felt that tendering could make schools acquire quality supplies at good prices.

Furthermore out of twenty schools studied, 83.33 percent of teachers and 68.75 percent of deputies responded that purchases in their schools were alternatively done through single sourcing by the head teachers. Head teachers had 30.00 percent for direct tendering and 60.00 percent quotation. This overall indicates that majority of purchase were done the head teachers office. This finding was in line with Sang (2009) that head teachers were doing every financial role without delegating them to teachers.

5.3.3 Involvement of Teachers and Deputies in Procurement

To establish the degree in which they were involved, deputies and teachers were asked to indicate their levels of knowledge about how they were being involved in procurement. Each individual's scores were averaged and the questionnaires were matched according to their schools. They were then correlated to establish their correlation coefficient. The correlation was done between the teachers' scores and the deputies, the deputies and the head

teachers and lastly the teachers and the head teachers. The results obtained were as bellow;

Table 5.1: Correlation Coefficients between Various Respondents

Respondents	Correlation Coefficient (r).
Teachers and head teachers	0.01
Teachers and deputies.	0.36
Deputies and head teachers	0.32

The result above indicated very weak involvement of teachers in tendering in their schools. Koros, Ngware and Sang (2009) found that head teachers hardly involved their teachers in management. They had poor delegation of duty and that they were doing everything by themselves. Head teachers probably were carrying procurement single handed or minimally involving deputies. On their part the deputies could be involving teachers may be in some minimal discussion of tendering process which probably were not put in actual practice, may be just as a formality.

On interview all the ten head teachers interviewed appreciated the role played by teachers in procurement. One head teacher pointed out that science teachers are useful in guiding the committee on what is required in their department. However this seem to have been the head teachers view which in actual sense was not being practised as indicated above.

5.3.4 Cost Effective Procurement Practices

The use of open tendering is the surest way of attaining quality supplies at good prices. This was the response from many respondents. 60.00 percent of deputies and 45.00 percent of teachers recommended it as the most transparent and open ways of acquiring supplies. If value for money is to be attained in our schools then open tendering is the way out one teacher remarked. On the other hand only two out of ten head teachers recommended it.

One head teacher from a small school however suggested that it could be attained through willing seller willing buyer basis. He recommended that head teachers be allowed to contract suppliers based on that fact. This he argued would give them opportunity to bargain and get the best supplies for schools at affordable prices. He opined that open tendering is good for big schools and not small ones

Some respondents suggested that purchases be done once a term especially on opening of schools. This would help in curbing transport costs. They further suggested that boarding items like grains be purchased when their prices are low and that they be acquired from the surrounding community.

The contraction of supplies is based on the supplier's ability to supply in seasons and out of season. This they say would make schools budget once and have no frequent revision of tender's prices due to their inability of suppliers to supply commodities to schools regularly.

5.3.4 Policy Options for Cost Effectiveness

The study found the following policy options that could enhance cost effectiveness in procuring school supplies.

- Training of teachers, deputies and head teachers on their roles in procurement such that no one over steps on the role of the other. Head teachers in particular needs to be trained on cost effective methods of running tendering process (PPOA, 2007).
- Strict adherence to procurement procedures and practices. The head teachers who are the starting point should ensure that procurement committees are composed procedurally. This would improve financial management system in secondary schools (Ngware, Onsomu and Muthaka (2007).
- Constituting strong auditing system by MoEST on procurement to deter individuals in authority from unprocedural procurement practices. This would save schools from loosing fund through faulty procurement hence reducing cost in schools fund utilization (PPOA, 2007).
- Frequency of auditing of schools funds should be increased to monitor their use. Sometimes funds may be lost through faulty procurement where procurement is only done once in a year.
- Schools should be autonomous without interference from BOG or PTA. This would deter individuals who may have vested interest.

5.4 Conclusion

The findings of the study have several implications for the procurement in public secondary schools. The study has revealed that effective procurement is beneficial. From the literature review to the research findings, several countries experienced notable reduction in cost of educational supplies due to competitive tendering. The spirit in which the PPDA was formed was the enactment of cost effective system which would streamline and reduce the overall cost of public supplies. However this is found to be majorly lacking in majority of the schools studied. Thus the study made the following conclusions from the findings.

5.4.1 Effective Tendering Committees

The study found conflicting responses from the teachers, deputies and head teachers. Whereas deputies and head teachers showed that schools had tendering committees, teachers denied this. This in effect was a pointer to the fact that procurement was not being properly carried in schools and probably was being done by the head teacher in consultation with the deputy.

5.4.2 Conduction of Procurement

The findings shows that most schools were acquiring their supplies single handed. The general prices at which such purchase were made were known to the head teachers only. It was therefore concluded that cost effectiveness which is the fruit of open tendering was not being attained.

5.4.3 Quality and Prices of Goods and Services

The finding of the study showed that quality goods were not being realised as their acquisition was a one man's show. Procurement was secretly handled by the head teachers who kept every detail to themselves. The receipt of goods was also handled by either bursar or the head teacher himself. This therefore left no opportunity for quality verification.

5.4.4 Teacher's Involvement in Procurement

There was minimal or no involvement of teachers in procurement process in majority of the schools. This was evidenced by non existence of active tendering committees as well as their non involvement in tendering.

5.4.5 Alternative Procurement Methods

Majority of the purchases in schools were conducted through single sourcing followed by quotation and direct tendering. Other methods were hardly used. All were done without following prescribed procedures and regulations.

In conclusion tendering has not been effectively carried in public secondary schools in the district. Further if instituted strictly in schools the cost effectiveness can be realised through reduction in cost of supplies. However certain items like grains can be acquired at lower prices from the local community without necessarily tendering for them. Prices of capital items like buildings can appear expensive when tendered for. However such high prices are also known to go with quality which would appear cost effective in the long run. Open tendering therefore should be strictly adhered to when it comes to capital acquisition. Other methods should also be used but under strict adherence to procurement regulations and rules.

5.5 Recommendations

The study came up with the following recommendations to make schools procure supplies in a cost effective manner. These recommendations were to be carried at schools and national levels.

5.5.1 School Level

The head teachers should immediately constitute various procurement committees in their schools to do their procurement work. This was due to lack of such committees which found across many schools.

The head teachers should immediately organise in-house seminars in their schools to familiarise teachers, deputies and themselves with their procurement roles and practices. This came out as many teachers did not understand procurement practices.

The head teachers should give various procurement committees freedom to carry out their roles and respect their decisions. Once they have identified a supplier through competitive tendering, the head teachers should respect such outcome. This should be complied with immediately in schools.

The deputies and teachers also need to be objective in their work. They should understand the size of their schools, financial position and environment and apply appropriate procurement method which is commensurate with their schools environment. This should be done immediately through in house seminars on procurement organised by the schools.

5.5.2 National Level

Since procurement is guided by PPDA which is an act of parliament created to oversee public procurement, it's important that educational officials entrusted with supervision of procurement practice in schools do so with the enthusiasm it requires. This would reduce abuse of procurement laws at school levels and enhance procurement discipline. It should be done immediately.

The ministry of education should develop a regular audit mechanism of procurement. This would help in curbing irregular procurement and instil cost effective purchases. This should be done immediately.

The average price list developed by PPOA should also be sent to schools to guide procurement prices. They should also be revised regularly in line with changes in market prices. This would help in reducing overcharging or undercharging as was realised in the findings of the study. This should be done regularly by MoEST and PPOA.

By and large I would say that procurement methods are a noble idea of acquiring school supplies. Adherence to them would yield great benefits to schools. They would acquire quality goods and services at fair prices. Its therefore important public secondary schools apply it regularly in its supplies acquisition.

5.6 Areas for Further Study

With reference to the findings of this study, further studies are recommended in the following areas.

- a) The role of head teachers in implementing procurement regulations in public secondary schools. Are they a hindrance or a facilitator of procedural procurement in their schools? This study would take a course of case studies. Its findings would help in building a more proactive system guiding the activities of head teachers in procurement.
- b) Next would be on the effectiveness of application of open tendering methods as a method of procurement in small public secondary schools. From the study some small schools were understaffed and could not raise the minimum quorum required to form tendering committees. The study would investigate the best methods that suit their conditions.

Finally the study has empowered me as a teacher and a researcher to be able to contribute to the knowledge base in the area of procurement in public secondary schools. These findings should there be put to test to establish their places in public secondary schools procurement.

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APPENDICES

APPENDIX I

Letter of Introduction to Respondent to Conduct Research.

Oketch George Ogalo,
University Of Nairobi,
Box 30197,
Nairobi-Kenya.
Phone 0732-950 123.
Date

To

Dear Sir/ Madam,

REF: RESEARCH QUESTIONNAIRE.

I am a postgraduate student at University of Nairobi and a teacher by profession. I am undertaking research in Nyatike district on how procurement system affects cost effectiveness of school supplies. This I am doing as part of my course for my degree.

Kindly provide relevant information by responding appropriately to the questionnaire. Your identity will be treated with confidentiality.

I am looking forward to your cooperation.

Thanks in advance.

Yours faithfully,

Oketch George Ogalo.

Appendix II

Head Teacher's Questionnaire

Instruction to the respondents

- This questionnaire is intended purposefully for the study of masters of education, economics of education, University of Nairobi.
- Kindly provide relevant information by responding appropriately to the questionnaire. Your identity will be treated with confidentiality.

Part A: Personal Details. (Please mark appropriately using a tick or any other mark).

- Indicate your gender in the space provided. Male 1 female 1
- Indicate your age bracket.

Bellow 30	30-34	35-39	40-44	45-49	50-54	Above 55

- What is the highest level of your professional qualification?

MASTERS	DEGREE	DIPLOMA	OTHERS specify

- How long have you served as a head teacher in years?

1-5	6-10	11-15	16 and above

- What category does your school fall in?

Girls B	Boys B	Boys D&B	Mixed B	Mixed D	Mixed B&D

- Please indicate your current school enrolment.

6-200	201-320	321-480	481-640	Above 640

Part B: Procurement.

vii Indicate the number of teachers in your school.

TSC.....BOG

viii. Does your school have a tendering committee? Yes No.

ix. Indicate the composition of the tendering committee in your school.

Individuals.	Tick where applicable	Designation.
Head teacher		
Chair BOG		
Treasure BOG		
Bursar		
Deputy head teacher		
Teachers (indicate numbers)		

xi indicate who prepare and approve supplies acquisition in your school.

Officer.	Prepare.	Approve.
BOG		
PTA		
Head teacher		
Procurement committee		
Tendering committee.		
Others specify		

xii Apart from open tendering indicate the alternative method used in your school in procuring school supplies.

Part C: Degree of Involvement of Teachers in Procurement Process

Indicate your opinion on the following statement with a tick to show the degree of teacher's involvement in procurement process.

A-always	O-often	S-sometimes	R-rarely	N-never
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NO	Statement.	A	O	S	R	N
i	I seek teachers ideas and use them if worthy in procurement process.					
ii	I have complete confidence in teachers in procurement suggestions					
iii	I feel free talking to management and school staff about school financial management.					
iv	Teachers are members of tendering and procurement committee.					
v	Financial management in our school is open, transparent and democratic.					
vi	Adequate time is provided to the stakeholder s to discuss school procurement process.					
vii	Teachers feel free discussing with my office procurement decisions misgiving.					
viii	Review and control functions of procurement process is liberalised in our school.					
ix	Tendering Prices are cheaper than those sourced single-handedly by the head teacher.					
x	I fully understand the tendering process of the secondary school supplies.					
xi	Tendering produces quality of goods, works and services are than single sourcing.					
xii	Teachers are involved in composition of procurement committee.					

xiii To what extent do you counter problems in procuring school supplies?

xiv What problems are they, please indicate.

xv In your own opinion how can these problems be solved?

xvi How can the procurement process be practised in a cost effective manner?

xvii Highlight policy interventions that may improve procurement process in secondary schools in Kenya.

xviii Comment on the involvement of teachers in procurement, tendering and evaluation committee in acquiring secondary school supplies.

Appendix m

Deputy Head Teacher's Questionnaire

Instruction to the respondents

- This questionnaire is intended purposefully for the study of masters of education, economics of education, University of Nairobi.
- Kindly provide relevant information by responding appropriately to the questionnaire. Your identity will be treated with confidentiality.

Part A: Personal Details. (Please mark appropriately using a tick or any other mark).

- i Indicate your gender in the space provided. Male Female
- ii Indicate your age bracket.

25-30	30-34	35-39	40-44	45-49	50-54	55-60

- iii What is the highest level of your professional qualification?

Masters.	Bachelor.	DIPLOMA	OTHERS specify

- iv How long have you served as a deputy/ head teacher in years?

1-5	6-10	11-15	16 and above

- v What category does your school fall in?

Girls B	Boys B	Boys D&B	Mixed B	Mixed D	Mixed B&D

vi Please indicate your current school enrolment.

7-200	201-320	321-480	481-640	Above 640

Part B: Procurement.

vii Does your school have a tendering committee? Yes No

viii Indicate the composition of the tendering committee in your school.

Individuals.	Tick where applicable	Designation.
Head teacher		
Chair BOG		
Treasure BOG		
Bursar		
Deputy head teacher		
Teachers (indicate numbers)		

x Indicate who prepares and approve supplies acquisition in your school.

Officer	Prepare	Approve
BOG		
PTA		
Head teacher		
Procurement committee		
Tendering committee.		
Others specify		

xi Apart from open tendering indicate the alternative method used in your school in procuring school supplies

Part C: Degree of Involvement in Procurement Process

Indicate your opinion on the following statement with a tick to show the degree of teacher's involvement in procurement process.

		A-always	O-often	S-sometimes	R-rarely	N-never
NO	Statement.	A	O	S	R	N
x	I do chair tendering committee meetings on procurement process.					
xi	The head teacher has complete confidence in tendering committee.					
xii	I feel free talking to the head teacher and school staff about procurement process.					
xiii	Teachers are members of tendering committee.					
xiv	Financial management in our school is open, transparent and democratic.					
xv	The head teachers respect the procurement decision made by tendering committee.					
xvi	Teachers feel free discussing with my office when they have misgiving about procurement decisions.					
xvii	Review and control functions of procurement process is liberalised in our school.					
xviii	Prices realised through tendering are cheaper than those sourced single-handedly by the head teacher.					
xix	I fully understand the tendering process of the secondary school supplies.					
xx	The quality of goods, works and services are better when tendered for than single sourced by the school management.					
xxi	Teachers are involved in composition of procurement committee.					

xxii To what extent does your school encounter procurement challenges?

xxiii What problems are they, please explain.

xxiv In your own opinion how can these problems be solved?

xxv How can the procurement process be practised in a cost effective manner?

xxvi Highlight policy interventions that may improve procurement process in secondary schools in Kenya.

xxvii Comment on the involvement of teachers in procurement, tendering and evaluation committee in acquiring secondary school supplies.

Appendix IV

Teacher's questionnaire

Instruction to the respondents

- This questionnaire is intended purposefully for the study of masters of education, economics of education, University of Nairobi.
- Kindly provide relevant information by responding appropriately to the questionnaire. Your identity will be treated with confidentiality.

Part A: Personal Details. (Please mark appropriately using a tick or any other mark)

- i. Indicate your gender in the space provided.

Male •• female ••

- ii. What is the highest level of your professional qualification?

MASTERS.	BED	DIPLOMA	OTHERS specify

- iii. How long have you been teaching in years?

1-5	6-10	11-15	16-20	Above 20

- iv. What are your teaching subjects?

Major.....Minor

- v. What category does your school fall in?

Girls B	Boys B	Boys D&B	Mixed B	Mixed D	Mixed B&D

vi. Please indicate your current school enrolment.

Bellow 200	201-320	321-480	481-640	Above 640

Part B. Procurement Implementation

vii Do you have any special responsibility in your school? Yes No

viii If yes please indicate by tick.

HOD Subject head. Others specify |

ix Do you know when procurement process in your school starts?

x If yes state the months.

xi Who prepares the procurement system of acquiring school supplies in your school. (Tick as many responses as possible).

H/teacher	Bursar	BOG	PTA	Parents	Teachers	Tendering committee	Others specify

xii Does your school have a tendering committee? Yes No

xiii If yes are you a member of tendering committee? Yes No

xiv Does the school administration involve tendering committee actively in procuring school supplies? Yes No

xv If yes do you know some of the school suppliers? Yes No

xvi Do you know some of the prices at which school suppliers supply their commodities to school? Yes ^ No '

xvii If yes, how does those prices compare with the market prices?

High • low Q same Q

Part C: Degree of Involvement of Teachers in Procurement Process

Indicate your opinion on the following statement with a tick to show the degree of teacher's involvement in procurement process.

A-always	O-often	S-sometimes	R-rarely	N-never
-----------------	----------------	--------------------	-----------------	----------------

NO	Statement.	A	O	S	R	N
xviii	The h/teacher involves teachers actively in procurement process.					
xix	The h/teacher has complete confidence in teachers in procuring school supplies.					
xx	The technical and professional knowledge used in procurement does not originate to a greater deal from tendering or procurement committee.					
xxi	Procurement process in our school is open, transparent and democratic.					
xxii	Adequate time is provided to the stakeholder s to discuss school procurement process.					
xxiii	Teachers feel free discussing with my office when they have misgiving about procurement decisions.					
xxiv	Prices realised through tendering are cheaper than those sourced single-handedly by the head teacher.					

xxv	I fully understand the tendering process of the secondary school supplies.					
xxvi	The quality of goods, works and services are better when tendered for unlike when single sourced for.					
xxvii	The h/teacher is comfortable with the inclusion of teachers in tendering and procurement committees.					

xxviii Apart from open tendering, indicate other methods used in acquiring supplies in your school

xxix How can procurement system be done in a cost effective manner to reduce the cost of education? (Narrate here bellow).

xxx Suggest policy interventions that may improve procurement process in secondary schools.

Appendix V.

Structured Interview Schedule Questions for Head Teachers.

1. How do you perceive the involvement of teachers in tendering process in secondary schools? Do you like it? Does their involvement interfere with financial management of the school?
2. Do you have a functional tendering committee in your school? How often do you involve tendering committee in procuring school supplies?
3. How does the prices of supplies, works, or services compare when tendered for or single sourced?
4. What are the policy interventions that can be put in place to improve procurement process to enhance value for money in secondary schools?

Appendix VI

Lists of Documents Analysed in Ten Public Secondary Schools

1. Letter of tendering committee appointments letters.
2. Minutes of tendering committee meetings.
3. Price lists of school supplies.
4. Schools fee structures.
5. Lists of suppliers.

Appendix VII
Letter of Research Authorization

REPUBLIC OF KENYA



NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Telephone: SOEKCEITECH, Nairobi
Toll-free: 1111111111
35-V029011-S71.1111111111
Fax: 254-20-222222 JIR245

PO Box 38423-05100
Nairobi, Kenya
Website: www.nscst.go.ke
Uth March, 2011
Date:

Our M.
George Ogaio Qkcteh
University of Maitobi
P. O. Box 30197
NAIROBI

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on "Effect* of procurement methods on cost effectiveness of public secondary school supplies in Nyatike District, Kenya" I am pleased to inform you that you have been authorized to undertake research in IS'yafike District for a period ending 31st July, 2011.

You **are** advised to report to the District Commissioner & the District Education Officer, Ny alike District **before embarking on the research project.**

On completion of the research, you are expected to submit one hard copy and one soft copy of the research report/thesis to our office,

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u.
NAifOr

P. N. NYAKUNDI
OFFICE: SECRETARY/CEO

Copy to;
The District Commissioner
Nyatike District

The District Education Officer
Nyatike District

Appendix viii
Research Clearance Permit

PAGE 2

§ THIS IS TO COME THAT
 OKB%CK.....
 of iAddnt«) ^ j k s s h q l sBLm&s®L.
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 has been permitted to conduct research in _____*
 _____Location.
 NIATXKE District
 HVAKZAProvince,
 o» *• topic
 iOCTgOPS. Off, COS?
 PUBLIC sefxaspAas. S&*xl qoggcies
 is STATUS: oiarttieg, jBanfr.
 31ST JULY
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PAGE 3

NCST/HBRI/1271/SS-CI/5 U 4
 Research Permit No -

Fecrecefveij³3,1000



*Applicant's
 Signature*

*I Secretary
 Xatiknxi CiruJtcilf< *
 Science and Tchnutogi'*