STRATEGIES OF ADDRESSING THE RISING DEMAND FOR SECONDARY SCHOOL EDUCATION IN NAIROBI CITY COUNTY, KENYA

MUCHIRI HANNAH WAKONYO KARURU

A Thesis Submitted to the Department of Educational Administration and Planning, in Fulfillment of the Requirement for the Award of the Degree of Doctor of Philosophy (PHD) in Economics of Education, University of Nairobi.

2017

DECLARATION

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

---

Muchiri Hannah Wakonyo Karuru

E80/50128/2015

This Thesis has been submitted for examination with our approval as university supervisors.

Dr. Andrew Riechi
Senior Lecturer

Department of Educational Administration and Planning

University of Nairobi

Dr. Moses Muriithi

Senior Lecturer

School of Economics

University of Nairobi

DEDICATION

This thesis is dedicated to my immediate family; my dear husband Josephat Muchiri and my children Victor Maina and Mark Karuru. They have been very patient with me in this journey and we can now celebrate together.

ACKNOWLEDGEMENT

I wish to express my sincere gratitude to those who have greatly helped shape this report to its current status. I acknowledge and appreciate Dr. Andrew Riechi and Dr. Moses Muriithi, my supervisors for their guidance throughout the entire time of working on this thesis. I acknowledge the time they spent to guide me through the development and eventual completion of this study. They were a constant reminder that I could make it.

My greatest gratitude goes to my husband, Josephat Muchiri and my two sons Victor Maina and Mark Karuru. Thank you all for giving me time and moral support to concentrate on my academic work. Further appreciation goes to my dad Joseph Karuru and my late mom Tabitha Wairimu who played a key role in my education. I also appreciate my research assistants from RTI without whom the completion of this study would have been very difficult.

I am grateful for the availability of all respondents who were drawn from various secondary schools in Nairobi County. They willingly provided the information I needed for this study, and thus owe you gratitude. I also appreciate the secretarial services accorded to me by Priscilla Muraguri who formatted and aligned this thesis appropriately. Finally, I would like to thank all the people who directly or indirectly contributed to the completion of this work.

TABLE OF CONTENTS

DECLARATION ii

DEDICATION iii

ACKNOWLEDGEMENT iv

TABLE OF CONTENTS v

LIST OF TABLES xi

LIST OF FIGURES xiv

ABBREVIATIONS AND ACRONYMS xv

ABSTRACT xvii

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study 1

1.2 Statement of the Problem 8

1.3 Purpose of the Study 10

1.4 Research Objectives 10

1.5 Research Questions 11

1.6 Significance of the Study 11

1.7 Limitations of the study 12

1.8 Delimitations of the study 12

1.9 Basic Assumptions of the study 13

1.10 Operational Definition of Terms 14

1.11 Organization of the Study 15

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction 17

2.2 Concept of Demand for Education 17

2.3 Review of Empirical Studies on Strategies of Addressing Demand for Secondary Education 23

2.3.1 Utilization of Existing School Resources and Demand for Secondary Education 23

2.3.2 Cost and Demand for Secondary Schools 33

2.3.3 Public-private partnerships (PPPs) and Demand for Secondary Education..... 40

2.3.4 Government Initiativesand Demand for Secondary Education..... 47

2.4 Summary of literature review..... 51

2.5 Theoretical Framework..... 52

2.6 Theoretical Model 54

2.7 Conceptual Framework on Strategies of Addressing Demand for Secondary Education 55

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction..... 57

3.3 Research Design..... 57

3.2 Study Locale 58

3.4 Target Population 58

3.5 Sample Size and Sampling Procedure 58

3.6 Data Collection Instruments..... 61

3.6.1 Questionnaires..... 61

3.6.1.1 The School Principals' Questionnaire..... 62

3.6.1.2 Students' Questionnaire 62

3.6.2 Unstructured Interviews Schedules 62

3.6.3 Observation Schedules..... 62

3.6.2 Unstructured Interviews..... 62

3.6.2 Unstructured Interviews 62

3.7 Piloting of the Research Instruments 63

3.7 Piloting of the Research Instruments 63

3.7.1 Instrument Validity 63

3.7.2 Instrument Reliability 64

3.8 Data Collection Procedure 65

3.9 Data Analysis Techniques 66

3.10 Study variables 66

3.11 Ethical Considerations 67

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction 68

4.2 Instruments Response Rate 68

4.3 Descriptive Statistics 69

4.3.1 Characteristics of Respondents 70

4.3.2 Secondary School Principals Bio-Data 70

4.3.3 Students Biodata 75

4.3.4 Ministry officials; 78

4.4Demand for Secondary Education 78

4.4.1 Existence of Waiting Lists of Students Admissions in Secondary Schools 78

4.4.2 Number of students in the waiting list 81

4.4.3 Frequency of Admission Requests 83

4.4.4 Reasons for not admitting students in the waiting list 85

4.4.5 Other Reasons for not admitting students in the waiting list 87

4.5 Utilization of Resources in Meeting the Demand for Secondary Education 88

4.5.1 Number of Students in a School 89
4.5.2 Number of Teachers in a School 91
4.5.3 Teacher Student Ratio 94
4.5.4 Average class size 96
4.5.5 Number of streams in a school per class 100
4.5.6 Whether there are Any Unoccupied Class(es) in the School 102
4.5.6.1 Further Reasons Given by Principals for Unoccupied Classes 107
4.5.7 KSCE Mean Grade for 2010-2014 108
4.5.8 Extent to which School Characteristics Enhances Enrollment/ Admissions of Students in Schools 110
4.5.9 Extent to which School Resources have been Efficiently Utilized 116
4.5.10 How the Existing Secondary School Resources could be Efficiently Utilized 119
4.5.11 Principals Suggestions on how efficiently the existing secondary school resources could be utilized 119
4.5.11 MoEST Officers Views on the Utilization of School Resources 121
4.5.11 Principals Suggestions on how efficiently the existing secondary school resources could be utilized 121
4.6 Cost and Demand for Secondary Education in Nairobi City County 122
4.6.1 Extent to Which School Costs have Hindered Enrolment 128
4.6.2 Schools Major Sources of Income 130
4.6.3 Whether the Schools Had any Income Generating Activities 130
4.6.4 Extent to which Income Generating Activities had Enabled Schools to Control Fees 132
4.6.5 Percentage of Total Income Spent on Specific School Activities 134
4.6.6 Cost Cutting Measures put in Place by School Principals 138
4.6.7 Whether schools had Opportunities that Enabled Needy Students to Generate Fees 140
4.6.8 Suggestions on How Schools Can Encourage Admission of More Students 146
4.7 Public Private Partnerships (PPPs) that could be Exploited to Address the Rising Demand for Secondary Schools in Nairobi City County 151

4.7.1 Public Private Partnerships that could be Exploited to Address the Rising Demand for Secondary Schools in Nairobi County 159
4.8 Government Initiatives and Demand for Education 163
4.9 Overall Regression Model Summary of the Study Data 172
4.10 Logit Estimation Model 174

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction 181
5.2 Summary 181
5.2.1 Utilization of Resource in Secondary Schools in Nairobi County 183
5.2.2 Cost and Demand for Secondary School Education in Nairobi City County 185
5.2.3 Public-Private Partnerships (PPPs) that could be Exploited to Address the Rising Demand for Secondary Schools in Nairobi County 187
5.2.4.Effectiveness of the Existing Government Initiatives in Addressing the Rising Demand for Secondary Schools in Nairobi County 188
5.3 Conclusions 189
5.4 Recommendations 190
5.5 Suggestions for Further Research 191
REFERENCES 193
APPENDICES 205
APPENDIX A: Letter of Introduction 205
APPENDIX B: Questionnaire for the Principals 206
Appendix C: Questionnaire for Secondary School Students 212
Appendix D: Interview Schedule for MoEST Officers 216

Appendix E: Observation Schedule 218

Appendix F: Research Permit 219

Appendix G: Research Authorization 220

LIST OF TABLES

Table 3.1: Sampling Frame 59

Table 3.2: Sample Sizes for Given Population Sizes 60

Table 4.1: Response Rate 69

Table 4.2: Category of Respondents 70

Table 4.3: Principlas highest educational qualifications 72

Table 4.4: Leadership experience 73

Table 4.5: Students class level 75

Table 4.6: Waiting lists of admission by school category 80

Table 4.7: Number of students in the waiting by school category 82

Table 4.8: Frequency of admission requests by school category 84

Table 4.9: Reason for not admitting students in the waiting list 85

Table 4.10: Reasons for not admitting students in the waiting list 86

Table 4.11: Principals responses on the number of students in their schools 90

Table 4.12: Total number of students by category of school 91

Table 4.13: Number of teachers in schools 92

Table 4.14: Total number of teachers by school category 93

Table 4.15: Teacher: student ratio by school category 95

Table 4.16: Principals and students responses on average class sizes 96

Table 4.17: Principals responses on average class size by school category 97

Table 4.18: Relationship between waiting lists and class size 98

Table 4.19: Number of streams in a school 100

Table 4.20: Principals and students responses on existence of unoccupied classes 103

Table 4.21: Relationship between unoccupied classes and the waiting list of admissions 104

Table 4.22:Relationship between unoccupied classes and reasons for not admitting students in the waiting list 106

Table 4.23: Correlation between existence of unoccupied classes and reasons for not admitting students in the waiting lists 107

Table 4.24: KSCE mean grade for 2010-2014 109
Table 4.25: Principals responses on the extent to which school characteristic encourages school admissions 111
Table 4.26: Students responses on the extent to which school characteristics encourages admission in schools 113
Table 4.27: Extent to which school resources had been used efficiently 117
Table 4. 28: Average amount of fees charged in schools per term 123
Table 4.29: Relationship between demand for secondary schools and average amount of fees charged per term 124
Table 4.30: Relationship between average amounts of fees charged per term and frequency of admission requests 126
Table 4.31: Extent to which school costs had hindered secondary school enrolment 129
Table 4.32: Principals and students responses on whether their schools had income generating activities 131
Table 4.33: Percentage of total income spent on specific activities 135
Table 4.34: Teachers employed by TSC 136
Table 4. 35: Total number of non-teaching staff employed in schools 138
Table 4.36: Whether needy students had opportunities to generate fees 141
Table 4.37: Relationship between existence of waiting list of admissions and school income generating activities 144
Table 4.38: Correlation between existence of waiting lists of admission and school income generating activities 145
Table 4.39: Relationship between waiting lists of admission and existence of public private partnerships 155
Table 4.40: Correlation between waiting lists of admission and existence of public private partnerships 156
Table 4.41: Relationship between waiting lists of admission and extent to which PPPs had enhanced enrolment 157

Table 4.42: Correlation between waiting lists of admission and extent to which PPPs had enhanced enrolment 158

Table 4.43: Extent to which government initiatives have addressed the rising demand for secondary schools 165

Table 4. 44: Model summary[b] 169

Table 4.45: Coefficients for the model 170

Table 4.46: Overall study regression model 172

Table 4.47: Coefficients[a] for the model 173

Table 4.48: Definitions of variables used in the binary logit model 175

Table 4.49: Overall logit estimation model Model 1: Binary Logit, using observations 1-384 .. 176

LIST OF FIGURES

Figure1.1: Public Consumption of Education, Health Care, and Other Public Goods and Services in Kenya 6

Figure 2.1: Conceptual Framework 55

Figure 4.1: KCPE marks attained by students 76

Figure 4.2: Students preferred secondary school after KCPE 77

Figure 4.3: Existence of waiting list of admissions as reported by principals 79

Figure 4.4: Number of students in the admission waiting list as per the principals 81

Figure 4.5: Principals responses on frequency of admission requests 83

Figure 4.6: Students responses on the adequacy of teachers in their schools 94

Figure 4.7: Extent of fees control through IGAs as per the principals 133

Figure 4.8: Whether students had sponsors who assisted them to pay fees 142

Figure 4.9: Public private partnerships in schools 152

Figure 4.10: Extent to which PPPs had enhanced enrolment 153

Figure 4.11: Homoscedasticity and normality of residuals 180

ABBREVIATIONS AND ACRONYMS

APHRC	-	African Population Health and Research Centre
AIR	-	American Institute of Research
ASAL	-	Arid and Semi-Arid Land
BoM	-	Board of Management
CDF	-	Constituent Development Fund
CRS	-	Cooperate Social Responsibility
EFA	-	Education for All
GER	-	Gross Enrolment Rate
GDP	-	Gross Domestic Product
GOK	-	Government of Kenya
FDSE	-	Free Day Secondary Education
GNP	-	Gross National Product
FPE	-	Free Primary Education
ICT	-	Information Communication Technology
IGAs	-	Income Generating Activities
IIEP	-	International Institute of Educational Planning
KCPE	-	Kenya Certificate of Primary Education
KCSE	-	Kenya certificate of secondary education
KIE	-	Kenya Institute of Education
KICD	-	Kenya Institute of Curriculum Development
KIPPRA	-	Kenya Institute for Public Policy Research and Analysis
LDCs	-	Less Developed Countries

MDGs	-	Millennium Development Goals
MOEST	-	Ministry of Education, Science and Technology
MoE	-	Ministry of Education
NCST	-	National Council of Science and Technology
NESP	-	National Education Sector Plan
NER	-	Net Enrolment Ratio
NGOs	-	Non Governmental Organizations
PPPs	-	Public Private Partnerships
SPSS	-	Statistical Package for Social Sciences
TSC	-	Teachers Service Commission
UNESCO	-	United Nations Education Scientific and Cultural Organization
USA	-	United States of America
UK	-	United Kingdom
USAID	-	United States Agency for International Development

ABSTRACT

This study sought to explore the strategies of addressing the rising demand for secondary school education in Nairobi City County. Despite the high budgetary allocation towards education, more primary school graduates fail to transit to secondary schools. The enrolment challenge is worse in urban areas especially in urban slums where majority of the urban population is concentrated. Though this situation is blamed on the existence of limited secondary schools, the government expenditure on the education sector is already overstretched. The objectives of the study focused on utilization of the existing secondary school resources, influence of cost on demand for secondary education, Public Private Partnerships (PPPs) and Government initiatives. This study was rooted on the utility theory. The study adopted a descriptive survey design. The target population was 235 secondary schools from where 71 schools representing (30%) were sampled. From the sampled schools, 71 principals and 384 students were sampled. Out of the 120 education officers in the County, 12 (10%) of them were sampled. Questionnaires, interview and observation schedules were used to collect the data. Data was analyzed using SPSS and STATA softwares. The study found that the demand for secondary schools was high, the existing secondary schools resources had not been efficiently utilized, school fees had hindered demand to some extent, majority of the schools did not have any Public Private Partnerships and the existing Government initiatives had a predictive value on secondary school demand. The study concluded that the demand for secondary schools was high in Nairobi City County, most of the existing resources in secondary schools had not been efficiently utilized, school fees had to some extent hindered school demand, majority of the schools did not have any form of Public Private Partnerships and the existing Government initiatives had a predictive value on secondary school demand. The study recommends that, all the existing secondary school resources should be fully utilized, all schools should strive to forge Public Private Partnerships, more day schools should be provided because thay are cost friendly while Government initiatives should be enhanced.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Formal education is a powerful instrument that brings about socio-economic development in the world (World Bank, 2008). A number of studies have confirmed that investment in education is fundamental to improving a country's general welfare and economic growth as well as reducing poverty (Lockheed, Verspoor and Associates, 1991; World Bank, 1993; 2002). Specifically, Psacharopoulos and Woodhall (1985) found a very high social rate of return and estimated that the returns to completed primary education are 27 percent and the returns to secondary education are 15-17 percent.

Building on the work of Psacharopoulos and Woodhall (1985), Mingat and Jee-Peng, (1996) observed that investment in secondary education yields considerable social and private returns including improved income, improved productivity, increased social cohesion, reduced child mortality; and is a critical level of education development. The American Institute of Research (2003), emphasizes that apart from improving a worker's productivity, schooling also enhances productivity of fellow-workers and economic growth. Mutisya (2011) affirmed that the general level of education in the workforce leads to high productivity as a result of creativity and innovation through the use of technology. World Bank (2008) indicated that due to the returns derived from education, both developed and developing countries have continued to invest heavily in all levels of education.

In a global monitoring report carried out by UNESCO (2014), most developed countries with advanced education systems typically spend between 5 and 6 percent of their Gross Domestic Product (GDP) on education. The global monitoring report found that some of the developing countries like Cape Verde, Kenya, Kuwait, Lesotho, Malaysia, Namibia, and Tunisia were spending over 7 percent of their GDP on education. The relatively high level of public funding by developing countries on education amidst scarce resources serve as a key indicator of the commitment towards the achievement of the education related Sustainable Development and Education for All Goals (UNESCO, 2014).

Psacharopoulos (1994) observed that education world over is facing financial challenges due to the fact that other social sectors like health, housing and security compete for funding. Consequently, provision of educational resources both physical and material is constrained due to the financial challenges. This was been echoed by African Population and Health Research Center (APHRC, 2015) report improving learning outcomes and transition to secondary school through after school support and community participation. The report indicated that secondary education requires resource intervention to expand the absoption capacity as well as subsidies which lowers the education cost so as to improve the transition rates. The report further states partnerships are critical in expanding secondary schools opportunities.

World Bank (2008) indicated that demand for and the supply of education influences the quality and quantity of education attained by the population. Further, the demand

for education is affected by the families perceptions in relation to the costs and benefits of enrolling their children for an additional year in school dependent on the available schools, cost, and the qualityof schooling. According to USAID (2001), education supply is influenced by government decisions and policies as well as private provider decisions regarding school construction, teacher capacity, curriculum in place, school costs, and the overall system of managing schools. Consequently, an interaction of these supply and demand factors leads to education decisions that determine children's education outcomes. According to UNESCO (2014), households in developing countries bear a heavy financial burden in the form of direct and indirect cost of education. The education expenditure is up to 37% in primary education and up to 58% in secondary education, which places a particular burden on the poorest households.

World Bank (1995) in a study on priorities and strategies for education did emphasize that demands of education on public finance at a time when government funds are stagnant or even diminishing in many developing countries can only be met by either finding additional resources or reducing unit costs through greater efficiency. In a study instituted by UNESCO in 2001, Lewis &Colloids indicated that whereas many governments in Less Developed Countries (LDCs) experience resource constraints to adequately supply education, the governments have resorted to partnering with the private sector in the provision of education through private schools (Lewis and Caillods, 2001). Participation of the private sector in meeting the needs of quality education for rapidly growing population leads to sharing the heavy

education burden between the public and the private sector which improves access (Muhammad, 2012). Therefore, expanding access to education, by encouraging the establishment of both public and private schools is vital in reducing poverty as well as reducing the high illiteracy rates which most often hamper economic growth. Given the two options, public or private schooling, parents decide the type of schooling for their children having put the determining factors into consideration. Gertler and Glewwe (1990) argue that parent's decision regarding their children's education depends in part on the characteristics of local schools as well as the parental income.

Like in many developing countries, the Government of Kenya has made education a priority in her development agenda. This is in recognition of the strategic importance of raising the overall education for Kenyans within the context of poverty reduction and economic growth (Republic of Kenya, 2015). In tandem with national development goals as well as international commitments, the government has put in place several policy and legal frameworks such as the Sessional Paper No. 1 of 2005, the Basic Education Act No. 14 of 2013, Ministry of Education Science and Technology Strategic Plan 2014-2018 and the National Education Sector Plan (Republic of Kenya, 2015; MoEST, 2014; MoEST, 2015).

In addition, there is the Sessional paper No 14 of 2012 (Republic of Kenya, 2012). This policy paper indicates that the Ministry of Education, Science and Technology have the responsibility of making basic education accessible to all children of

school-going age. The introduction of Free Primary Education (FPE) in Kenya in 2003 was a sign of commitment towards the provision of basic education. This saw enrolment into primary schools increase from 5.9 million in 2002 to 9.9 million in 2011 due to the removal of school fees barrier which was a major hindrance to accessibility (Republic of Kenya, 2013). The desire of the basic education framework is that all children transit to secondary schools (Republic of Kenya, 2015). This is further supported by of the Sustainable Development Goal of education No. 4 where countrys have an obligation ensure that all girls and boys complete free, equitable and quality primary and secondary education by the year 2030 of which the Government of Kenya is fully committed to achieve (United Nations, 2015). In the Jubilee Manifesto of 2017, the Government has committed itself to provide Free Secondary education for all by the year 2018 which will be a milestone in secondary education (Jubilee Manifesto, 2017).

The Government of Kenya has continued to spend a high proportion of its budget towards education. According to the 2015 Economic survey, spending in the education sector as a share of GDP has grown from 6% to 7.2% over the last ten years. The sector's share of the national annual budget has also progressively grown. At independence, it was allocated 15% of the recurrent budget whose proportion has grown to the current 40%. In absolute terms, the sector was allocated Kshs.319.4 billion during the 2015/16 financial year emerging as one with the highest allocation of the national budget (Republic of Kenya, 2016). As a core social development

sector, the government budgetary allocations towards the education sector is relatively high compared to other sectors as shown in Figure 1.1.

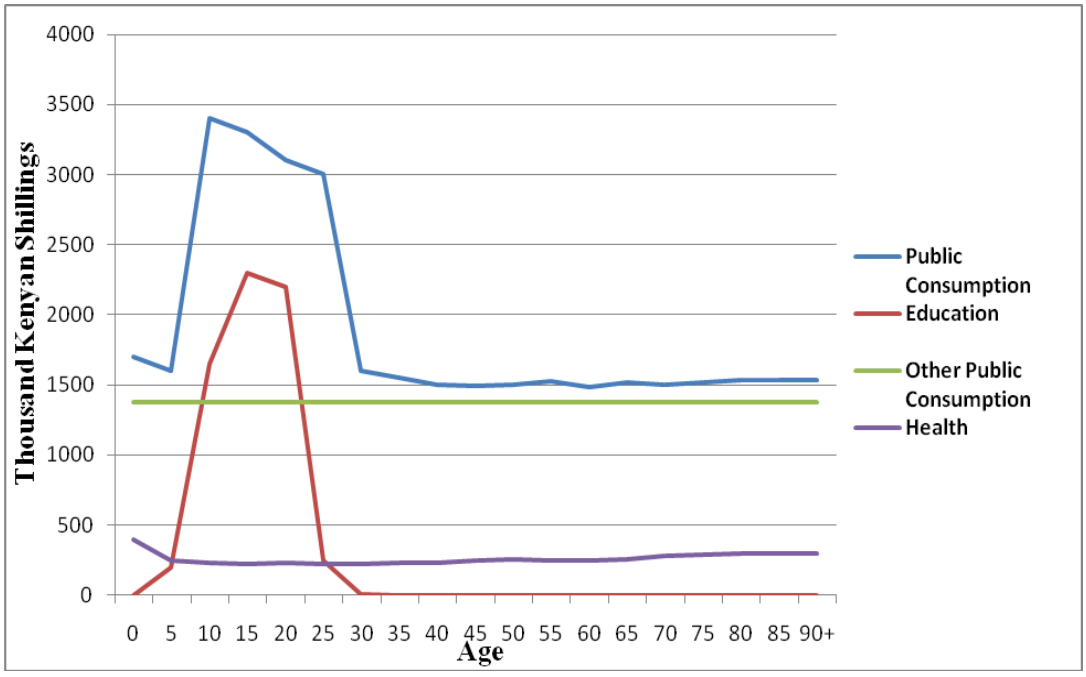

Figure 1.1: Public Consumption of Education, Health Care, and Other Public Goods and Services in Kenya

Source: Population Aging and the Generational Economy 2014

Figure 1.1 shows government expenditure on education, health care and other public goods and services. At the ages where basic education is offered, the education expenditure is high, peaking at ages 14–20, which corresponds to secondary and tertiary schooling. Relatively, education allocation is higher than health and other consumption at the prime age of 9-22 years (Mwabu, Muriithi, Mutegi, 2014). The high expenditure in education is an attempt to address challenges in access and quality in Kenya's education sector.

Despite the high budgetary allocation towards education, secondary education continues to face transition and enrollment challenges (Republic of Kenya, 2016). This is because of the population dynamics as well as the FPE program, which has enhanced access and participation in primary schools. However, more primary school graduates fail to transit to secondary schools and thus cannot enroll in secondary schools and the situation has continued. According to the Task Force Report on the Realignment of Education to the 2010 Constitution secondary education faces challenges (Republic of Kenya, 2016).

Some of the challenges faced in secondary education emanates from: inadequate number of secondary schools, extreme poverty in slum urban areas and ASAL regions, variations in supporting infrastructure resulting in inequitable access to ICT services and gender disparity against the girl child with poor households preferring to support boys if resources are limited. In addition secondary education faces high cost especially in boarding schools as well as disparity in resource allocation especially teachers of different categories of schools (Republic of Kenya, 2012). More emphasis on the challenges facing secondary education is stipulated in National Education Sector Plan (NESP, 2015) which indicates that though expanding access to secondary education has been on increase, access remains low and challenging especially at the regional levels (MoEST, 2015).

The enrolment challenge is more acute in urban areas especially urban slums where over 60% of the total urban population is concentrated (Republic of Kenya, 2012).

According to the Nairobi City County (2014), the County has experienced a huge population growth which has exerted pressure on educational resources. This is because few schools have been put up especially secondary schools thus the schools fall far short of meeting the enrollment requirements in the County (Nairobi City County, 2014). Many children have failed to transit to secondary school to an extent that comparatively, Nairobi City County has been registering the second-lowest secondary school participation level from North Eastern region (Republic of Kenya, 2014). The County has been registering a gross enrolment rate of less than 30% and net enrolment rate of less than 25%. The gross and net enrolment rates have been low for both the boys and girls (Republic of Kenya, 2013). Limited studies have been carried out to explore possible strategies for addressing the rising demand for secondary school education in Nairobi City County, hence the need for this study.

1.2 Statement of the Problem

Despite the rising government spending in education over the years, more primary school graduates fail to get places in form one and the situation has persisted. The demand for secondary school education has kept on rising from year to year especially after the introduction of FPE in 2003 and has never been fully met. Though this situation is blamed on the existence of limited secondary schools, the government expenditure on the education sector is already overstretched as shown by the heavy budgetary allocation in relation to the other sectors (Republic of Kenya, 2016).

Expanding secondary education will require a substantial increase in public resources but Kenya faces severe financial constraints. The rising demand requires a commitment of more and more resources which cannot be guaranteed from the overstretched government resources (Republic of Kenya, 2015). The diminishing resources have thus lowered the primary school graduates chances of enrolling and participating in secondary education which has resulted to educational wastage. As a result, primary school education becomes terminal to those pupils who lack places in secondary schools lowering the enrolments and participation rates.

Low enrolment and participation rates in secondary schools signify high levels of education wastage and a lot of inefficiencies in the education system which has a regressive effect on equity in education and the future distribution of wealth in the society (UNESCO, 2014). As earlier indicated, many children in Nairobi City County have failed to transit to secondary schools to an extent that the County was registering the second lowest secondary school participation from North Eastern region (Republic of Kenya, 2013). Huge population growth coupled with FPE program have led to raised demand for education at all levels thus exerting pressure on educational resources in Nairobi City County (Nairobi City County, 2014).

In response to the growing population, many primary schools especially private have been put up to cater for the growing population but the scenario is different for secondary schools where school establishment is lower (Nairobi City County, 2014). Consequently, secondary schools fall far short of meeting the enrolment

requirements in the County which has led to educational wastage in the form of low transition rate from primary to secondary schools. However, limited studies have been conducted to establish the strategies of addressing the rising demand for secondary school education in Nairobi City County. Without coming up with strategies of addressing the rising demand for secondary school education, this situation will persist resulting to more educational wastages. The income and social inequalities gap will also widen further. This was therefore a study of the strategies of addressing the rising demand for secondary school education in Nairobi City County.

1.3 Purpose of the Study

The purpose of this study was to explore the strategies of addressing the rising demand for secondary school education in Nairobi City County, Kenya.

1.4 Research Objectives

The objectives of the study were to:

(i) Establish the extent to which the existing secondary schools resources have been utilized to address the rising demand for secondary school education in Nairobi City County.

(ii) Establish the extent to which cost of secondary schools have influenced the demand for secondary schools in Nairobi City County.

(iii) Explore the Public Private Partnerships (PPPs) that could be exploited to address the rising demand for secondary school education in Nairobi City County.

(iv) Examine the effectiveness of the existing government initiatives in addressing the rising demand for secondary school education in Nairobi City County.

1.5 Research Questions

(i) To what extent have the existing secondary school resources been utilized to address the rising demand for secondary school education in Nairobi City County?

(ii) To what extent has the cost of secondary schools influenced the demand for secondary school education in Nairobi City County?

(iii) What Public Private Partnerships (PPPs) can be exploited to address the rising demand for secondary school education in Nairobi City County?

(iv) How effective are the existing Government initiatives in addressing the rising demand for secondary school education in Nairobi City County?

1.6 Significance of the Study

The significance of this study lays on the strategies of addressing the rising demand for secondary school education in Nairobi City County, Kenya. Therefore, the findings will be useful in providing educational planners and policy makers with insights on how to address the rising demand for secondary school education. This information will be useful for implementation of policies in provision of secondary education. It was hoped that the Ministry of Education Science and Technology (MoEST) would use the findings of the study in reviewing policies to address the rising demand for secondary school education. Secondly, the study will provide valuable insights to the education administrators and investors mostly affected by the rising demand for secondary school education.

Thirdly, this study will contribute to the growing body of knowledge and literature for studies in demand for secondary education. It will add to the field of education on the strategies of addressing the rising demand for secondary school education in Kenya. Despite distinct studies on demand for secondary education, the strategies of addressing the rising demand for secondary education are scantly studied. The results therefore will contribute to efforts of addressing the rising demand for secondary education to achieve its maximum possible impact.

1.7 Limitations of the study

The schools in Nairobi City County were a small fraction of all schools in the country making the findings to be only specific to the area of the study with no window of generalization. Decisions taken by the respondents on whether to participate in the study or not impacted on the response rate, internal validity and thus limited the researcher to obtain a different response rate than the intended one. Specifically there was a challenge of accessing the education officers in Nairobi City County due to the nature of their work which affected the data collection and the response rate.

1.8 Delimitations of the study

This study confined itself to secondary schools in Nairobi City County. The County experiences the second lowest secondary school participation rate from North Eastern region with a GER of below 30% and NER of below 25% (Republic of Kenya, 2013). Low secondary school enrolment and participation signify high levels

of education wastage and a lot of inefficiencies in the education system which has a regressive effect on equity in education and the future distribution of wealth in the society. The researcher was therefore apt to explore the strategies of addressing the rising demand for secondary school education in Nairobi City County. Further, the County is the capital city of the country with the highest urban population and thus had a higher magnitude of demand for education that is not necessarily similar to the other counties.

The study limited itself to principals, students and education officers. The total number of secondary schools in Nairobi City County was 235 both public and private as indicated by the list of schools from the Ministry of Education. To gather relevant information, the study used questionnaires, interview and observation schedules. The key variables that the study focused on were utilization of resources such as land, finances, time, classrooms, teachers, laboratories, curriculum support materials, furniture, boarding facilities, buildings and transport facilities. The other independent variables were cost of schooling, Public Private Partnerships and Government initiatives. The dependent variable was the rising demand for secondary school education which was explained by waiting lists of students, the number of students in the waiting listand the frequency of admission requests.

1.9 Basic Assumptions of the study

The study assumed that participants involved in the study would do so willingly, provide truthful and give honest opinion to the best of their knowledge. The study

also assumed that samples taken from the principals, students and education officers would be enough to give valid results. The researcher thus assured the respondents anonymity where none of them was required reveal their identity. In addition, confidentiality was assured where the data collected was only to be used for the purpose of the research.

1.10 Operational Definition of Terms

For the purpose of this study, the following terms were defined as follows:

Board of Managements: The highest body in charge of secondary schools.

Cost of secondary school education: Expenses incurred over the secondary education period.

Cost Management: Cost cutting measures that have been put in place in schools.

Day School: Schools with no boarding facilities where learners commute to and fro to school.

Efficiency: Use of available resources to full capacity.

Education Demand: The total number of pupils who have completed primary school and are supposed to progress to secondary schools.

Government Initiatives: Government policies or efforts put in place so as to address demand for secondary school education.

Government Policy: Laws governing admissions, funding and school management.

Income Generating Activities: School engagements that can generate additional money for the school apart from money from fees and government subsidies.

Public Secondary Schools: Post-primary education or institution financed and managed by the government.

Public Private Partnerships (PPPs): Concerted efforts by both the public and private sectors in the provision of education resources.

School Category: Day or boarding schools, single sex or mixed schools.

Strategies: Various methods used to address the secondary education demand.

School Enrollment: The number of registered students in a secondary school.

School Location: This is where a school is situated which is either a slum area or any other area within Nairobi County.

School resources: Physical materials and human personnel in schools.

Utilization of Resources: Engaging the school material and non material assets with an aim of giving access to more students.

1.11 Organization of the Study

The study was organized into five chapters. Chapter one focuses on the background of the study, statement of the problem, purpose of the study, objectives, research questions, significance of the study, limitations and delimitations of the study and the basic assumptions. Chapter two comprises of the literature reviewed which explored the strategies of addressing the rising demand for secondary school education in Nairobi City County, summary of literature review, theoretical and conceptual framework. Chapter three contains the research methodology that was used in the study. It is divided into research design, target population, sample size and sampling procedure, data collection instruments, data collection procedure and

analysis techniques. Chapter four covers data presentation, interpretation and discussions of findings. Chapter five contains the summary of the findings, conclusion, recommendations and suggestions for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section contains the review of the related literature. Review of related literature was guided by the study variables derived from the study objectives. The chapter was structured under the subtopics namely; concept of demand, utilization of resources and demand for secondary schools, cost and demand for secondary schools, Public Private Partnerships and demand for secondary schools, Government initiatives and demand for secondary schools, theoretical framework, conceptual framework, theoretical model, model specification and summary of the related literature.

2.2 Concept of Demand for Education

Economists use the term demand in association with price as one must pay a price in order to obtain goods and services (Nisar, 1988). The demand for education is viewed as the total number of individual who are willing and able to acquire a given type of education at a given time. Agabi (2002) viewed demand for education as the quantitative expression in terms of the total number of persons who have expressed the desire to acquire a given type of education and simultaneously possess the capacity and willingness to pay the cost for it. Agabi (2002) indicates that in the private education sector, the price of education is the costs of education, while the demand for education is viewed as a total number of individual who are willing and able to acquire a given type of education at any given time.

American Institute for Research (AIR), (2003) pointed out that social demand is a major source of pressure for expanding secondary education whereby as primary school enrollment rise, many of the new primary school graduates aspire to continue their education. According to the work done by AIR (2003) who built on IDB work, (2000), in Brazil alone, secondary school demand grows by over half a million entrants each year. The report indicates that according to studies in that country, the most important determinant in the number of years of schooling attained by children, even after controlling for family earnings, is the parental level of education so that demand for secondary schooling could grow exponentially as the educational levels of the general population rises.

The biggest challenge for nearly all African countries in the years to come with respect to secondary education would be expansion and how to satisfy the increasing demand for a limited number of secondary school places (World Bank, 2008a). World Bank (2008b) indicates that the rapid expansion of primary education in African countries after independence resulted in a greater number of primary school leavers, many of whom could no longer find jobs in the modern sector that they had come to expect. The scramble to fill the limited number of secondary school places generated political pressures for expansion. Generous public subsidies increased the demand for secondary school places (World Bank, 2005). According to Mokshein, Ahmad and Macrow (2009), governments are shifting their attention to secondary education as they gradually attain universal primary education and also as a response to the increasing demand for secondary education as it presents serious challenges

and major opportunities in the quest for Education for All (EFA). However, today this demand still exists and the demand greatly surpasses the supply. This situation was witnessed in Kenya after the introduction of Free Primary Education (FPE) in 2003 which led to a massive increase in enrolment in primary schools and has since pressurized the demand for secondary school places (Republic of Kenya, 2012).

Secondary school education not withstanding, the demand for education in all sectors has increased tremendously over the years (MoEST, 2014). The relatively high demand for secondary school level of education is attributed to the ripple effects from FPE and FDSE. Most studies show empirically that both costs and benefits are important determinants of demand while family resources will determine the differential effects of costs and benefits on enrolment decision (Jane, 2009). According to Jane (2009). research in education in Kenya has mainly focused on demand for primary school, returns to education and private sector participation (Deolalikar, 1997), Karmokolias and Maas (1997), Appleton, Bigsten & Manda (1999), Bedi, Kimalu, Manda and Nafula (2004), Mariara andMwabu (2007) and Nafula, Onsomu, Manda and Kimalu (2007). Results from some of the studies indicate that public provision of education in Kenya is inadequate justifying the need for private involvement (Nafula et al, 2007). According to these studies common factors affecting demand for schooling are school fees, household income, population characteristics, religion, parental education and perceived quality of education. Enrolment for the lowest quintile is most responsive to cost of schooling

and is also affected by the level of direct and indirect costs, urban/rural residence and other socio-cultural factors suchas gender.

In a study on determinants of schooling, Jane (2009) found that school demand is highly influenced by school quality. Some of the indicators of school quality include: pupil teacher ratio (PTR), class size, qualified and dedicated teachers, standards of discipline, regular tests and assessments, performance in national exams, facilities such as computers, swimming pool, music and library facilities. Naturally, parents would want to enroll their children in a school they perceive has trained teachers which is demonstrated through performance in the KCSE. However, Alderman et al (2001) pointed out that, school demands are sensitive to school fees, distance and school quality but parental education had the greatest influence.

Cook, (2002) found that, in developed countries the decision for choosing a school is critical because secondary education is a gateway to higher education. The relationship between teachers, schools and parents has an impact on students' attitude and interest in learning. Therefore, it is important that the whole family feels part of the school community. Parents choose between government, private, religious and community schools depending on such factors as small classes, access to Information Communication and Technological (ICT) facilities, sports, theatre, language program, facilities, values and policies on discipline and homework. Some parents further assess how the school will cater for the child's safety and social and

emotional needs, curriculum, transition, co curricular programs as well as school location (Cook, 2002).

Gibbons, Machin and Silva (2006) found that a more competitive school environment leads to better performance which attracts many students to enroll in the school. In Kenya, anotable improvement in KCSE performance has been recorded over the years where the number of candidates scoring C+ and above has increased tremendously (MoEST, 2014). Nafula, Onsomu, Manda and Kimalu, (2007) found that KCSE exam score is a key determinant of demand for secondary schools. The score provides a signal of whether school enrolment yields sufficient human capital. The study found a positive link between the KCSE score and school enrolment, indicating that parents living in districts with higher KCSE scores are more likely to send their children to school. From the study, an increase in the KCSE mean score by one standard deviation (36 points) is associated with a 5% increase in enrolment probability.

A study by private Schools in Australia by Buckingham (2000) found that, when parents are choosing a school for their children, academic performance is seldom the highest priority a situation similar to parents of both public and private schools. Brunello and Rocco (2008) pointed out that private schools may attract students who may find the high standards of public schools too demanding which may force them to offer lower educational standard at a price. Though the studies have indicated that

performance highly attracts students to schools, the environment is also key in attracting school demand.

A study carried out by the African Population Health and Research Centre (APHRC) in 2007 cited four critical factors that affect secondary school demand (APHRC, 2007). These are financing, family networks and household composition, distribution of secondary schools, quality and relevance. Using descriptive statistics, the study found that, secondary school enrolment has a gender dimension where enrolment and access is skewed in favour of boys in many countries south of Sahara. Thus demand for secondary education can be said to be influenced by multiple factors thus can not be attributed to one.

Several factors mainly economic and opportunity costs affect girls more than they affect boys and thus parents tend to favour boys education. Similarly, a study by Huisman and Smit, (2009), used a multilevel analysis to study households and district level determinants of school demand and found that parental decisions regarding their childrens education are influenced by socioeconomic and demographic household characteristics and characteristics of the available educational facilities. The findings from Huisman and Smit, (2009) converges with APHRC, (2007) where demand for secondary education is influenced by more than one factor.

2.3 Review of Empirical Studies on Strategies of Addressing Demand for Secondary Education

This section focuses on review of empirical studies on strategies of addressing demand for secondary education. The issues of concern that were studied were in relation to the utilization of the existing secondary school resources, cost of secondary education, Public Private Partnerships and effectiveness of Government initiatives in addressing the rising demand for secondary school education. Studies related to demand for education and which have a bearing towards enabling more students to enroll in secondary schools have also been reviewed. Theoretical literature was presented on the basis of the study objectives.

2.3.1 Utilization of Existing School Resourcesand Demand for Secondary Education

Educational resources play an important role in facilitating teaching and learning as well as affording students' places in schools (McAliney, 2009). Hewett, Mensch, Chimombo, Ghuman, Lloyd and Gregory (2008) indicated that education resources include both book and non-book materials, and any other learning environment that provides a learning experience to a learner. Fredriksson (2004) affirmed that material resources such as textbooks, learning materials, classrooms, libraries, school facilities and human resource influence teaching and learning which impacts on learner achievement. Educational resources are important since the goal of any educational institution is driven by their adequate supply and utilization (Akisanya, 2010). Fredriksson (2004) indicated that it is difficult for teachers to teach when they

do not have the necessary resources since resources correlate positively with literacy achievement. Thus the availability of resources in a school enhances demand for all forms of education.

According to Kumbhaker and Lovell (2000), an efficient education system can be equated an efficient production system which uses fewer inputs to yield a given output. A number of researchers have studied the relationship between resource allocation and the degree to which they contribute to optimal outcomes (Kirjavainen and Loikkanen 1998, Grosskopf and Valdmanis 1987, Evans et al 2000, Ruggiero 1998). These studies reveal considerable inefficiency in the provision and use of educational resources. A study by World Bank (2008) on textbooks and school library provision in secondary education in Sub-Sahara Africa revealed that they are not only inadequate but unevenly distributed among rural and urban schools. Grosskopf et al (1997) indicated that education spending in most countries could be reduced by up to 30% yet still achieve the same outcomes, if the schools were operated efficiently.

Verspoor and Bregman (2008) found that in Africa, enrollment growth had outpaced the increase in resources resulting to shortages of instructional materials and supplies, empty libraries and multiple uses of facilities with most countries allocating 50% or more of recurrent expenditure to primary schooling. Further indication was that, higher education absorbs 15-20% leaving some 20-25% for secondary education from which many countries have spread the same resources

over larger number of students, attempted to mobilize private funding or most often did both. Verspoor and Bregman (2008) noted that despite the scarce education resources across the African Countries, they are inefficiently used which is demonstrated by large variations in per student cost.

An evaluation report by Kenya Institute of Curriculum Development (KICD, 2014), found that most schools had not fully exploited the gains made from increased financial and material investment due to the challenge of understaffing. The study found that in such schools, the teacher/pupil ratio was below the recommended ratio of 1:45 while in some schools, classes had more than 60 learners which hampered the teachers' effectiveness. According to the Kenya Institute of Education report, in most of the schools visited, there was underutilization of the resource materials with only a few schools registering optimal utilization which was a major concern since efficient use of education materials leads to improved performance and consequently the school demand.

Russell (2008) maintains that the input by teachers is critical to the quality of education outcomes and without adequate number of teachers; the instructional materials by themselves are not effective. Russell further asserts that, teachers are an essential part of curriculum implementation and there is always a need for sustained provision of teachers for efficient utilization of resources and sustained school demand. The availability of textbooks and other instructional materials hasan effect

of improving students' achievement which also enhances the school demand (IPAR, 2006).

Inadequacy of educational resources has also been thought to have an effect on use of the available resources. This was revealed after the summative evaluation of the school curriculum that found that primary and secondary schools faced challenges in using the available resources effectively to achieve learning outcomes mainly because of their inadequacy (KIE, 2010). A similar concern was raised by the needs assessment study for secondary school curriculum reform that indicated that most of the schools were experiencing challenges in provision of resources and in effectiveness of use (KICD, 2016). According to the needs assessment study, disparities existed in resource allocation in different schools which could likely result to education disparities and inequalities. Thus availability of resources and their effective use was found to be directly related.

Bauer, Brust and Hubbert (2002), found that investment in other resources such as swimming pool or music room apart from classrooms amenities contribute directly to the academic learning environment. The study also indicated that well stocked libraries, well supplied and maintained classrooms, laboratories including computer labs and well maintained grounds are other resources that may influence the learning environment. The improved resource investment impacts on enrollment and also enhances the school demand.

Sosale (2000) had observed that participation of private schools in provision of secondary education improves resource utilization, increases total resources available and provides better linkage of human capital development to labour market needs. The study further indicated that while the participation of the private sector in education is usually expected to narrow the demand gap, enrolment into the schools can be affected by school characteristics such as high cost of schooling both direct and indirect, low quality of education, socio-cultural interferences and learner's individual characteristics.

Hewett et al (2008), asserted that adequate provision and utilization of the education resources impacts positively on the quality of education. This demonstrated that there exists a positive correlation between availability of educational resources, utilization and educational achievements. However, the study failed to indicate the relationship between educational resources and the demand for a school. In a study to determine differential distribution and utilization of human resources on students' performance in state owned and federal schools, Akinsanya (2010), established that both material and human resources were practically inadequate and where they were adequate they were not well utilized in both state owned and federal schools. The study also found that physical facilities like laboratories and libraries were inadequate which affected students' performance.

According to the work done by Gitogo (2016) who built on the work of Nzomo, Karuki and Gnantai (2011), availability of learning and instructional materials, and

teacher/pupil ratios have been singled out as the most important school factors that influence academic achievement among learners in Kenya (Gitogo 2016). McAliney (2009), study on performance improvement for effective teaching and learning process found that quality physical and human resources are required and their efficient use is critical. The study indicated that lack and ineffective use of school resources was detrimental in the teaching and learning process.

APHRC (2013), echoed the importance of education resources by pointing out that textbooks are an important teaching and learning material and their utilization is crucial in explaining the reason why all public schools in Kenya receive financial allocation from the government to buy textbooks. The recommended textbook ratio in secondary schools is 1:2 with an ultimate aim of achieving a ratio of 1:1 in all main subjects including Mathematics and English. APHRC (2013) found that low cost schools that receive support for textbooks from nongovernmental stakeholders had the best textbook book ratio of 1:1. However, associations between students mean scores and textbook pupil ratio was found to be positive though not statistically significant after controlling for school teachers and pupils characteristics. Verspoor (2008), found a positive relationship to exist between textbooks and student's choice of a school. A positive effect of textbooks on student learning outcomes was also revealed. APHRC affirmed that without an adequate supply of textbooks, students are unlikely to achieve expected levels of learning thus enrolment may be affected.

Deolikar (1997), found inadequacy in school equipment to be a factor adversely affecting the quality of education in Kenya. The study found a direct relationship between school equipment and enrolment. The study indicated that a well equipped school is more likely to attract more learners than a poorly equipped one. Walton and Ruck (1975), also found a direct relationship existed between resources and school demand. Both human and physical resources were found to be vital in teaching and learning though physical resources should compliment but not replace the teacher. The study concluded that availability of resources in a school environment and their effective use attracts more pupils to a school leading to increased enrolment while the opposite is also true.

Teachers are the most important element in delivering quality education through effective use of the available resources (Greyling, 2009). When making schooling choices, one must pay attention to teachers and their capacity in utilization of educational resources which highly impacts on performance (Hanushek and Rivkin, 2004). This is because teachers consume the largest portion of school budget and it is also perceived that teachers are the most important determinant of school quality. However, Hanushek and Rivkin (2004), had a divergent view that research does not find a systematic link between teacher characteristics and student outcomes. This was supported by Liu and Linggi (2009), who pointed out that the most direct and effective way of raising instructional quality is to improve teachers' knowledge and pedagogical skills in use of education materials through in-service, and to ensure that

the organizational conditions under which teachers work promote effective instruction and focus on students' learning outcomes.

Literature on the effects of average class size and pupil teacher ratio is not conclusive as indicated by Mosteller (1995) in the STAR project in the USA which found that students in smaller class sizes of 13 to 17 pupils in early grades had much better test scores than the students who were in larger class sizes of 22 to 25. Contrary, a study of 72 schools in Kenya showed that students in large class sizes scored significantly higher than those in smaller classes (Ngware, Mutisya and Kodzi, 2010). This was explained by the school good performance history that then attracted more pupils. Hanusheck (1999), argued that reduction in class size does no lead in learning gains for student but instead it benefits trade unions due to the extra teachers hired. APHRC (2013) found no statistically significant association between large average class sizes, higher pupil teacher ratio and school performance. Thus the relationship between performance and class size can be said to vary in different situations.

In a study to compare public and private secondary schools in Pakistan, Muhammed (2012) found that, public schools have better infrastructure, spacious classes, more qualified staff and people oriented management styles as compared to private schools. The existence of resource disparities between public and private schools where public schools have better large and spacious buildings as compared to the private schools was attributed to the high cost of land and construction of buildings.

Public schools enjoys these facilities on behalf of the budget allocation by the government where all physical facilities are provided by the government itself while in private sector, owners of the schools individually cannot provide these facilities up to that extent. Public schools have an edge over private school as all facilities including building, hall, library, furniture and utilities like electricity, water supply, and gas etc are provided and financed by government.

According to the study, public schools enroll the majority of students belonging to middle and lower middle class families. On the other hand, since private schools are profit-earning institutions they only provide education to those who are financially able. Lack of finances in private schools was found to be a major challenge in provision of resources. The study recommended that Government should bind the private sector to provide infrastructure and facilities to the students similar to the public schools which would consequently enhance the school demand.

A study carried out by Lewin (2003) found that financial resources are a challenge in private secondary schools. The study noted that though in most developing countries secondary education is publicly financed, donor support has favored primary education and as a result, secondary education has gotten squeezed. The study further noted that the differences in investments in secondary education impact on demand making secondary education an area of needed investment. McAliney (2009) noted that governance and management are critical factors that influence the use of school resources that impacts on the quality of education offered in a

secondary school. The study indicated that an improved institutional environment demands better governance, and effective management to deliver on the desired outcomes. Thus, transforming the way secondary school education is managed is thus essential to ensuring broad access to secondary education of acceptable quality.

In Anglophone countries, secondary schools operate with considerable autonomy, run by Boards of Governors (BoGs) or appointed trustees (IBE UNESCO, 2008). In addition, Parent-Teacher Associations (PTAs) contribute resources and are involved in the allocation of resources so as to ensure efficiency of use. To further ensure efficiency in use of resources, GoK, (2002) indicates that many secondary schools have religious affiliations, and the role of church authorities in local management structures remains important.

According to the Republic of Kenya (2002), in Kenya, BoGs were created to establish a more direct link between the MoE and secondary schools. They have the main administrative and financial management authority for the school. They determine the amount of school levies using government guidelines, ensure sound financial management, mobilize resources, set priorities for spending, and ensure that all expenditures are authorized. In addition, they oversee school facilities and monitor school performance which enhances efficiency in schools. To ensure further efficiency in use of resources, each secondary school in Kenya also has a PTA, which monitors school performance, raises funds to supplement the school budget, and participates in making decisions on the use of these funds. Katavi and van der Westhuizen (1997) say that secondary school leaders, faced with continuous

financial and managerial problems, typically focus on resource management issues for sustainable school demand (Katavi and Westhuizen, 1997).

The study found that school principals ranked school fees and money matters as their principal concerns as they are a guide in resource acquisition and utilization (Katavi and Westhuizen, 1997). The study further indicated that the resources available dictate the school enrolmentand thus school demand. According to Greyling (2009), new principals should receive training on efficiency of use of resources and quality of outcomes so as to equip them for the new responsibilities before taking up a post.

The sources of income can only meet educational costs through efficiency in utilization of the resources since management of a school evolve around finances (Okumbe, 1998). Consequently, proper use of school funds that have been allocated to meet the various activities of the school program should be enhanced (Chweya, 2007). A study instituted by Orwa, (1986) showed inefficiencies in the management of school finance resulting to frequent student unrest due to poor diet, inadequate teaching staff and facilities like textbooks. Similar results were obtained by Barasa (2006) who found that financial mismanagement in secondary schools in Kenya led to strikes, poor food, lack of learning facilities, school fees hikes and inadequate non-teaching staff.

2.3.2 Cost of Education and Demand for Secondary Education

Financing of secondary education continues to be a challenge to the government, parents and communities at large and as such, identifying sustainable financing

options that maximize on cost-effectiveness in resource utilization is therefore critical (Ngware, Onsomua and Muthaka, 2007). According to Jane (2009), cost is a major determinant of school demand as this is the direct price for sending the child to school. However, the cost of schooling a child is not the same for every family and has been found to hinder enrolment of children coming from financially challenged backgrounds. Both the government and individuals have to bear a cost burden so as to offer and access education (Edame, 2008). This is supported by Lewin (2003) who found that the cost of education is not only borne by the government, but also by parents whether indirectly through taxes or directly through personal expenditure to support the day to day schooling activities. Consequently, parents have to meet a number of costs in the form of school fees, school uniform, books and equipment, pocket money for meals, school trips and other charges in order to educate their children.

According to Owolabi (2006), educational costs are all forms of resources used up in the process of providing education for an individual or for a group of individuals. The cost consists of both direct and indirect costs where direct cost is the monetary value of all tangible and intangible resources invested in education and the real cost is the alternative opportunities that have to be sacrificed or forgone in the process of providing education services. Mbipon (2010) indicate that private or personal costs are the responsibility of parents and guardians to support learners in the process of undergoing formal education. These consist of expenditures on tuition fees, clothes, books, transportation and accommodation. The decision to go to school is personally

costly to the student as it is an opportunity cost where work and contribution to family income earnings are forgone.

Fish and Paraguaya (2006), points out that schools have traditionally funded their activities from three key sources namely charging Fees, Government Grants and the Altruism of others i.e. Religious groups, NGOs, wealthy individuals etc. Fish and Paraguaya further indicate that apart from charging fees, government grants and the altruism of others, there is a fourth source namely schools generating their own income. A UNESCO Global Monitoring Report (2012), pointed out that despite the great need and demand for education in developing countries, the wide spread lack of its availability suggests that the sources of education funding are not sufficient.

Hoenack (1997) used a simple linear regression model to analyze the factors that affect demand for education in catholic schools in United States of America (USA). This study found that the cost of educating a student was a major factor as far as demand is concerned. Hoenack found a positive and statistically significant relationship existed for cost, family income, religion, subsidies, school academic performance and school characteristics. Higher cost of educating a student had a negative effect on the demand for education. Efanga & Gomiluk (2014) conducted a study in Nigeria to test the relationship between the component of educational costs and the demand for privatesecondary education. The findings showed that there was a statistically significant relationship between educational cost and the demand for private secondary education in Nigeria. The study found that parents in Nigeria are

always willing to pay huge fees and bear whatever cost in order that their children could receive high quality education.

In a study conducted by Ndakor (2009) on the relationship between direct cost and demand for private secondary education in Nigeria, it was found that a relationship existed between direct costs and demand for private secondary education in urban areas of Rivers State. This finding was attributed to loss of confidence in public secondary schools by parents due to frequent strike by teachers in public schools. A study carried out in Kenya by Duflo, Pascaline and Kremer (2010) and in Malawi by Baird and Berk (2010) found that reducing the fee barriers (including ancillary fees such as uniforms) could boost female enrollment (relative to male enrollment) and possibly reduce the incidence of early marriage and pregnancy among girls. A part from direct costs associated with education; parental education, income and household structure also influences school enrollment and demand (Glick and Sahn, 2000).

Verspoor and Bregman (2008) found that the cost of secondary education per student in Sub Saharan African countries is three to six times that of primary per student cost a much higher multiple than in most middle income countries. The study indicated that more than 13% of the secondary students in SSA are enrolled in private for profit or non-profit- institutions. According to the study, the private cost of public schooling comprising tuition and boarding fees, contributions to school management committees as well incurring cost on learning materials, school supplies, private

tuition, transportation and clothing is often significant. As a result, households are thus shouldering a large share 30-60% of the cost of secondary schooling which exerts a heavy financial burden, even for middle income families.

The situation in Africa is similar to that of USA as established by Holla and Kremer (2008) who found that consumers are sensitive to the cost of education and that fees remain a major barrier for many families. Sosale (2000) carried out a study in China and found that rural areas attract few students to private schools though this is where over 70 percent of population resides. This was attributed to the fact that rural wages are about a half of those in urban areas. The income differential lowers the demand for the private schools in rural areas and widens the enrolment gap (Sosale, 2000).

According UNESCO (2009), parents' decision to send their children to school results from a trade-off between the cost to them of schooling their children (direct cost and opportunity cost), and the benefits they can reap from it. The higher the cost, the greater the expected benefits must be for parents to put and/or keep their children in school. According to APHRC (2013), private schools charges high amount of fees of which about three quarters of the charges goes to tuition with a fifth going to school meals. These costs impacts on school demand as they have to be borne by the parents. Banerjee (2004) found that demand for educations at all levels depend on costs, the ability and willingness of a family to pay these costs. The study indicated that articulation of demand in the market place depends on a variety of factors such as access to credit, parental expectations about how much they will benefit from

their children's additional earnings, the nature of the "contract" within the family more generally, and the community norms about education.

APHRC (2007) found that secondary education exerts a heavy financial burden on both government and the households in Kenya. This education burden in the form of cost is usually a major obstacle to secondary school enrolments and minimizes the chances of children enrolling in secondary schools. The study also indicated that in Africa, in poor households, especially where parents/guardians lack a source of income, the chances of enrolling in a secondary school are also slim but may increase where there are strong family support networks.

Jane (2009) found aninverse relationship to exist between school choice and school cost where as school fees increases, a parent is less likely to send the child to school.Jane (2009) furtheraffirms that parental choices concerning school enrolment is influenced by cost and benefits associated with education. The studies found that an increase in the expected returns from attending school (directly or through provision of better school inputs) is likely to increase school enrolment. However, an increase in school fees and in the opportunity cost of attending school is likely to reduce enrolment and thus the expected gains both direct and indirect.

A study by Cheruiyot, (2012) on strategies adopted by secondary school principal to address the rising cost of education in Nakuru County indicated that expanding and constructing day schools can help in cost reduction and attract more students. This

was attributed to the annual average expenditure per student in day schools which was 88 percent of the average expenditure for all categories of secondary schools. The study suggested that direct financial and material support should be awarded to more day schools to enhance their effectiveness and improve their overall quality and performance. The study further recommended that all schools should be enforcedto have at least two or three streams. Similarly, Dibski, (2003) pointed out that setting up of boarding schools in densely populated areas should be discouraged as they are expensive and thus a constrain to demand.

Lewin (2006) suggested that, the Government could reduce secondary unit costs targeting an upper limit of optimal class size and promote the efficient use of both human and physical resources. The study further pointed out that this option should be accompanied by cost reduction measures for parents towards making secondary education affordable. The study established that schools did not have enough teaching and learning materials and thus recommended school administrators to encourage use of locally available resources and improvise those materials that they cannot afford to purchase.

Malenya (2009), on a his position paper on Free Secondary Education Agenda indicated that the government should introduce effective policies in the administration of the bursary fund to mainly target the poor. The study further suggested introduction of a better method of financing education that would reduce dropout rates such as provision of selective education vouchers that would mainly

target the poor and the marginalized. In managing education cost, Miruka, (2009) found that there was need for the introduction of work based programmes in secondary schools to enable the economically disadvantaged students to raise their school fees. Further, the study indicated that school administrators should be encouraged to start income generating activities and encourage both parents and students to fully participate in subsidizing the costs of schooling.

2.3.3 Public Private Partnerships (PPPs) and Demand for Secondary Education

Public Private Partnerships refers to the relationships formed between the private sector and public bodies often with the aim of introducing private sector resources and/or expertise in order to help provide and deliver public sector assets and services (OECD, 2008). The main rationale for developing public private partnerships (PPPs) in education is to maximize the potential for expanding equitable access to schooling and for improving education outcomes, especially for marginalized groups (Republic of Kenya, 2012). Patrinos (2000) points out that the concept of Public Private Partnerships (PPPs) recognizes the existence of alternative options of providing education. This result from increasing and competing demands on the state, constrained resource environments, diverse and differential demand for educational services and the consequent need for the private sector to share a public responsibility of financing and/or providing education.

Sosale (2000) indicates that public sector schools in most countries have limited resources to maintain school infrastructure and offer basic amenities for an

appropriate learning environment. Apart from the problem of responding to excess and differentiated demand, maintaining an appropriate quality of education is also a challenge for the public sector (Patrinos, 2000). According to Verspoor and Bregman (2008), in Sub Saharan African countries, many forms of education public-private partnerships are developing to help students overcome the financial obstacles of enrolling in secondary education. Some of these public-private partnerships are fee waivers in public schools, government scholarships or vouchers that students can use to attend private schools and free textbooks. Other strategies are designed to expand the capacity of private providers to enroll students by providing loans for the construction of additional classrooms, payment of the salaries of teachers in private schools or grants-in-aid to private providers (often churches).

Patrinos (2000) indicates that, given market failures and equity concerns, the public sector remains an important player in providing education services, but availing high quality education for all in developing countries requires innovative programs and initiatives in addition to public resources and leadership. Lewin and Caillods (2001) opines that, inviting external assistance is an option for increasing the resources available to stimulate secondary education in developing countries with the lowest GER and the fewest prospects of financing expansion domestically. The study further affirms that areas in which such assistance may be most effective are capital investment in buildings and equipment; support for curriculum development in strategic areas that include mathematics, science and technology,information and

communication technology and language, productionand distribution of learning materials, teacher education, assessment and school management.

Patrinos (2000) found that PPPs can facilitate service delivery and lead to additional financing for the education sector as well as expand equitable access and improve learning outcomes. A number of governments contract with the private sector to provide some of the services involved in producing education, such as teacher training programs, managementservices, or curriculum designs. Some governments' contract private organizations to manage and operate a public school, while others contracts them to provide education to a specific group of students by offering subsidies, contracts or vouchers. In the most common type of PPP, the Government provides subsidies to existing private schools or fund student places. In the Netherlands, all education is publicly financed, including private schools, which enroll more than two-thirds of all students.

In Chile the private sector plays an important role in providing education, but the government only subsidizes some of the students who attend private schools. Gambia have different types of nonpublic schools, including government-subsidized independent schools and in Lesotho there are partially subsidized mission or religious schools while Kenya has at least partially subsidized community-organized schools. Pakistan has public schools that are supported financially by the private sector (Patrinos, 2000).

Kremer and Holla, (2009) indicates that many countries have scholarships for students who either perform well or simply stick it out at school. According to the study, in Bangladesh for example, the female stipend program was created to promote enrollment and retention of girls in secondary school and, indirectly, to increase girls' age at marriage and thus reduce fertility. The government also sets rules about who can go to which school and to which classroom within the school through its policies on admissions and tracking.

According to Patrinos, Osorio and Juliana, (2009), some form of Public Private Partnerships (PPPs) in education are use of public funding through vouchers for private school participation and are prevalent in Australia, Bangladesh, Belize, Canada, France, Japan, Republic of Korea, Poland, and the United Kingdom. The voucher programs have improved access to schools especially for children from financially challenged backgrounds. World Bank (2008) affirms that public-private partnerships are essential to mobilize the necessary resources, nurture community support and ensure that secondary education responds effectively to the expectations of local communities and national leaders.

Secondary school education needs in Kenya are on the increase but the expansion, financing and resource requirements continues to be the greatest challenge to the government and other stakeholders (Republic of Kenya, 2014). The report indicates that enrolment in primary schools has continued to grow but at the same time more and more primary school graduates continues to miss secondary school placement a

situation attributed to a high demand for secondary schools than the supply.

Kande (2007) pointed out that consistent increase in enrolment in private secondary schools is evidence enough that demand for secondary education far outstrip supply and with the introduction of Free Primary Education (FPE) in 2003 and Free Day Secondary Education (FDSE) in 2008, this will even rise to magnitude levels. The study therefore suggests that there is greater need for the Government to collaborate with the private sector to expand the existing places to improve access to secondary education in Kenya. APHRC (2013), indicated that the government should explore public private partnerships in education service delivery to ensure access to quality education for all. The study emphasized that in particular the government may need to consider stepping up support to formal private and low cost schools serving marginalized communities as they complement government effort of taking schools closer to the children.

Sakari (2013) noted that though there was intense pressure from the expanded pool of primary school leavers occasioned by the FPE, there were no special additional resources to be injected into the education system and thus the need for radical reforms to address expansion, financing and resource requirements in secondary education.The study suggested that there was need to explore and strengthen alternative financing options for secondary education such as public-private partnerships.

Kivuitu (2005) organizations through corporate social responsibility (CSR) have partnered with schools to provide resources and improve their environment. Kenya Airways (KQ) through Corporate Social Responsibility helped in supporting the renovations of 14 classrooms and administration block of Farasi Lane Primary School located in Lower Kabete, Nairobi (Sakari, 2013). In addition, Kenya Airways also helped in replacing windows and doors, painting and plastering of walls,construction of new floors, painting the entire school and the technical team donated used furniture to the school. Further, Kenya Airways also commissioned a secondary school project in Kisii town as part of its Corporate Social Responsibility.

According to Kenya Airways CSR (2008), Kenya Airways also fully renovated classrooms, administrative block and staffroom and installed a gate to improve security at a cost of Kshs 2 million for Riobara PAG Secondary School in a bid to improve learning facilities for about 250 students and staff. Sakari (2013) further indicates that in 2007, Telkom Kenya in her pursuit of Social Responsibility supported the Good Neighbors Foundation, a programme by State House GirlsSchool parents and students to carter for the needy students in the school. In Kenya, Kenol/Kobil (a multi-national oil corporation) engages in a number of long-term corporate social responsibility projects. These include the long-term rehabilitation and capacity-building programme for Mama Ngina Children's Home,

and the Kenol Scholarship Fund that was set aside to enable bright children from underprivileged families to acquire quality education. The company has since been offering employment opportunities for bright graduates of its CSR projects.

In 2010, the Equity Group Foundation (of Equity Bank) under its corporate responsibility programme partnered with the MasterCard Foundation to launch a 9-year Shs.4 billion comprehensive secondary school education fund to assist academically gifted students from poor backgrounds to pursue secondary education. In 2011, the programme received support from UKaid, the Wings to Fly programme, which extended scholarships to 1,200 students who performed well in the 2010 K.C.P.E but who come from poor backgrounds. The Wings to Fly programme hopes to reach 5,600 deserving children in the next 9 years (Sakari, 2013). In order to connect and bond with the local communities as well as create awareness of its brand through CSR, the management of the Bank of Africa initiated CSR activities in 2010. The initiative witnessed the bank donate text books to the Sacred Heart School for the needy based at the Baba Dogo Catholic Church, Ruaraka in Nairobi among other CSR activities (Bank of Africa, 2011).

The Co-operative Bank exercises its social responsibility through its Co-operative Bank Foundation. The current flagship project of the Foundation is an education scholarship scheme for bright but less endowed children who are facing difficulties in paying school fees for secondary education. The beneficiaries of the scholarship are selected every year from the eight provinces of the country, and enjoy a full 4-year secondary education scholarship. The Scholarship Program began with the Form 1 class of 2007. As at April 2011, 1,512 children from all over Kenya have benefited. Sakari (2013) points out that this program will continue to enable children from financially challenged background to access education and achieve their full

potential.

A study by Makori (2006) recommends two Public Private Partnership options namely cross subsidization and partnership. The study indicates that under cross subsidization and partnership, high performing government boarding schools could consider offering a day stream in which the parents would pay above the recommended government rates or a higher fee for boarding students in private streams. The study further suggests that the surplus income could then be placed in a fund that could be used to subsidize places for more needy students. The study also recommends that public primary schools could outsource the use of their facilities in the morning to the private sector for provision of secondary education in the country that could help to alleviate both supply and demand side constraints.

The Government of Kenya recognizes the role of Public Private Partnerships in mobilization of resources through the Public Private Partnerships Act No. 15 of 2015 (Republic of Kenya, 2015b). The Act provides a platform where the public and private join hands to provide resources for sectors like education.

2.3.4 Governmentinitiativesand Demand for Secondary Education

Government policies influence the demand for schooling either negatively or positively. Banerjee (2004) found that policies in many countries regarding building of schools, capacity building, curriculum in place, learning and fees, and the overall

system of managing schools rests on Government and influences private provider decisions to invest in schools.

According to Bauer et al, (2002), strong management skills are key ingredients in running a school. The managers should be approachable and inspiring and their passion should be contagious. The manager should insist on absolute quality and should be detail oriented. A good manager should also be surrounded by competent management team committed to excellence.Information and Communication Technology (ICT) has the potential to play a powerful and significant role in access, equity, relevance and inclusiveness in education (Scheuermann and Pedro, 2009). Information Communication Technologies (ICTs) for teaching and learning are technological tools in form of hardware and software that help communicate, develop, disseminate, store and manage information. The technological gadgets and software include computers, the internet, radios, televisions and mobile telephony.

According to MoE (2013), computers, laptops, internet, television and mobile phones are some of the ICT tools used in education to enhance the teaching and learning process. ICT plays a crucial role as learning resources and enhance demand for education as it improves access. It helps in preparing students to acquire skills, competencies and social skills that are fundamental for competing in the emerging global "knowledge" economy (National ICT Strategy, 2006). Its benefits in education include enhanced understanding of complex and abstract concepts, enhanced performance in education out comes, increased access to information and

training and facilitating development of essential skills for knowledge based work if embedded within the learning context.

A school can either be a single sex or a mixed school and can also be a day, boarding or both day and boarding. A school can also be public or private. In Kenya there exist gender disparities with girls being mostly affected. A study carried out by UNESCO (2006) found out that availability of girl's school promotes access to girl education and vice versa for boys' school. The study results found that availing more girls' schools narrows enrolment gaps. Gender mix in schools is a major determinant of school choice. Households have to critically analyze the effect of enrolling their children in one and not the other. Holding all other factors constant, all girls and all-boys secondary schools attract more enrolments than mixed schools (Sosale, 2000).

Ewing, Schroeer and Green, (2004) found that the distance of a school from home have a significant effect on school enrolment. Large schools which are popular may draw children from larger areas especially those with boarding facilities and thereby impact positively on enrolment. Day schools usually draw children from the neighbourhood and cost less thus also impact positively on school demand. The choice of whether to attend a boarding or a day school is highly dependent on distance to school among other factors. Parents cited long distance as a primary barrier to children walking or biking to school. The location of a school from home is thus a very key determinant of student's enrolment because as it pertains to whether it is accessible and also whether the environment is secure for movement of

children. The study found that the costs associated with boarding schools are higher than that of day schools where a parent has to make serious considerations when enrolling a child.

According to Coleman (1992), private schools provide better cognitive outcomes than do public schools. When family background factors that predict achievements are controlled, student in both Catholic and other private schools are shown to achieve a higher level than students in public schools while private schools provide a safer, more disciplined and ordered environment than do public schools. In addition, private schools are more successful in creating an interest in learning than are public schools as well as encouraging interests in higher education and lead more of their students to attend college than do public schools with comparable students. According to Coleman, private schools are smaller and thus bring about greater degree of participation in sports and other activities than do public schools and have smaller class sizes and thus allow teachers and students to have greater contact. The other private schools have sharply lower student-teacher ratio than the public schools while Catholic schools have slightly higher ratios.

Buckingham (2000) indicates that parents do not choose schools for their children exclusively on the basis of academic performance but instead they seek an environment in which their children can develop to the full extent of their capabilities including but not confined to, their academic abilities. Studies by Ngware, Oketch and Ezeh (2008) and Jane (2009) indicated that the non-enrolment

in school is not influenced by the child's gender. However, the studies found that there is a high probability of a male child being enrolled in school than a female child which concurs with the earlier mentioned studies. Being male increases the probability of attending school by approximately 3%. If the proportion of boys increased by 1 percent, then the probability of enrolling in a private school increases by one percent relative to girls.

From the studies it is evident that the school category will either encourage or discourage demand for education. While private schools avail more school places, the boarding schools may restrict demand to accommodation facilities which discourages demand. Day schools may offer more opportunities for education at a lesser cost as teachers, instructional materials and classrooms are majorly the key requirements.

2.4 Summary of literature review

The literature reviewed has demonstrated that demand for secondary school education is high and therefore there is need to explore strategies to address the rising demand. This is because the government resources to meet the ever growing education demand are constrained. From the literature reviewed, research on demand for schooling in Kenya has also received some attention (Deolalikar 1997), Bedi (2004) and Mariara & Mwabu, (2007). However, the literature reviewed for Kenya, has majorly utilized secondary data from Welfare Monitoring Surveys (WMS). From the literature reviewed, studies that have utilized primary data are scanty and have

mainly focused on determinants of enrolment. Few studies have addressed the other strategies of addressing the rising demand for secondary education. Most of the studies have concentrated on committing more government resources as a means of expanding secondary education though they are diminishing. Though the literature have also demonstrated that there are various demand variables such as school resources, school fees, partnerships and government initiatives that can influence students demand for a school, the studies do not demonstrate their extent of influence. In their study, Mariara and Mwabu (2007) focused on determinants of enrolment and education using secondary data from Welfare Monitoring Survey but did not estimate the likelihood of a student chosen at random either demanding a public or a private school. The desire for this study was to fill these gaps by exploring the strategies of addressing the rising demand for secondary school education in Nairobi City County.

2.5 Theoretical Framework

This study is rooted on the Utility Theory, which provides a methodological framework of alternative choices made by individuals. The theory applied stems from a utility maximization function adapted from Gertler and Glewwe, (1990) and Alderman and Paterno, (2001), since the choices made by parents are pegged on expected future gains. The gains are the education human capital development of the child and utility derived from their own consumption of goods. The theory assumes that any decision is made on the basis of utility maximization principle, according to which the best choice is the one that provides the highest utility to the decision

maker. The theory is often used to explain the behaviour of individual consumers who are also the decision makers. In this context parents are the decision makers hence will choose the schooling option from which they will derive the highest utility. The choice for non-schooling may therefore be an indication that, the advantages of sending the child to school are outweighed by the disadvantages (Gertler & Glewwe, 1990). In addition, a parent will enroll a child in school for another year if the expected benefits are greater than associated costs.

As general consumers, parents are assumed to derive utility from consumption of goods and services as well as the education human capital of their children. Given options to choose from, parents are expected to choose that which they will derive the highest utility. Parents initially are faced with two options. To keep the child at home or to send the child to school. Once they have decided to send the child to school, they further make a choice between enrolling the child in a public school or in a private school. Once a decision has been made,the parents seek admission in the particular schoolof choice where demand is based on frequency of admission requests, students' waiting list and number of students in the waiting list. The choices will depend on school resources, cost, existence of partnerships and government initiatives. Whichever choice the parents decide on it is assumed that the end result is a net gain.

2.6 Theoretical Model

This study is rooted on the economic theories, which provide a methodological framework of school enrolment. The theories assume that a consumers will always aim at maximizing his/her utility and a seller his/her profit. However, the forces of demand and supply will always come into play to ensure that equilibrium is attained. The forces of demand and supply include costs (direct and indirect) and income. The theory is often used to explain the behaviour of individual consumers who are also the decision makers. In this context, parents are the decision makers but the demand and supply factors will influence the decision being made. The availability of private secondary schools is an alternative that increases the enrolment choice (Hoenack, 1997). The econometric model applied stems from an economic function adapted from Blaug & Mace, (1977) and Hoenack, (1997), since the decision made will determine both future individual and social benefits. The economic function thereof may be represented as:

$DD_{sec} = DD_{sec}$ *(R, C, PPPs,Gs), where*

DD_{sec} – *Demand for secondary Education*

R – Resources

C– Cost

PPPs– *Public Private Partnerships*

Gs – *Government Initiatives*

2.7 Conceptual Framework on Strategies of Addressing Demand for Secondary Education

From literature review and theoretical perspectives discussed above,a conceptual framework was developed to show the relationships among the study variables as shown in Figure 2.1.

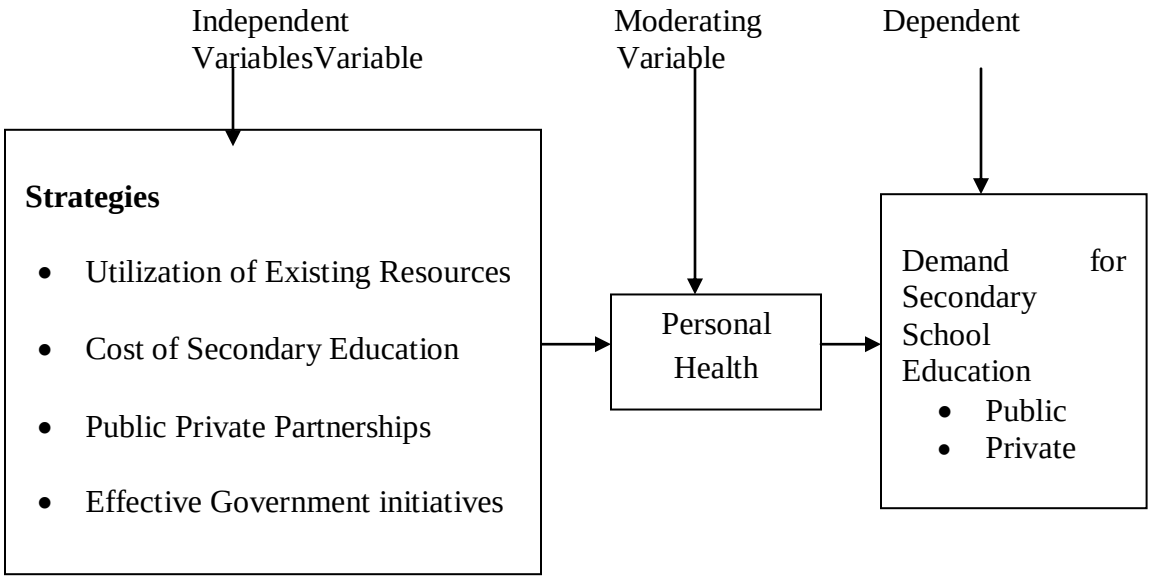

Figure 2.1: Conceptual Framework

Figure 2.1 represents a structure in which demand is addressed and where all the components find coherence. The rising demand for secondary school educations is largely dependent on the utilization of the existing secondary school resources, cost of secondary education, Public Private Partnerships and effective Government initiatives. Given the various determining factors, a household will either seek admission of their child in a public or a private secondary school. Due to the rising demand for secondary school education, admission in any school is never guaranteed. As a result, enrolments in secondary schools is perceived to be influenced by effective utilization of the existing secondary school resources, cost of education,

Public Private Partnerships and effectiveness of the existing Government initiatives. The cost of the school determines the affordability of the school while effective utilization of resources determines the number of students who can be absorbed in a school as well as the quality of education offered which is reflected in school performance. Public Private Partnerships enables schools to mobilize resources for expansion so as to give opportunities to more students as well as enabling financially challenged students to access and remain in school. Finally, effective Government initiatives will ensure that all the students who need and deserve to be in school are absorbed.

The dependent variable in this study therefore was the rising demand for secondary school education which was a function of the utilization of the existing secondary school resources, cost of secondary education. Public Private Partnerships and effective Government initiatives. The rising demand for secondary school education can be achieved using the four strategies.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section presents the research methodology that was used to conduct the study. It covers the study locale, research design, target population, sample size and sampling procedure, research instruments, pilot study, validity of instruments, reliability of instruments, data collection procedure, data analysis techniques and ethical considerations.

3.2 Research Design

This study adopted a descriptive survey design. Descriptive survey design was selected for this study because it allowed the researcher to describe the characteristics of a particular individual or a group (Kothari, 2003). According to Mugenda and Mugenda (1999), survey design enables the researcher to investigate the status of a given phenomena, compare the status with the expectation and to suggest ways of improving the status. Further, survey allows for collection of data from a larger number of people and rely on individuals self reports for their knowledge, attitudes and behavior. The purpose of a survey research is to provide information that describes the existing phenomenon by asking individuals about their perceptions, beliefs, attitudes, behavior or values. The survey allowed the researcher to understand the perceptions, beliefs, and attitudes of the principals, students and education officers on the possible strategies of addressing the rising demand for secondary school

education in Nairobi City County. The survey also allowed the researcher to collect data from a large number of respondents schools.

3.3 Study Locale

The study was conducted in Nairobi City County in Kenya. The County was choosen because it has been registering the second lowest secondary school enrolment and participation from North Eastern. Nairobi City County is one of the 47 Counties in Kenya. It is the capital and largest city of Kenya. Among the 47 Counties, it is the smallest covering an area of 696 km^2 with a population of over 4 million people majority of whom lives in the slum areas (Nairobi City County, 2014). It borders other Counties such as Kiambu, Kajiado and Machakos. The schools are spread all over the County.

3.4 Target Population

Target population refers to the entire group of individuals from which a sample is drawn for measurement (Kombo & Tromp, 2006). The target population for this study was the 235 secondary schools in Nairobi City County. Specifically, the study targeted the 70,000 students in these schools as well as the principals and education officers.

3.5 Sample Size and Sampling Procedure

A sample is a proportion of the population from which data is gathered (Smith et al, 2008). Sampling is therefore done to facilitate collection of data from the population.

It is the procedure used to gather people, selected from the population, who share similar characteristics with the population (Kombo & Tromp, 2006; Robson, 1993). There were 235 secondary schools in Nairobi City County both public and private with a population of 70,000 students (MoE, 2015). The target population of 235 secondary schools required a sample size of at least 71 schools yielding a 30% of the total number of secondary schools in Nairobi City County. Out of the 120 education officers 12 of them were sampled yielding a 10% of the total number of the officers.According to Gay (2001), 10-40% is a representative threshold for a sample.

The choice of 10% of the education officers was influenced by the type of instrument that was administered as it was time consuming. Multistage sampling was used to select the schools in this study. This involved selection of samples in stages or taking samples from samples. Stratified random sampling technique was first used to classify the schools into homogeneous sub groups as demonstrated by Kombo and Tromp (2006). The schools were first stratified into public and private secondary schools. Proportionate sampling was then used to pick the schools since the number of public and private schools were not equal. Out of the 71 schools that were used in this study, 24 were public and 47 were private secondary schools.

Table 3.1: Sampling Frame

				Sample Responses		
Secondary Schools	**Total**	**Sample**	**(%)**	Principals	Students	Observation Schedule
Public	77	24	10	24	128	24
Private	158	47	20	47	256	47
Total	**235**	**71**	**30**	**71**	**384**	**71**

Source of Nairobi School Data: Basic Education Statistical Booklet 2014

In the 235 secondary schools in Nairobi City County, the student population is estimated at 70,000. The Krejcie (1970) model adapted by Morgan (1990) was used to determine the required sample size of 384 for this category as shown in Table 3.2 at 95% confidence level and 5% margin of error.

Table 3.2: Sample Sizes for Given Population Sizes

Population Size	Sample Size	Population Size	Sample Size	Population Size	Sample Size
10	10	100	80	4000	351
20	19	110	86	5000	357
30	28	120	92	10000	370
40	35	130	97	20000	377
50	44	140	103	50000	381
60	52	150	108	100000	384
70	59	160	113		
80	66	170	118		
90	73	180	123		

Source: Krejcie and Morgan (1990)

Therefore given the student population of 70,000 the required sample size was 384 students. A proportional sampling was adopted in respect to the number of students in secondary schools. In identifying the actual students who participated in the study, class lists were used and systematic sampling was adopted to pick the students. All the principals of the sampled schools participated in the study by responding to a

questionnaire. The total sample for the study was 71 principals, 384 students and 12 education officers totaling to 467 sampled respondents.

3.6 Data Collection Instruments

Qualitative and quantitative methods were used for data collection. The use of varied instruments was useful for triangulation purposes. Use of both types of tools was essential for better understanding of the research problem (Creswell & Plano, 2007). The instruments that were used in this study included semi structured questionnaires, unstructured interviews and an observation schedule. These were developed and piloted before the main data collection exercise.

3.6.1 Questionnaires

These are self administered written collection of survey questions to be answered by a selected group (Gay, Mills &Airasian, 2009). The self administered questionnaires were given to the school principals and students. The tool was suitable in this case because of its advantages that included administering to many respondents who are geographically spread widely across the institutions that were sampled. It therefore saved on time, effort and expenses as expressed by (Drew, Hardman & Hosp, 2008). One of the disadvantages of using a questionnaire is its assumption that the respondent can read and write the language in use. However, the respondents for this tool were in secondary schools and could therefore clearly read and understand the questions.

3.6.1.1 The School Principals' Questionnaire

The school principals' questionnaires were semi structured. It had both open and closed ended items, which therefore enabled gathering of both qualitative and quantitative data. The tool first sought the respondent's bio data, after which it gathered responses on questions based on the objectives of the study.

3.6.1.2 Students' Questionnaire

The students' tool collected data in order to triangulate information given by the principals. It sought information on usage of school resources and cost related issues related to the rising demand for secondary school places in Nairobi City County, Kenya.

3.6.2 Unstructured Interviews Schedules

The interviews schedulesin this study targetedthe education officers in Nairobi City County. The education officers were participated and responded to the interview schedules. The interview scheduleshadspecific open ended items related to the study objectives. The study usedthe interviews since the officers werefew and in depth responses werenot onlypossible but necessary.

3.6.3 Observation Schedules

The observation schedules were used for observation of the resources available in the schools.

3.7 Piloting of the Research Instruments

The research instruments were piloted in three institutions in Nairobi City County similar to the actual schools used for data collection. Tuckman (1988) and Drew at al (2008) observed that this aspect of research is not only desirable but necessary so as to revise tools based on its results. The process provided information regarding whether the instructions and questions were clear and whether time and effort involved were reasonable. The three secondary schools had similar characteristics with the sampled institutions, but were not involved during the main data collection exercise. In pilot testing of tools, one can be able to correct errors of omission or commission as well as provide information about deficiencies and suggestions for improvement (Gay et al, 2009). The pilot ensured that there was a common understanding among respondents and identified any challenges the larger sample was likely to pose. The items were therefore adjusted accordingly. It also provided a realistic sense of how long each tool would take to administer, whether instructions were clear and understood, and if they were valid and reliable.

3.7.1 Instrument Validity

Two types of validity were considered in this study; that is content validity and construct validity. The content validity is the degree to which a tool measures an intended content area. The items must be relevant to the measurement of the intended content. During the pre-testing of tools in the pilot schools, the respondents commented on the wording of questions and viability of the statements. The length of time taken to respond to the instruments was also estimated. The supervisors gave their professional

input on the relevance and appropriateness of the tools. This also ensured that the items were developed based on the research objectives.

Construct validity was done by comparing the items in the tools with theoretical expectations and hypothesized behaviour to see how well they fitted. Clear definition of constructs was operationalized so that the study was hinged on the correct interpretation of the concepts. The items in the tools were developed based on the research objectives.

3.7.2 Instrument Reliability

Reliability analysis was conducted on piloted survey instruments before the main data collection exercise. The pilot was done in three schools where data was collected from 30 students and 3 principals. Reliability refers to consistency of the research instruments to ensure that the study too is reliable. Tools used therefore need to yield consistent results when repeated under the same conditions. The pilot data was thus organized, coded and then entered on a Statistical Package for Social Sciences (SPSS) platform. The reliability coefficient was calculated using coefficient alpha as proposed by Cronbach (1951) in Fraenkel & Wallen (2000) and Kothari (2003). This calculates internal consistency that ranges from 1.0- zero (0). It is suitable when questionnaire items have many scores. Cronbach's alpha was conducted on the entire survey instrument (all subscales combined) and on each individual subscale.

The results of the analysis of students instrument showed the Cronbach's alpha $\alpha = 0.614$, significant at 95% level of confidence while the analysis of principals'

instrument showed the Cronbach's alpha $\alpha = 0.694$, significant at 95% level of confidence. This measure of reliability was above 0.600, which represents the minimum acceptable reliability measure for a useful instrument (Hopkins, 1998; Fraenkel & Wallen, 2000). The principals' and students' instrument were therefore considered acceptable for collecting and providing consistent data for use in this study.

3.8 Data Collection Procedure

After the approval of the research proposal by the university of Nairobi Graduate School, an application of a research permit was made to the National Commission for Science,Technology and Innovation (NACOSTI). A letter of introduction from the department of Educational Administration and Planning was sought for introduction purpose to the actual respondents. Having identified and located the schools that participated in the study, the researcher visited the schools for data collection. The data collec researcherreported to the principals' of various schools and a brief introduction was made to the respondents before administering the questionnaires with the aim of explaining the aim and the nature of the study. The questionnaires were self administered so the researcher took them to the principals and students who were the respondents and later picked them immediately they were completely filled up. The researcher observedthe school facilities using an observation schedule. Interviews were carried out with the education officers where prior appointments were made after which the interviewstook place in their offices. The respondents wereassured of confidentiality and the responses were only to be used to achieve the objectives of the research.

3.9 Data Analysis Techniques

The raw data was organized, coded and then entered on a Statistical Package for Social Sciences (SPSS) and STATA platforms. Both the descriptive and inferential statistical measures were used to report the findings. The descriptive data delineated general characteristics of respondents as well as frequencies, percentages, means, correlations, cross tabulations and standard deviations.

For inferential analysis, a binary probit regression model was fitted using students' data, with the type of school as the outcome variable. The results were in the form of probability of enrolling in a private secondary school relative to enrollment in a public school. Regression analysis was used to determine the predictor variables unique contribution in predicting education demand. Regression analysis was adopted after ensuring that key assumptions had been met (Burns & Burns, 2008).

Quantitative analysis was complemented by the qualitative in the interviews so as to make the findings more comprehensive. Qualitative data was analyzed according to major themes derived from the study objectives and presented in narrative form.

3.10 Study variables

There were four main Independent Variables or predictor variables comprising of the utilization of the existing secondary school resources, cost of secondary education, Public Private Partnerships and the effectiveness of the existing Government initiatives. Utilization of the existing secondary school resources was explained by their availablility, usage and effectiveness. Cost of secondary schools were explained by fees

charges, income generating activities, sponsors as well as propoor programs. Public Private Partnerships were explained by forms of partnerships. Effectiveness of the existing Government initiatives were explained by ICT, cost sharing, Free Day Secondary Education, MoEST approved fees structure, free KNEC exams, school categorization as well as Bursaries.

The rising demand for secondary school education was considered as the Dependent Variable. It was a function of utilization of the existing secondary school resources, cost of secondary education, Public Private Partnerships and the effectiveness of the existing Government initiatives.

3.11 Ethical Considerations

This study dealt with people as respondents (principals, students and education officers). The researcher considered the fact that participation in research is voluntary. That was why the researcher took time to explain to the respondents the importance of the study and therefore requested the respondents to participate by giving information relevant to the study. To establish good working relationship with the participants, the researcher endeavored to develop a good rapport with them. The researcher also assured the respondents of confidentiality of the information they gave.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATIONANDINTERPRETATION

4.1 Introduction

This chapter presents the data analysis, the interpretation and discussion of findings. Both quantitative and qualitative data gathered during the study have been presented. The presentations were based on the study objectives.

4.2 Instruments Response Rate

Response rate is the proportion of the research instruments returned after they are administered to the respondents. In this study, questionnaires, interview and observation schedules were administered to the respondents. All the questionnaires that were administered to the 71 principals and 384 students were returned. Out of the 71 principals, 47 were from private schools while 24 were from public schools. The students (128) were from public schools while the rest (256) were from private secondary schools. The interview guides were designed to collect data from officers from the ministry of education. Out of the 12 interview schedules which were distributed by the research assistants, only 9 of them were fully filled up. This translated into interview guide return rate of 75%. Out of the 467 research instruments (questionnaires and interview schedules) which were administered, 464 of them were returned making the instrument return rate to be 91.7%. Table 4.1 shows the response rates for the different categories of respondents.

Table 4.1: Response Rate

Sample category	Target	Respondents	Response rate (%)
Principals	71	71	100
Students	384	384	100
MoEST officers	12	9	75
Total	467	464	91.7

The overall response rate as shown in Table 4.1 is computed at 91.7% which was very high. The high response rate of 100% for the principals and students was attributed to the fact that data collection for this study was carried out alongside another national study that required principals to be present which had a positive impact on the response rate. The response rate was above the acceptable rate for a representative sample of a target population. According to McBurney and White (2010), most researchers require at least a 50% return rate before considering a survey as representative. Therefore a 91.7% response rate was acceptable for this study.

4.3 Descriptive Statistics

This section presents the descriptive statistics that were used to report the findings. The descriptive data delineated general characteristics of respondents as well as frequencies, percentages, means, correlations, cross tabulations and standard deviations.

4.3.1 Characteristics of Respondents

This section looked at the profile of the respondents. It provides the general information on respondents for the study that was obtained using the questionnaires that focused on demographic data. These were obtained from all the respondents and analyzed to provide descriptive information. Questionnaires were used to obtain data from both the principals and the students in secondary schools. Table 4.2 shows the category of respondents from secondary schools in Nairobi City County;

Table 4.2: Category of Respondents

		Category of respondents		Total	
		Students	Principals	F	(%)
Gender	Male	222	43	265	58
	Female	162	28	190	42
Total		384	71	455	100

Table 4.2 shows a total of 455 students and principals participated in the study. Of these, 265 (58%) were male and 190 (42%) were female. The findings show that both male and female were represented in this study as far as gender was concerned. The specific characteristics of the respondents are discussed in the following respective sections.

4.3.2 Secondary School Principals Bio-Data

Secondary school principals are the educational managers of their institutions. As earlier indicated, an education system can be equated to a production system where the

managers are in charge of combining the factors of production to yield better outputs. Similarly, the outcomes of a school system are dependent on the school principals and the administrative structures that have been put in place (Kumbhaker and Lovell, 2000).

The study thus sought responses from the secondary school principals. A total of 71 secondary school principals responded to a semi structured questionnaire; 43 (61%) of them were male while 28 (39%) were female. This indicated that the data was normal as far as gender of the respondents was concerned. Majority of the principals 47 (66%) were from private secondary schools while the rest 24 (34%) were from public secondary schools.

The study sought to establish the principals' highest educational qualifications. Educational and professional qualifications enable principals and teachers to acquire the requisite knowledge and skills necessary for their administrative function. The higher the qualifications, the better the competencies and educational outcomes which consequentlyare expected to influence the school demand positively. The principals' educational qualifications are presented in Table 4.3.

Table 4.3: Principlas highest educational qualifications

Qualification	Frequency	Percent (%)
A level	2	3
Diploma	16	23
Degree	35	49
Masters	18	25
Total	**71**	**100.0**

Table 4.3 shows that majority (74%) of the principals had up to a degree with 23% of the respondents having at least some diploma studies. Only 3% of the principals indicated that they had A level qualifications. From the findings, majority of the principals were trained and thus possessed the basic educational qualifications for running a school. The principals' qualifications were expected to lead to good academic performance which was likely to attract more students to the schools thus addressing the rising demand for secondary school places. However, the principals who had A-level qualifications were untrained and thus lacked the basic professional qualifications. Considering that the principals are the school managers where the school outcomes are dependent on them, the untrained principals who were less empowered were likely to influence the demand for the secondary schools negatively due to poor performance.

Finally, the study sought to establish the principals' leadership experiences. Leadership experienceswere expected to improve the principals' leadership capacity and

consequently the demand for a school. The principals' leadership experiences are presented in Table 4.4.

Table 4.4: Leadership experience

Experience as school principal	Frequency	Percent
Below 1 year	6	9
1-5	20	28
6-10	33	46
11-15	8	11
16-20	2	3
21 and above	2	3
Total	**71**	**100.0**

Table 4.4 shows that as opposed to the general teaching experiences noted above, 83% of the respondents had leadership experience of less than 10 years. This is normally as expected of teaching career. In this case we note a left tailed data. Those who had served as school principals for more than ten years (17%) were likely to influence demand for secondary schools. The influence could either be positive where an increase in the number of students seeking to join a school may be noted or negative where fewer students may seek to be admitted in a particular school. There is a direct relationship between the leadership experience and the capacity of the principals where the longer the service, the more the capacity the principals are expected to acquire which consequently

leads to improved performance. Due to improved performance,there is expected rise in demand for a school.

The current findings on the characteristics ofprincipals mimics McAliney, (2009) who found governance and management as critical factors that influence the use of school resources that impacts on the quality of education offered in a secondary school and the schools demand. In the current study, the principals' qualifications and experiences are very critical in running the school as they can either increase or lower the demand. McAliney further indicated that, an improved institutional environment demands better governance, and effective management to deliver on the desired outcomes and transforming the way secondary school education is managed is thus essential to ensuring broad access to secondary education of acceptable quality.

The principals' capacity is very crucial as pointed out by KICD (2010) who found that most secondary school principals preferred to see themselves solely as administrators while the teachers in the same schools looked to them to provide educational guidance. This implies that in order for the principals to provide educational guidance and improve educational outcomes which results to increased school demand, their capacity must be fully developed as indicated by the current study. The need for building the teachers capacity and improve access was echoed by Ayiro (2009) who found that Kenyan school principal experiences increasing pressure to address issues of higher standards and accountability, and are faced with the task of providing for the academic needs of diverse student populations in the ever changing society.

4.3.3 Students Biodata

The study sought to establish the characteristics of students who were involved in this study. Out of 384 students who participated in this study, 222 (57.8%) were male while 162 (46%) were female. They were selected from form 1-4 classes as shown in Table 4.5;

Table 4.5: Students class level

Class	Frequency	Percent
Form 1	135	35
Form 2	121	32
Form 3	117	30
Form 4	11	3
Total	**384**	**100.0**

Table 4.5 indicates that, most of the students (35%) who participated in this study were in form 1 while 32% were in form 2 classes. The form four classes were not easily accessible, due to the fact that this was an examination class. Only 3% of the studentswho participated in the study were in form four. More than half of the students representing 67% were either in form one or form two. The high participation of form one and two students in this study was of advantage because issues pertaining to why they chose the school were fresher in their minds as compared to the form three and four students.

Admissions in secondary schools are dependent on performance in primary schools. As a result, the performance dictates demand in the secondary schools. The students were asked to indicate the marks they attained in KCPE. Their responses arepresented in Figure 4.1.

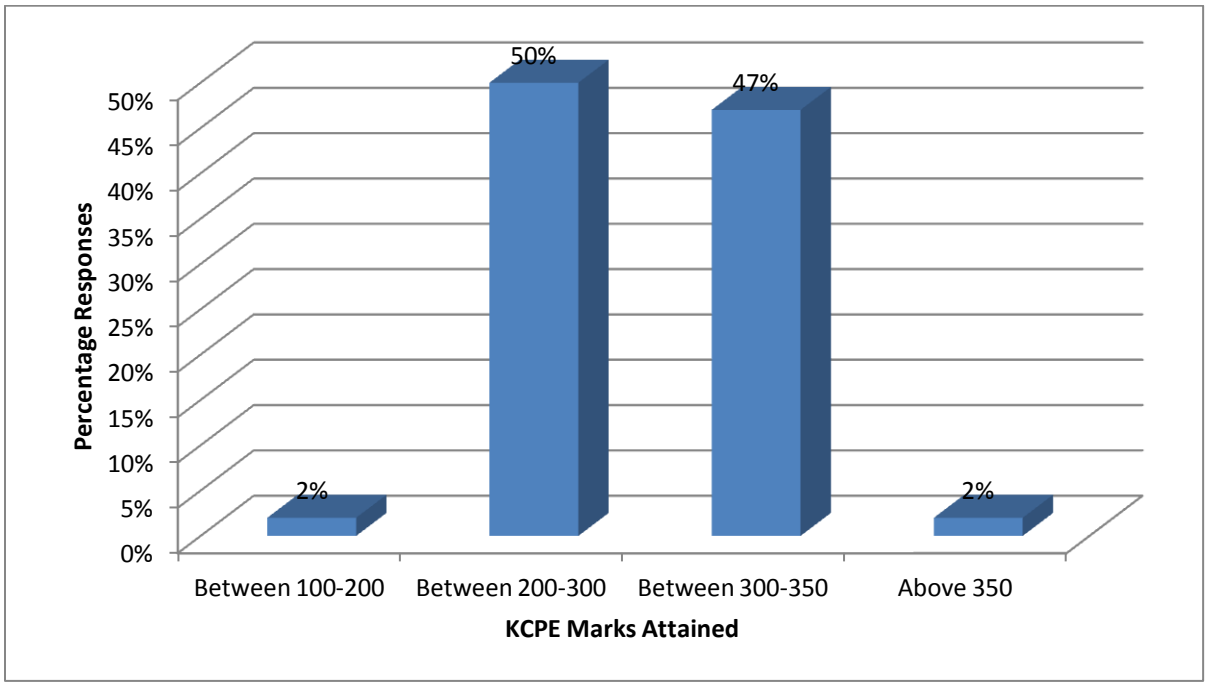

Figure 4.1: KCPE marks attained by students

The findings shows that, half (50%) of the students had attained between 200-300 marks in KCPE. Almost an equal proportion (47%) had attained between 330-350 marks in KCPE. The average marks attained by the students were distributed around the mean with majority being around the mean and a near similar number of the respondents on both tails of the Gaussian curve. This meant that majority of the students had scored marks above average and thus were qualified to join secondary schools of their choice. The marks attained were thus a source of the secondary school demand.

The students were asked to indicate the type of secondary school they had preferred to join when they were in primary schools. Their responses are presented in Figure 4.2.

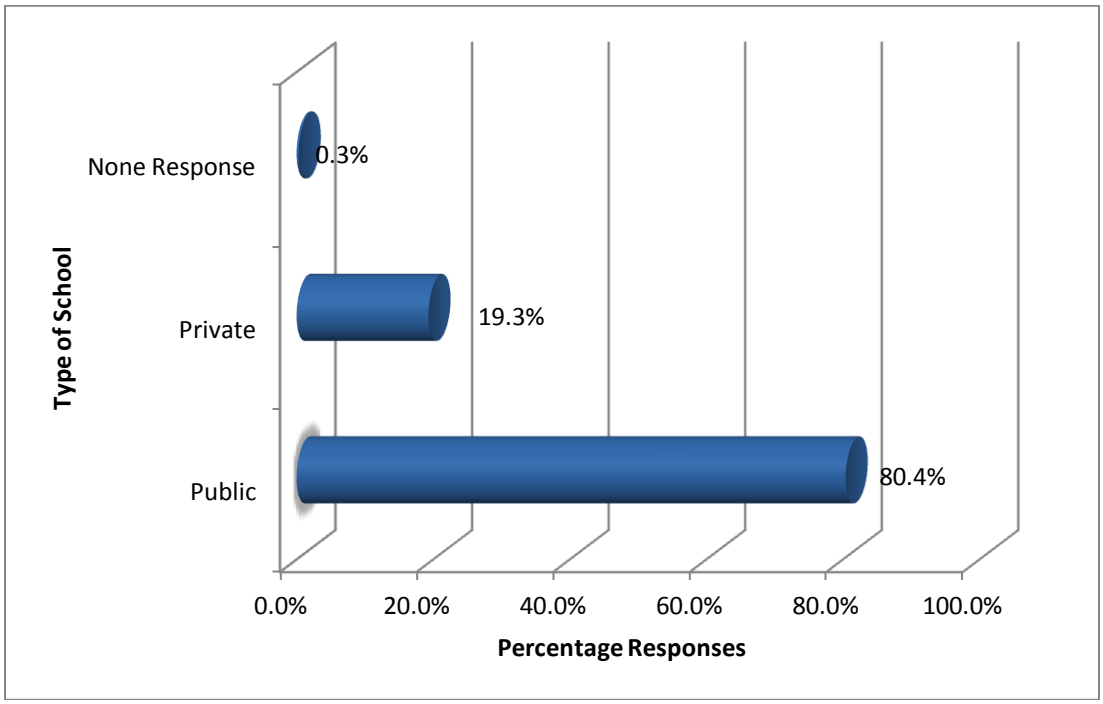

Figure 4.2: Students preferred secondary school after KCPE

The findings show that majority of the students (80.4%) had preferred to join public secondary schools when they were in primary school. However, 19.3% of these had preferred to join private secondary schools. One of the students representing 0.3% of the students who participated in the study did not respond to this question. This implies that demand for public secondary schools is higher than that of private schools right from the primary schools.

4.3.4 Ministry Officials;

The researcher further reached 9 officers from the ministry of education of different categories. The officers included one director of basic education, three education officers and five curriculum support officers (CSOs). Out of the nine education officers, six were male and three were female. They had all served for more than five years in their current designations.

4.4 Demand for Secondary Education

Demand for education is the total number of learners who have expressed the desire to acquire a given type of education and simultaneously possess the capacity and willingness to pay the cost for it (Agabi, 2002). The study sought to find out whether demand for secondary schools existed in Nairobi City County. It was expected that demand for secondary education is based on theadmission requests parents make on behalf of their children. Responses were therefore sought from the principals. The principals were required to indicate whether there were waiting lists of students to be admitted in their schools, the number of students in the waiting list, the frequency of admission requests and the reasons for not admitting students in the waiting list. Their responses are presented as follows;

4.4.1 Existence of Waiting Lists of Students Admissions in Secondary Schools

Waiting lists show the names of students who have expressed interest to join a particular school but have not yet been granted a chance especially due to unavailability of vacancies. Waiting lists are updated every time a child's name is added or removed and

thus they fluctuate. The study sought to find out the extent to which schools were sought after using the existing waiting lists. The principals' responses on whether there were waiting lists of students to be admitted in their schoolsare presented in Figure 4.3.

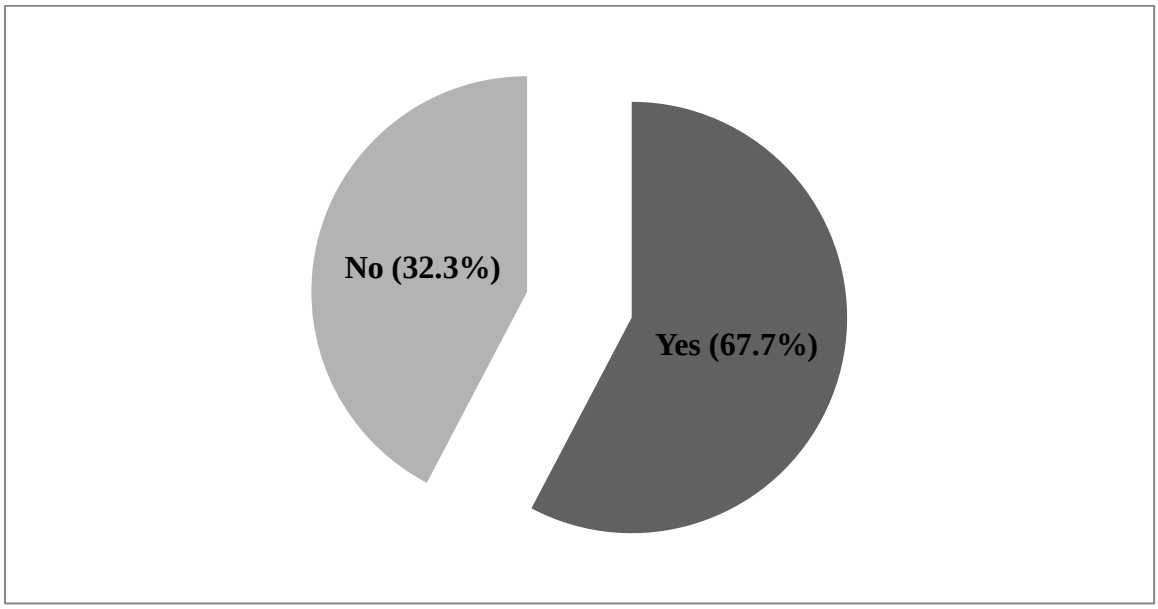

Figure 4.3: Existence of waiting list of admissions as reported by principals

The results in Figure 4.3 showthat according to majority (67.7%) of the principals, most schools had a waiting list of students who wanted to join their schools. However, 32.3% of the principals indicated that there were no waiting lists of students who wanted to join their schools. Considering that waiting lists are evidences of existence of demand in a school, the study findings reveals that demand for secondary schools existed in most of the schools in Nairobi City County.

The study further attempted to establish the existence of admission waiting lists in public and private schools separately. Table 4.6 shows existence of waiting list of admission by school category.

Table 4.6: Waiting lists of admission by school category

Type of School	Waiting List for Admission		Total
	Yes	No	
Public	21	3	24
Private	20	27	47
Total	**41**	**30**	**71**

Table 4.6 shows that public secondary schools had more waiting lists of students who wanted to join their school than the private schools. Out of 24 public secondary schools, only 3 (13%) of the schools indicated that there were no waiting lists of admission in their schools. Out of the 47 private secondary schools,more than a half (57%) of them indicated that there were no waiting lists of admissions in their schools.

These results mimic the earlier results which indicated that majority of the students (80.4%) had preferred to join public secondary schools when they were in primary school while a few (19.3%) had preferred to join private secondary schools. However, one of the students representing 0.3% of the students who participated in the study did not respond to this question. The findings imply that there is high demand for secondary school places in public schools than in private secondary schools in Nairobi City County.

4.4.2 Number of Students in the Waiting List

In relation to the number of students in the waiting lists, the principals who indicated existence of waiting list of students' admission were further asked to indicate the number of students in the waiting list. Their responses are presented in Figure 4.4.

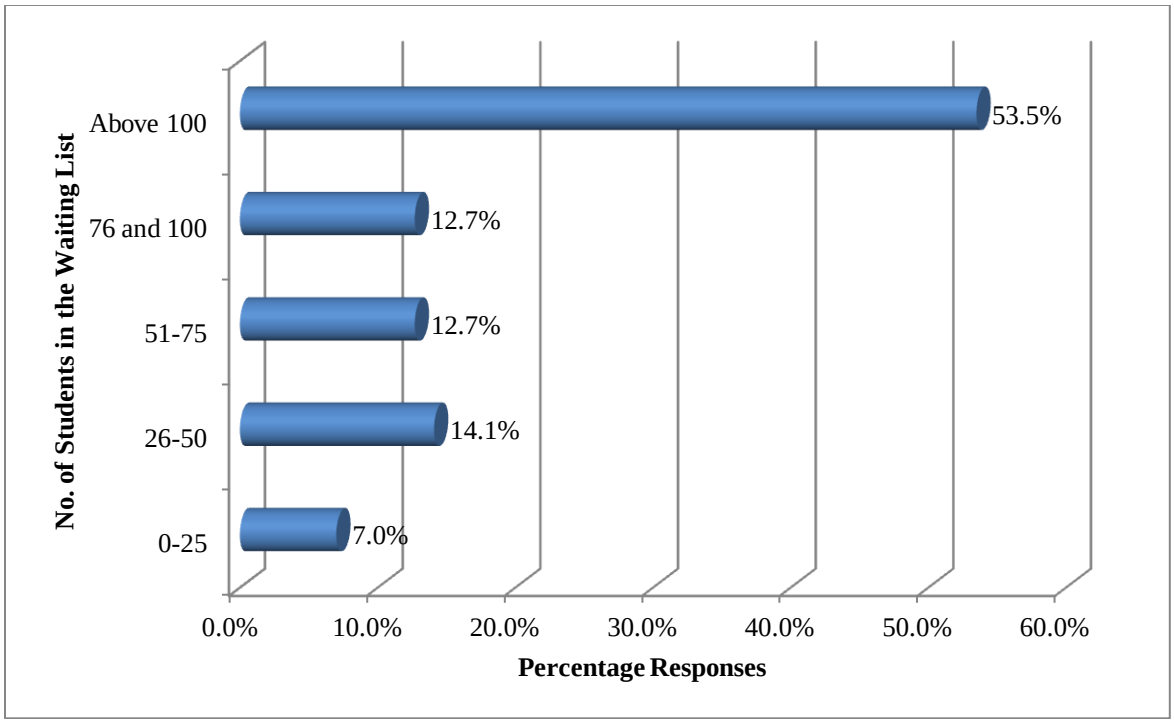

Figure 4.4: Number of students in the admission waiting list as per the principals

Most of the principals (53.5%) whose schools had a waiting list of admission indicated that the waiting lists had more than 100 students. However, a few of the principals (7.0%) indicated that the waiting lists had a few students ranging between 0-25. This meant that in most of the schools where there were waiting lists of students, the number of students in the list was also high. The existence of waiting lists in most of the schools is an indication of existence of demand for secondary school places in Nairobi County.

The study went further to establish the number of students in the waiting list by category of school. Table 4.7 shows the number of students in the waiting list by category of school.

Table 4.7: Number of students in the waiting by school category

Category of School	**Number of students in the waiting list**											
	0-25		**26-50**		**51-75**		**76-100**		**Above 100**		**Total**	
	f	**%**	**f**	**%**	**f**	**%**	**f**	**%**	**f**	**%**	**f**	**%**
Public	1	2	3	4	1	2	3	4	16	22	24	34
Private	4	6	7	10	8	11	6	8	22	31	47	66
Total	**5**	**8**	**10**	**14**	**9**	**13**	**9**	**12**	**38**	**54**	**71**	**100**

The study results show that 31% of the private secondary schools and 22% of the public secondary schools had over 100 students in the waiting list.The public schools that had over 100 students in the waiting list represented 67% of the 24 public schools sampled while the private schools that had over 100 students in the waiting list represented 66% of the 47 private schools sampled. The findingsconverged with the earlier results which indicated that public schools had more students in the waiting list than private schools. This further confirms that demand for public secondary schools was higher than that of private secondary schools in Nairobi City County.

4.4.3 Frequency of Admission Requests

The study sought to find out how often requests for admission of students were made. This would reveal the consistency of the school demand. The principals were asked to indicate the frequency of admission requests in their schools. Their responses are presented in Figure 4.5.

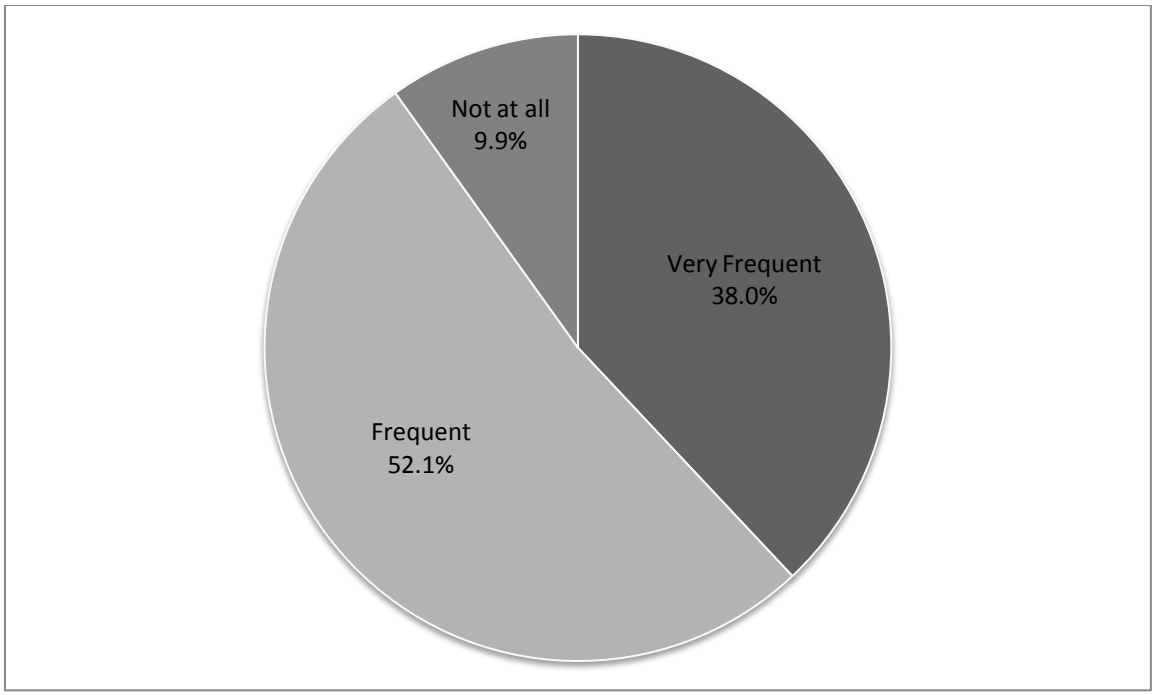

Figure 4.5: Principals responses on frequency of admission requests

Figure 4.5 shows that there were at least frequent admission requests from students wanting to join their schools as reported by 90.1% of the principals which was a total of those principals whose responses were very frequent and frequent. However, a few of the schools had no admission requests as per 9.9% of the principals.

The results reveal that secondary schools are frequently sought after in Nairobi City County. The findings are consistent with the earlier findings which showed high demand

for secondary schools where 67.7% of the principals indicated that schools had waiting lists of students who wanted to join their schools while 32.3% of the school principals indicated there were no waiting lists of students who wanted to join their schools. The high response rate from the principals who reported existence of frequent admission requests supports the earlier finding that showed existence of demand for secondary schools education.

The frequency of admission requests by category of school are presented in Table 4.8.

Table 4.8: Frequency of admission requests by school category

Type of School	**Frequency of Admission Requests**							
	Very frequent		**Frequent**		**Not at all**		**Total**	
	f	**%**	**f**	**%**	**f**	**%**	**f**	**%**
Public	16	23	7	10	1	1	24	34
Private	11	16	30	42	6	8	47	66
Total	**27**	**39**	**37**	**52**	**7**	**9**	**71**	**100**

Table 4.8 indicates that there were very frequent admission requests in 16 (23%) of the public schools and frequent requests in 30 (42%) of the private schools. Proportionately, the 16 schools that had very frequent admission requests represented 67% of the 24 public schools that were sampled while the 30 private schools that had frequent admission requests represented 64% of the 47 private schools that were sampled. This reveals existence of high demand for public secondary schools in Nairobi City County as

compared to the private schools reflecting a convergence with the earlier findings that indicated that public secondary were highly demanded as compared to the private schools.

4.4.4 Reasons for not Admitting Students in the Waiting List

In relation to the existence of waiting lists of admissions, it was expected that there was an underlying reason. The principals were asked to indicate the reasons for not admitting the students in the waiting list. Their responses are presented in Table 4.9.

Table 4.9: Reason for not admitting students in the waiting list

Reasons	Frequency	Percent
Lack of vacancies	30	42.2
Low marks/poor performance	20	28.2
Student have no fees	21	29.6
Total	**71**	**100.0**

The study findings show that lack of vacancies was the major reason for not admitting students in the waiting list as indicated by 46.5% of the principals while 28.2% of the principals indicated that it was due to low marks and a further 25.4% attributed it to financial challenges. From the findings, it is evident that the number of students seeking for placement exceeds the available vacancies implying that high demand for secondary schools in Nairobi County. These findings mimic the earlier findings that showed existence of demand in secondary schools.

Public and private secondary schools have different characteristics. It was therefore expected that due to the varying characteristics, variations in reasons for not admitting students in the waiting list existed. The reasons for not admitting students in the waiting list by category of school are shown in Table 4.10.

Table 4.10: Reasons for not admitting students in the waiting list

SchoolCategory	Reasons							
	Lack of vacancies		Low marks/poor performance		Lack of school fees		Total	
	f	%	f	%	f	%	f	%
Public	16	23	6	8	2	3	24	34
Private	14	20	14	20	19	27	47	66
Total	**30**	**43**	**20**	**28**	**21**	**30**	**71**	**100**

The study findings show that 27% of the principals in private secondary schools cited lack of fees as the major reason for not admitting students in the waiting list. However, in public schools, lack of vacancies was cited as the major reason for not admitting students in the waiting list by 23% of the principals. This shows that the reasons for not admitting students in the waiting list differed by the category of schools. Lack of fees which was cited as the major reason for not admitting students in the waiting list may be attributed to the fact that school fees in private secondary schools is relatively high compared to that of public schools which receives government subsidies.

4.4.5 Other Reasons for not Admitting Students in the Waiting List

The principals were further asked to mention other reasons that caused them not to admit the students in the waiting list apart from the ones they had rated. They indicated that some of the students who made requests for admissions were foreigners who lacked proper documentation which posed a challengeto the school while some schools had no vacancies due to overstretched facilities especially boarding facilities and classrooms. The principals also indicated that some students were coming from other schools with indiscipline cases while in other cases principals were not sure of the students' disciplinary background which was a threat to the schools. In some cases, some schools were catholic in nature and thus they could only admit interested catholic students who met specific requirements. The principals indicated that some schools were also very young and thus they lacked all the secondary levels i.e. had not reached form 4. In addition, they indicated that the timing of some requests were bad as some schools did not admit students in between the term or year.

Overall, the study findings indicated that demand for secondary schools existed in Nairobi City County as demonstrated by existence of waiting lists of admissions in the schools, high number of students in the waiting list and the frequency of admission requests. The findings of the current study are in line with a study carried out by Nairobi City County which showed that the city has experienced rapid growth in population and consequently demand has increased in all levels of education. The Nairobi City County report emphasized that though the rate of population growth has been on the rise, it has

not been matched by the growth of schools and thus demand had exceeded supply (Nairobi City Council, 2014).

The current study findings are also convergent with a World Bank report that indicated that primary school education initially received a lot of support through generous public subsidies which increased the demand for secondary school places and up to today, this demand still exists and surpasses the supply (World Bank, 2015). The results are also in line with Republic of Kenya (2012) which points out that the introduction of Free Primary Education (FPE) in 2003 led to massive increase of enrolments in primary schools which have since pressurized the demand for secondary school education which is in support of the findings of the current study.

The study findings on existence of secondary school demand are also supported by MoEST (2014), which indicated that the demand for education has increased over the years and the relative demand is highest at secondary school level of education and is attributed to the ripple effects from FPE and FDSE.

4.5 Utilization of Resources in Meeting the Demand for Secondary Education

One of the objectives of this study was to establish the extent to which the existing secondary schools resources had been utilized to address the rising demand for secondary school education in Nairobi City County. As earlier demonstrated in the literature review, school resources are critical in the teaching and learning process and are also determinants of the number of students who can be absorbed in a school. Consequently,

the size of the school is dictated by the available resources and the extent to which they are being utilized. The study therefore sought to establish the extent to which the existing secondary schools resources had been utilized to meet the rising demand for secondary school education in Nairobi City County. Information on the students, teachers, classes, books, school characteristics and efficiency in use of the resources in the schools was sought from the principals, students, Ministry of Education officials and by use of an observation schedule. The utilization of resources variables is as discussed in the subsequent section.

4.5.1 Number of Students in a School

The number of students in a school composes the school population and is one of the measures of the size of a school. As earlier pointed out in literature review, the available resources dictates the school enrollment (Deolikar, 1997). Thus there is a relationship between the school resources and the total number of students in a school as the available resources in a school influences the school demand as the resources can either encourage or discourage enrolment. The study therefore sought to establish the number of students in secondary schools in Nairobi City County. The principals were asked to indicate the number of students in their schools. Their responses are presented in Table 4.11.

Table 4.11: Principals responses on the number of students in their schools

Number of Students	Frequency	Percent
Below 100	4	5.6
101-200	6	8.5
201-300	18	25.3
301-400	23	32.4
401-500	12	16.9
Above 500	8	11.3
Total	**71**	**100.0**

Table 4.11 shows that majority of the schools (32.4%) had a student population ranging from 301-400 while a few (5.6%) had a student population of below 100 students. The study results show that 11.3% of the schools had a student population of above 500. From the findings, it is evident that majority of the schools in Nairobi County were medium sized schools. The few schools which had a population of below 100 could be said to be very small schools or probably the upcoming ones. The findings implies that, some schools in Nairobi City County are addressing the rising demand of secondary schools to a large extent especially the ones that had a student population of above 500 while the ones with a population of 200 and below to a small extent.

The study also attempted to classify the population of a school by category of the school. Table 4.12 summarizes the results.

Table 4.12: Total number of students by category of school

Type of school	Total Number of Students in a Schools													
	Below 100		101-200		201-300		301-400		401-500		Above 500		Total	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Public	0	0	2	3	2	3	5	7	9	13	6	8	24	34
Private	4	6	4	6	16	22	18	25	3	4	2	3	47	66
Total	**4**	**6**	**6**	**9**	**18**	**25**	**23**	**32**	**12**	**17**	**8**	**11**	**71**	**100**

The findings show that out of the sampled schools, 21% which represented public schools had a population of at least 401 and above while 47% representingthe private ones had a population ranging from 201 to 400. Proportionately, public secondary schools had enrolled more students than private schools. These results are supported by the earlier ones where the public schools had more students in the waiting list as indicated by 67.7% of the principals than private schools as reported by 32.3% of the school principals. This implied that public secondary schools had addressed more secondary school demand than private schools in Nairobi City County.

4.5.2 Number of Teachers in a School

Teachers are the most important resources in delivering quality education and as such, the staffing levels must be enhanced (KIE, 2011). The school performance is highly dependent on the school staffing levels which consequently influences the demand for the school. The principals were asked to indicate the number of teachers in their schools. Their responses are presented in Table 4.13.

Table 4.13: Number of teachers in schools

Number of Teachers	Frequency	Percent
10 and below	14	19.7
11-15	24	33.8
16-20	14	19.7
21-25	12	16.9
26-30	2	2.8
31-35	1	1.4
36 and above	4	5.6
Total	**71**	**100.0**

Table 4.13 shows that out of the schools sampled, 73.2% had less than 20 teachers. Only 5 schools out of the 71 sampled schools had more than 30 teachers. Considering that the teachers staffing levels are dependent on the students enrolment based on school demand, the number of teachers in these schools might have been dictated by the school population. As earlier indicated, most of the schools involved in this study were either medium or small schools and therefore those schools which had less than 20 teachers could have been appropriate for the school population.

It was of interest also to establish the number of teachers by category of school. This aimed at establishing the adequacy of teachers in each category of school. Table 4.14 summarizes the results.

Table 4.14: Total number of teachers by school category

Type of school	Total number of teachers															
	10 and below		11-15		16-20		21-25		26-30		31-35		36 and above		Total	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Public	2	3	4	6	5	7	8	11	2	3	1	1	2	3	24	34
Private	12	16	20	28	9	13	4	6	0	0	0	0	2	3	47	66
Total	**14**	**19**	**24**	**34**	**14**	**20**	**12**	**17**	**2**	**3**	**1**	**1**	**4**	**6**	**71**	**100**

The findings show that out of the schools sampled 53% of the schools representing private schools had teachers ranging from 0-15 in number while 37% of the public schools had teachers ranging from 16-25. The difference may be attributed to the school sizes where private secondary schools had a smaller population size than public schools. The number of teachers in a school as earlier indicated affects academic performance in a school and consequently the demand (Fredriksson, 2004). In well staffed schools,good performance is registered leading to high demand for the school as earlier found.

In relation to the number of teachers in schools, the students were asked to indicate whether the teachers were adequate. Their responses are presented in Figure 4.6.

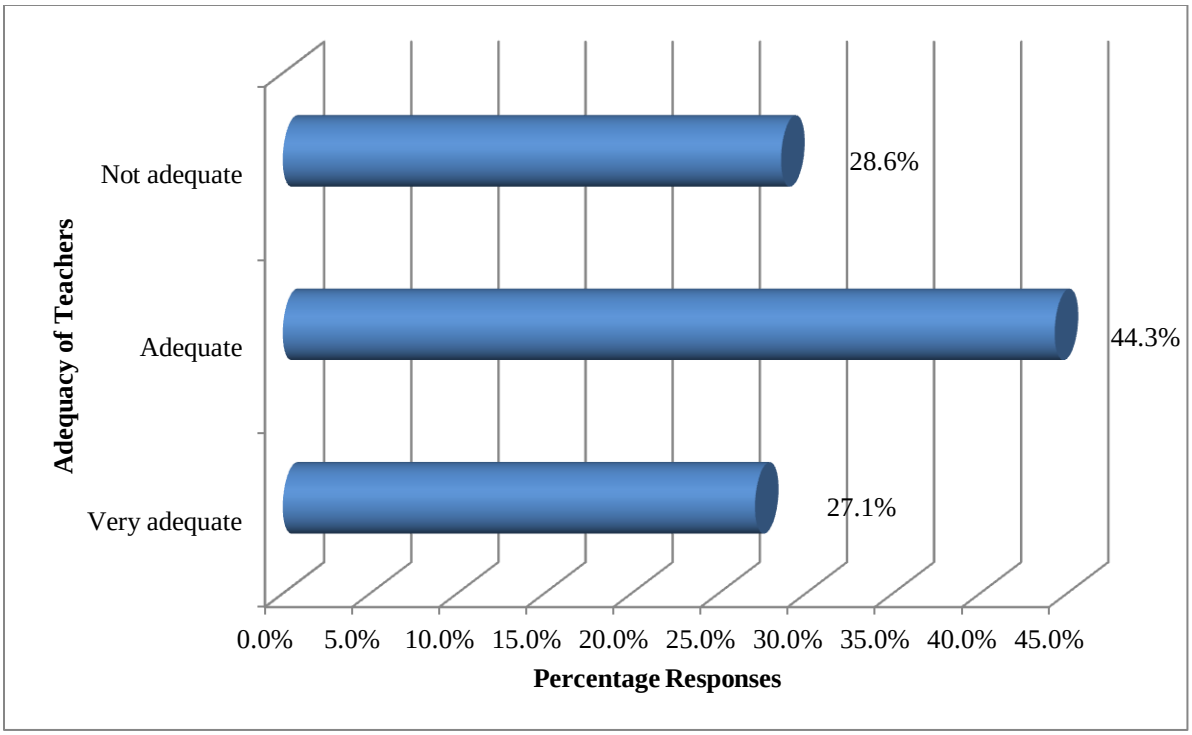

Figure 4.6: Students responses on the adequacy of teachers in their schools

Most of the students (44.3%) indicated that their schools had adequate number ofteachers while 27.1% of them indicated that they had more teachers in their schools than they needed. A further 28.6% indicated that they did not have adequate teachers in their schools. The findings from the students on the adequacy of teachers mimic the principals' responses which showed that teachers were adequate.Adequate teachers'results to high demand for a school due the good results it may register and the rising demand for secondary schools in Nairobi City County could be attributed to the same.

4.5.3 Teacher Student Ratio

To further affirm the adequacy of teachers in a school, the study sought to establish the teacher/student ratio. Teacher/student ratio is the number of students who attend a school divided by the number of teachers in the institution. As earlier shown in the literature

review, the student teacher ratio influences learners achievement usually reflected in the school performance and consequently the demand for the school (KICD, 2014).

The study further attempted to establish the student teacher/student ratio by school category. Table 4.15 shows the results.

Table 4.15: Teacher: student ratio by school category

Type of School	**Teacher Student Ratio**															
	1:20		**1:25**		**1:30**		**1:35**		**1:40**		**1:45**		**1:50 and above**		**Total**	
	F	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Public	0	0	3	4	2	3	2	3	2	3	9	13	6	8	24	34
Private	24	34	11	15	5	7	2	3	2	3	1	1	2	3	47	66
Total	**24**	**34**	**14**	**19**	**7**	**10**	**4**	**6**	**4**	**6**	**10**	**14**	**8**	**11**	**71**	**100**

Table 4.15 shows that in most (21%) of the public secondary schools, the teacher: student ratio at most was 1:45 and above while in majority (51%) of the private secondary schools, the teacher/student ratio mostly was 1:25 and below. This implies that the teacher/student ratio was higher in public secondary schools than in private secondary schools. This could be attributed to the earlier noted high population size in public secondary schools relative to that of private secondary schools. The high teacher/student ratio in public secondary schools may also imply that though the ratio might be above the recommended 1:45, teacher resource was being efficiently utilized in these schools than

in private schools. As such, public schools were addressing the rising demand for secondary schools in Nairobi City County than private school. This finding on teacher: student ration in Nairobi City County mimics that of KIE that found some schools were experiencing understaffing with a teacher/student ratio of above 1:45 (KIE, 2011).

4.5.4 Average Class Size

Average class size is the total number of all the students in the school divided by the total number of classes being used in the school. Class size demonstrates how well it is utilized as it reflects whether a class is crowded or not and in this study it was one of the indicator of demand for a particular school. The principals' and students' were asked to indicate the average class sizes in their schools. Their responses are presented in Table 4.16.

Table 4.16: Principals and students responses on average class sizes

Average	Principals		Students	
Class Size	**f**	**%**	**f**	**%**
16-25	7	9.9	36	9.4
26-35	17	23.9	119	30.9
36-45	32	45.1	114	29.7
46-55	10	14.1	67	17.5
56 and above	5	7.0	48	12.5
Total	**71**	**100.0**	**384**	**100**

Table 4.16 shows that the average class sizes in Nairobi County were in the range of 26-45 with this interval accounting for 69% of the principals' and 60.6% of the students'

responses. However,a few of the principals (9.9%) and students (9.4%) indicated that their schools had an average class size on the lower extreme of 16-25 while another 7% of the principals and 12.5% of the students reporting existence of an average class size on the higher extreme of 56 and above. The findings show that enrollment is distributed evenly with near same percentage around opposite tails of the normal curve. Probably the respondents who indicated that there were classes that had more than 56 students came from the same schools suggesting overcrowding in those classes and schools.

It was also of interest to establish the average class size by school category. This aimed at establishing utilization of resources in each category of school. Table 4.17 presents the findings.

Table 4.17: Principals responses on average class size by school category

Type of School	**Average class size**											
	16-25		**26-35**		**36-45**		**46-55**		**56 and above**		**Total**	
	F	%	f	%	f	%	f	%	f	%	f	%
Public	0	0	2	3	4	6	12	17	6	8	24	34
Private	7	10	15	21	22	31	3	4	0	0	47	66
Total	**7**	**10**	**17**	**24**	**26**	**37**	**5**	**21**	**5**	**8**	**71**	**100**

The study results shows that majority of the public secondary schools (25%) had an average class size ranging from 46 to 56 students and above. However, majority of the

private secondary schools (61%) had an average class size ranging from 26 to 45 students. These findings mimic the earlier ones that indicated that public secondary schools were more populated than the private schools implying that they have addressed demand to a large extent.

The study also attempted to establish whether class size influenced demand for secondary schools in Nairobi City County. A cross tabulation between waiting list and class size was thus done. Table 4.18 shows the results of the cross tabulation.

Table 4.18: Relationship between waiting lists and class size

			Waiting list for admission?		
			Yes	**No**	**Total**
Average class size	16-25	f	3	4	7
		%	42.9	57.1	100.0
	26-35	f	6	11	17
		%	35.3	64.7	100.0
	36-45	f	17	15	32
		%	53.1	46.9	100.0
	46-55	f	10	0	10
		%	100.0	.0	100.0
	56 and above	f	5	0	5
		%	100.0	.0	100.0
Total		**f**	**41**	**30**	**71**
		%	**57.7**	**42.3**	**100.0**

The findings shows that 57.1% of those school principals who indicated that their schools had an average class size of between 16-25 students, also pointed out that they had no students' on the admission waiting list. The rest (42.9%) of the principals whose schools had an average class size of 16-25 students indicated that there were waiting list of students in their schools. Further, 64.7% of those school principals who indicated that their schools had a class size of 26-35 also stated that there were no students in the waiting list of admission while 35.5% of these school principals pointed out that there was a waiting list in this category.

The findings show that in schools with small class sizes, there is generally a low demand for the school as depicted by the high number of those school principals who indicated that there were no waiting lists of students' admissions in their schools. It is observed that for schools with average class sizes of 46-55; and 56 and above, all the school principals (100%) indicated that their schools had a waiting list of admission. None of the principals in those schools which had an average class size of 46 and above had a different opinion implying that all the schools attracted more students showing existence of demand in these schools to an extent that some of the students were not yet absorbed and thus were in the waiting list. The findings shows that there was an increase in demand for admission with an increase in class size as opposed to smaller class sizes as shown by existence of waiting lists in these schools with bigger class sizes.

The study findings are in line with studies carried out by Mosteller (1995), Ngware et al (2010), Hanusheck (1999) and APHRC (2013) who indicated that literature on the

effects of average class size and student: teacher ratio are not conclusive. The studies found that children in schools with large class sizes scored higher than those in small class sizes. APHRC (2013) indicated that due to the good performance, demand for schools with large class sizes was higher than that of schools with small class size a situation similar to that of the current study where those schools that had large class sizes attracted more students than those with small class sizes. This finding contradicts the quality measures of education which indicates that student teacher contact is limited by a large class size (MoEST, 2014). This situation may probably be attributed to the fact that for a school to attain large class sizes the prevailing atmosphere in terms of performance and other resources must be conducive to attract more and more students making the waiting list to be longer.

4.5.5 Number of Streams in a School Per Class

The number of streams in a school also reflects the students' population enrolled in a school. The Principals were asked to indicate the number of streams per class in their schools. An observation schedule was also used to observe the streams. The principals' responses are presented in Table 4.19.

Table 4.19: Number of streams in a school

Form	1 Streams (%)	2 Streams (%)	3 Streams (%)	4 Streams (%)	5 Streams (%)	Above 5 Streams (%)
1	52	27	14	4	1	1
2	40	35	21	1	1	1
3	39	36	21	1	1	1
4	44	30	21	4	0	1

In relation to number of streams per class, the study results shows that most of the schools were single streamed in form 1 as per 52% of the principals, in form 2 as per 40%, in form 3 as per 39% and in form 4 as per 44% of the principals. Only a few (less than 5%) indicated that the schools were more than three streams. Findings from the observation schedule were similar to the principals responses which indicated that most of the schools were single streamed. The single streamed schools could have been a limiting factor in addressing the rising demand for secondary school education. Most of the schools being a single stream may be a sign of inefficient use of resources. The earlier findings had indicated existence of waiting lists of admissions and considering that most of the schools are single streamed the waiting lists are bound to grow longer and longer as the schools may not have the capacity to absorb the rising demand for secondary school eduaction.

To determine the number of streams in public and private schools, a cross tabulation was done. The cross tabulation between type school and the number of streams in a school revealed that more than half of the private secondary schools in Nairobi City County are single streamed while about a quarter of the public secondary schools visited had attained three streams.This situation especially in private schools may be a limiting factor in addressing the rising demand for secondary schools places in Nairobi City County. Considering that schools with many streams are capable of accommodating many students, this situation implies that schools in Nairobi City County have not overstretched to create more streams so as to address the rising demand for secondary school places in Nairobi County.

To further triangulate the findings, education officers were asked to comment on the number of streams in secondary schools in Nairobi City County. The officers affirmed that most of the secondary schools in Nairobi City County were single streamed and thus indicated that this was a limiting factor in addressing the rising demand for secondary schools. The MoEST officers proposed that all the secondary schools needed to expand by utilizing all the available room space including construction of storied buildings in the event of scarcity of land so as to attain a maximum of 3 streams per school. The findings from the principals, education officers and the observation schedule indicated that most of the secondary schools in Nairobi City County were single streamed which contradicts the MoEST recommendations. According Republic of Kenya (2015), all schools should strive to attain a maximum of 3 streams. These recommendations mimic those from the MoEST officers.

4.5.6 Whether there are Any Unoccupied Class(es) in the School

The rising demand for secondary school places can be addressed through efficient use of the available secondary school resources (Okumbe, 1998). However, inefficient use of resources reflects wastage of resources critical in education. Any unoccupied classes in a school may be one of the signs of efficiencies in use of the existing resources. The principals and students were therefore asked to indicate whether there were any unoccupied classes in their school. An observation schedule was also used to observe the same. The principals and students responses are presented in Table 4.20.

Table 4.20: Principals and students responses on existence of unoccupied classes

Responses	Principals		Students	
	f	%	f	%
Yes	28	39.4	209	54.4
No	43	60.6	175	45.6
Total	**71**	**100.0**	**384**	**100**

Majority of the principals (60.6%) and students (54.5%) indicated that there were no empty classrooms in their schools. However, 39.4% of the principals and 45.9% of the students indicated that there were empty classes in their schools. Results from the observation schedule were similar to the principals and students as they indicated that there were unoccupied classes in 32% of the schools.

A cross tabulation between the type of school and unoccupied classes showed that in almost half of the private secondary schools visited, there were unoccupied classes. This meant that some of the classes in private schools were not in use and thus they were idle. This implied that there were unutilized resources in some secondary schools in Nairobi City County amidst the rising demand for secondary school education. The findings are contradictory as schools are expected to absorb more students who would occupy the empty classes but this was not the case. Utilizing the empty classes could be a remedy of addressing the rising demand for secondary school education.

These findings on existence of empty classes amidst waiting lists of admissions have a converge with that of Agabi (2002) who viewed demand for education as a quantitative

expression in terms of the total number of persons who have expressed the desire to acquire a given type of education and simultaneously possess the capacity and willingness to pay the cost for it. Probably the students who had expressed interest of joining the schools by putting their names in the waiting list failed to meet the basic requirements of admission into the schools.

The study further attempted to establish whether unoccupied classes had an influence on demand for secondary schools in Nairobi City County. A cross tabulation between waiting list and unoccupied classes was done. Table 4.21 shows the results of the cross tabulation.

Table 4.21: Relationship between unoccupied classes and the waiting list of admissions

			Waiting list for admission?		
			Yes	**No**	**Total**
Any un occupied class?	Yes	f	20	8	28
		%	71.4	28.6	100.0
	No	f	21	22	43
		%	48.8	51.2	100.0
Total		**f**	**41**	**30**	**71**
		%	**57.7**	**42.3**	**100.0**

The respondents (71.4%) who indicated that their schools had some unoccupied classes also pointed out that there were waiting lists of admission in their schools. A further 28.6% of them reported that there were no waiting lists of admissions in their schools

even after claiming that there were some unoccupied classes in their schools. Moreover, 48.8% of those school principals who indicated that their school had utilized all the classes had some waiting list of admission in their schools showing demand for secondary school among limited resources.

Further analysis indicated that most of the schools who indicated that their schools had some unoccupied classes and also pointed out that there were waiting lists of admissions in their schools were private schools. The findings negates the normality where it is not possible to have unoccupied classes and at the same time have students on the waiting list. This situation may be attributed to the fact that there are some students who usually register in the waiting list but later even if they get vacancies in other schools their names still remain in the list and thus they cannot be accounted for. The findings are in line with the earlier ones which showed existence of high demand in public schools which could be the cause why after interested students seek for placement in private schools may be they later get chances in public schools and thus their names remain in the waiting list.

The study attempted to establish whether the unoccupied classes could be attributed to lack of vacancies, low marks or lack of school fees. A cross tabulation of the unoccupied classes and reasons for not admitting the students on the waiting list was done. Table 4.22 shows the results of the cross tabulation.

Table 4.22: Relationship between unoccupied classes and reasons for not admitting students in the waiting list

			Reasons for not admitting students in the waiting list			
			Lack of vacancies	Low marks/poor performance	Lack of school fees	Total
Any un occupied class?	Yes	f	0	15	13	28
		%	0	53.6	46.4	100.0
	No	f	20	12	11	43
		%	46.5	27.9	25.6	100.0
Total		**f**	**33**	**20**	**18**	**71**
		%	**46.5**	**28.2**	**25.4**	**100.0**

Table 4.22 shows that 46.4% of the principals cited lack of school fees as the reason for not admitting more students in the school though there were unoccupied classes. There was a contradiction in response where though 25.6% of the principals who had indicated that the reason for not admitting students in their schools was due to lack of school fees they also indicated that their schools did not have any unoccupied class. This could be attributed to the fact that though a school may not have any unoccupied class, the ones in use may not be full. This implied that the reason for not admitting students in the waiting lists in secondary schools in Nairobi City County could not be attributed to unoccupied classes only.

To further establish the relationship between existence of unoccupied classes and reasons for not admitting students in the waiting list, the two variables were correlated. Table

4.23 is a correlation between existence of unoccupied classes and reasons for not admitting students on the waiting lists.

Table 4.23: Correlation between existence of unoccupied classes and reasons for not admitting students in the waiting lists

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Interval by Interval	Pearson's R	.003	.119	.025	.980[c]
Ordinal by Ordinal	Spearman Correlation	.002	.119	.019	.985[c]
N of Valid Cases		71			

The correlation results shows that there is no relationship given a γ value of 0.003 between existence of unoccupied classes and the reasons given (lack of vacancies, low marks and lack of school fees) for not admitting students on the waiting lists. Thus from the findings, the schools principals in Nairobi City County did not actually know why those classes were empty and thus they could be put into good use to address the rising demand for secondary school education.

4.5.6.1 Further Reasons Given by Principals for Unoccupied Classes

Those principals and students who indicated that their schools had unoccupied classes were further asked to indicate other reasons that caused some classes to be unoccupied in

their schools. Some of the reasons given were that the empty classrooms were newly constructed, some schools had few or no student to occupy the classes and, the empty classes were initially used as library, computer room or as an office but the schools had since constructed the facilities.

Other reasons mentioned were that the school changed from a mixed school to a single sex school only which left some classes empty, some of the empty classes served as rooms for optional subjects, the school had not yet got a new stream, some school had merged the form fours since they were only 47 which created empty classes. The reasons given by students were similar to those of the principals except for reasons like expulsion of underperformers from school at the end of ever year which results to some empty rooms, reduction of streams from 5 to 4, empty rooms being used as a prayer rooms for Muslim students while others were being used for revision and entertainment.

These findings negate the correlation results which indicated that the school principals in Nairobi City County do not know actually why the classes are empty. The responses confirm that the principals actually knew why some classes were empty and their use. This may be interpreted to mean that though there were empty classes in some schools, they are not actually free because sometimes they were being put into some school use.

4.5.7 KSCE Mean Grade for2010-2014

The study sought to establish the KSCE performance in secondary schools in Nairobi City County from 2010 to 2014. This was motivated by the fact that performance is an

indicator of how well resources have been utilized. Responses were sought from the principals. They were asked to indicate the KCSE mean grade in their schools per year. Their responses are presented in Table 4.24.

Table 4.24: KSCE mean grade for 2010-2014

Year	B+		B		B-		C+		Below C+	
	F	%	f	%	f	%	f	%	f	%
2010	5	7.0	9	12.7	15	21.1	6	8.5	36	50.7
2011	2	2.8	7	9.9	12	16.9	4	5.6	46	64.8
2012	3	4.2	17	23.9	18	25.4	17	23.9	16	22.5
2013	2	2.8	22	31.0	23	32.4	15	21.1	9	12.7
2014	4	5.6	16	22.5	26	36.6	16	22.5	9	12.7

Table 4.24 shows that 50.7% of the schools in the year 2010, and 64.8% in 2011 had a mean grade of below C+. However, in the consecutive years, the schools registered an improvement with a mean grade of B- as indicated by 25.1%, 32.4% and 36.6% of the principals respectively. This meant that there was an improvement in KCSE performance. Good performance in a school attracts more students and consequently raises the demand for that school. The improved KSCE performance in the secondary schools in Nairobi City County probably might have led to an increase in demand in the secondary schools.

The study findings are supported by MoEST (2014) which indicates that that KCSE performance had improved over the years and the number of candidates scoring C+ and

above had increased tremendously. In the current study, the improved KSCE performance was part of the wider country improvement in KCSE grade and thus the findings are supported. The findings are also consistent with KIPPRA (2002), where KCSE exam score was found to be a key determinant of demand for secondary schools. The study indicated that KCSE scores provide a signal of whether school enrollment yields sufficient human capital which may either encourage or discourage the school enrolment. The study found a positive link between the KCSE score and school enrolment, indicating that parents living in districts with higher KCSE scores are more likely to send their children to school thus raising the school demand.

An increase in the KCSE mean score by one standard deviation (36 points) is associated with a 5% increase in enrolment probability. Findings from a study carried out by Buckingham (2000) found that when parents are choosing a school for their children, academic performance is seldom the highest priority and the situation is similar to parents from both public and private schools. This implies that the continuous improvement in KCSE performance has been one of the causes of the rising demand for secondary schoolsin Nairobi City County as good scores are known to act as stimulants for parents to send their children to school.

4.5.8 Extent to which School Characteristics Enhances Enrollment/Admissions of Students in Schools

Each school has its own unique characteristics. The characteristics may be in the form of gender, location, accommodation, performance and size. Each of these characteristics

may either encourage or discourage demand for a secondary school education. The principals and students were asked to rate the extent to which school characteristics encourages students' admission in their schoolsusing a three-pointer likert scale. They were required to indicate their choices by either selecting 'Not at all'', 'much' or 'very much. A mean of the ratings out of a maximum of 3 and standard deviations were then generated. The principals' responses are presented in Table 4.25.

Table 4.25: Principals responses on the extent to which school characteristic encourages school admissions

School Characteristics N=384	Not at all		Much		Very Much		Mean Ratings	Std. Deviation
	f	%	f	%	f	%		
Public	51	71.8	15	21.1	5	7.0	1.35	.612
Private	17	23.9	31	43.7	23	32.4	1.56	.751
Boys only	32	45.1	25	35.2	14	19.7	1.92	.769
Girls only	24	33.8	28	39.4	19	26.8	1.93	.781
Mixed	17	23.9	43	60.6	11	15.5	1.88	.627
Boarding	52	73.2	15	21.1	4	5.6	1.32	.580
Day	22	33.8	29	44.6	14	21.5	2.31	.740
Day and Boarding	2	2.8	45	63.4	24	33.8	2.31	.523
No. of teachers	34	47.9	21	29.6	16	22.5	1.75	.806
School performance	43	60.6	16	22.5	12	16.9	1.75	.770
Class size	22	31.0	35	49.3	14	19.7	1.76	.708
School location	38	53.5	17	23.9	16	22.5	1.89	.765
Book Ratio	31	43.7	26	36.6	14	19.7	1.35	.612

The study findings from the principals indicate that overall, day and boarding school characteristics had the highest mean rating of 2.31 out of a maximum of 3 in encouraging admissions in secondary schools in Nairobi City County. The rating of 2.31 out of a maximum of 3 was far above average indicating that the day and boarding characteristics highly influenced the demand for a secondary school in Nairobi City County.

The gender characteristics of a school was rated second highest with a mean rating of 1.93 out of a maximum of 3 for a school being girls only, 1.92 for a school being boys only and 1.88 for a school being mixed. The school location was also rated above average at 1.89. The rating of a school being public and book ratio were both rated lowest at 1.35 implying that at the time of searching for school they may not be the overriding factors. Getting a quality school whether public or private may be a priority when parents are searching for a school for their children while the book ratio may not be known at that time. As such the two characteristics may not influence demand to a great extent.

The students also rated the extent to which school characteristics encourages students' admission in their schoolsusing a three-pointer likert scale. They were also required to indicate their choices by selecting either 'very much', 'much' or 'Not at all'. A mean of the ratings and standard deviation was then generated. Their responses are presented in Table 4.26.

Table 4.26: Students responses on the extent to which school characteristics encourages admission in schools

School Characteristics	Very Much		Much		Not at all		Mean Ratings	Std. Deviation
N=384	f	%	f	%	f	%		
Public	48	12.5	78	20.3	258	67.2	1.45	.706
Private	49	12.8	165	43.0	170	44.3	1.68	.687
Boys only	127	33.1	155	40.4	102	26.6	2.07	.770
Girls only	87	22.7	166	43.2	131	34.1	1.89	.746
Mixed	62	16.1	151	39.3	171	44.5	1.72	.726
Boarding	80	20.8	79	20.6	225	58.6	1.62	.808
Day	99	25.8	154	40.1	131	34.1	1.92	.770
Day and ırding	160	41.7	119	31.0	105	27.3	2.14	.819
No. of teachers	88	22.9	103	26.8	193	50.3	1.73	.812
School ormance	142	37.0	86	22.4	156	40.6	1.96	.881
Class size	82	21.5	101	26.4	199	52.1	1.69	.802
School location	101	26.3	120	31.3	163	42.4	1.84	.814

Table 4.26 shows that overall the school accommodation and gender characteristics were rated the highest by the students in encouraging secondary school admission. School being day and boarding had the highest mean rating of 2.14 out of a maximum of 3 followed by school being boys only at 2.07 which is way above average. The mean rating on school performance followed at 1.96 as a characteristic that encourages admissions in secondary schools in Nairobi City County. The ratings for school being day only and being girls only were also high at 1.92 and 1.89 respectively. The location of the school

also mattered as shown by the high mean rating of 1.84. School being public was least rated by the students at 1.45 a similar situation to that of the principals.

The findings imply that demand for a secondary school is highly influenced by the school accommodation arrangements, gender and school location characteristics. Gender of the school (school being either boys or girls) is a major consideration when looking for a secondary school as shown by the study findings. According to the study results, most of the parents may prefer to enroll their children in single sex schools relative to mixed schools. Parents also put into consideration the location of the school when choosing a school for their children where in Nairobi City County, a choice is made between urban and slum schools. However, the choice may be greatly influenced by other factors especially affordability. The findings also indicated that day schools may attract more students than boarding schools. This may be associated with the cost of school where day schools are cheaper than boarding schools and as a result day schools may address the rising demand for secondary school places than boarding schools.

The study findings also shows that school performance had a high mean rating implying that it was of concern when students are seeking for admission. However, according to the principals though performance highly influences the choice of a school, there are other factors that must be put into consideration when parents are demanding placement for their children in secondary schools. They indicated that parents usually put into consideration the gender of the school they enroll their children before they seek for admission which mimic the study results. The high standard deviations show that the

respondents had divergent ideas about the school characteristic that encourages admissions in secondary schools. This implied that the data points were spread over a large range of values from the mean which meant the respondents views about the school characteristic that encourages admissions in secondary schools highly varied.

The findings on extent to which school characteristics encourages students' school admissions are in line with a study carried out by UNESCO (2006) that showed that the gender of a school is a major determinant of school choice and households have to critically analyze the effect of enrolling their children in one and not the other. According to the UNESCO study, availability of girl's school promotes access to girl education and vice versa for boys' school where availing more girls' schools was found to narrow the enrolment gaps. Sosale (2000) found that holding all other factors constant, pure girls and boys' secondary schools attract more students than mixed schools a similar situation to the findings of the current study. The current study findings are also in line with Ewing et al (2004) who found that day schools usually draw children from the neighborhood and cost less than boarding schools which impacts positively on school demand.

The findings of the current study found the location of the school to be of consideration when parents are seeking for admission in a secondary school showing a convergence with Ewing et al (2004). According to Ewing et al (2004), school location is a major consideration when enrolling a student because it determines schools accessibility and environment as far as security is concerned. The study found that the cost associated with boarding schools was higher than that of day schools where a parent had to make

serious considerations when enrolling a child which mimic Ewing et al (2004) who found that day schools usually draw children from the neighborhood and cost less than boarding schools which impacts positively on school demand. The current finding on performance was also in line with the earlier findings which had indicated that KCSE scores provide a signal of whether school enrolment yields sufficient human capital which consequently influences the school demand.

4.5.9 Extent to which School Resources have been Efficiently Utilized

The study attempted to establish the extent to which school resources have been used efficiently to meet the rising demand for secondary school places in Nairobi City County. This was motivated by the fact that addressing the rising demand for secondary school places depended on how efficiently the available resources were being utilized. As earlier indicated in the literature review, an education system is efficient, if maximum output is obtained with minimum possible input (Kumbhaker and Lovell, 2000). For the schools to be efficient, they should be able to absorb maximum number of students by use of the available resources.

Responses were sought from the principals. They were required to rate the extent to which school resources had been used efficiently using a three-pointer likert Scale. They indicated their choices by selecting 'Not at all', 'Some extent' or 'Great extent'. The ratings were further weighted out of 3 out of which mean ratings and standard deviations were generated. Their responses are presented in Table 4.27.

Table 4.27: Extent to which school resources had been used efficiently

Resources	Not at all		Some extent		Great extent		Mean	Std.
	f	%	f	%	f	%	Ratings	Deviation
Land	36	50.7	26	36.6	9	12.7	1.62	.704
Finances	44	62.0	24	33.8	3	4.2	1.42	.577
Time	28	39.4	38	53.5	5	7.0	1.68	.604
Classrooms	36	50.7	31	43.7	4	5.6	1.55	.604
Teachers	43	60.6	23	32.4	5	7.0	1.46	.629
Laboratories	39	54.9	28	39.4	4	5.6	1.51	.606
Curriculum Support Materials	38	53.5	30	42.3	3	4.2	1.51	.582
Furniture	42	59.2	29	40.8	0	.0	1.41	.495
Boarding Facilities	30	42.3	25	35.2	16	22.5	1.80	.786
Buildings	34	47.9	34	47.9	3	4.2	1.56	.579
Transport Facilities	21	30.4	33	47.8	15	21.7	1.62	.704

The findings in Table 4.27 shows that overall the most efficiently used school resources in addressing the rising demand for secondary school places in Nairobi City County were boarding facilities with a mean rating of 1.80 out of a maximum of 3. The standard deviation for boarding facilities was also high implying that the respondents' views about

their efficiency of use were diverse. Furniture and finances had the lowest mean rating of 1.41 and 1.42 respectively which were below average an indicationof low efficiency of use. However, the standard deviations of the mean ratings for furniture (.577) and finances (.495) were narrow showing that the respondents' views on utilization of the two resources were very close to one another showing that there was a consensus on the ratings.

The mean rating of most of the other resources was average or slightly above average. Land is an important resource in school expansion, though it is a scarce commodity. The study results show that the mean rating for land was 1.62 out of a maximum of 3. This would translate to 54% of efficiency of use of land in secondary schools in Nairobi City County implying that its use was average. Considering that land is a scarce and expensive resource in Nairobi City County, the results contradicts the normal expectation as it implies that the available land was underutilized. Similar results were obtained from the observation schedule which showed that in most of the schools especially public schools, land for expansion was available but had not been fully utilized. These findings are of concern considering that the demand for secondary schools is rising and have not been fully met but the study findings shows existence of unutilized land which is important for expansion. This implies that within the schools, there was still some unused land and if put into use, the rising demand for secondary school education would be addressed.

4.5.10 How the Existing Secondary School Resources could be Efficiently Utilized

More information on how efficiently the existing secondary school resources could be utilized was sought from the principals. The principals were asked to suggest how efficiently the existing secondary school resources could be utilized to accommodate more learners. They suggested that schools should: add more streams in schools which had a high demand for school places, admit more learners to fill up classes with few students by improving areas of concern, government should beef up security for safer school environment and schools should avoid over enrolling as well as ensuring school resources are adequately used.

The study found that some schools were located at the middle of the city where concentration of students was affected by city activities while some schools had names that were not academically appealing. The principals suggested that these schools should be relocated to a friendlier environment while those school names that are not appealing should be changed. The principals further suggested that the schools should be better equipped and rehabilitated to meet the current needs of education. Others suggested an increase in boarding facilities by use of triple deckers and replacing study desks with beds. The principals also suggested that in order to provide more places, the schools should erect storied buildings to accommodate more students and overcome the challenge of scarcity of land for expansion.

The principals further suggested that schools should rent or hire school facilities to generate income which can provide opportunities for the needy students. In addition, the

principals indicated that the government should employ more teachers and dedicate more resources to education. The laboratories should be equipped as well as having an intense funding for motivating students from poor background to ensure that they remain in school. These would enable more students to join secondary schools and would thus address the rising demand for secondary school places.

The principals also suggested that the government should introduce learning in shifts which can accommodate more learners as well as introduce joint development agenda between public and private schools. Full or maximum utilization of existing land resources should be made by building more classes and other facilities in order to accommodate more students. The principals further suggested that a deliberate effort should be made to encourage schools to be day schools or every school to open a day facility to offer more learning chances that are affordable to the parents.

The principals also suggested that popular schools should be encouraged to share students with other schools which are not popular so as to attain the required classroom population. To save on costs of hiring more teachers, there should be a system of sharing teachers, books, halls, libraries and recreational facilities with neighbouring schools. The suggestions given by the principals are both pro-poor programs and better utilization of the available resources which if effected would be enablers in addressing the rising demand for secondary school places in Nairobi City County.

4.5.11 MoEST Officers Views on the Utilization of School Resources

More information on how efficiently the existing secondary school resources could be utilized was sought from the MoEST officers. They were asked to comment on the efficiency in use of the secondary school resources. Their responses on the utilization of resources were similar to those of the principals. They pointed out that secondary schools had been allowed to enroll even more than the number of recommended students during admission so as to fully utilize the available resources. Schools had also been allowed to use their facilities for other courses/ institutions when their students were not on session so as to generate income.

Land was also committed to income generating activities so as to lower the cost of education and enhance access. One of them pointed out that; "Some secondary schools may have land for expansion but because of the parents mentality that education is the responsibility of the government, not many of them are willing to contribute to development projects". That meant that, though there might be land for expansion, resources for expansion may be a challenge. However, the ministry of education officials retaliated that some schools had small pieces of land which posed a challenge of expansion but indicated that the schools could expand upwards through erection of storied buildings. In order for the schools to address the rising demand for secondary school education, they should be encouraged to take advantage of all the available opportunities especially the ones pointed out by the MoEST officers so as to expand their schools and admit more students.

The qualitative findings contradict the quantitative results whereby though the Ministry of education had put guidelines in place to enable efficient use of available resources in schools, none of the available resources had been fully utilized since their mean ratings were below 3 which was the maximum. The principals suggestions also indicated that there was under utilization of the available resources which if well utilized could address the rising demand for secondary school education in Nairobi City County.

4.6 Cost and Demand for Secondary Education in Nairobi City County

Educational costs are all the forms of resources used up in the process of providing education for an individual or for a group of individuals (Owolabi, 2006). All the expenses that are incurred by a student in the course of learning are the cost to that individual. The study sought to find out the extent to which cost had influenced the demand for secondary schools in Nairobi City County. This was in regard to the schools income generating activities, average amount of fees charged, extent to which school cost hinders students' enrolments and whether schools had opportunities that enabled needy students to participate in income generating activities to enable them generate fees. Responses were sought from both the principals and the students.

The principals and students were asked to indicate the average amount of fees charged per term in their schools. Their responses are presented in Table 4.28.

Table 4. 28: Average amount of fees charged in schools per term

Average fees per term Kshs ('000)	Principals		Students	
	f	%	f	%
Less than 30	55	77.5	268	69.8
31-40	8	11.3	61	15.9
41-50	3	4.2	41	10.7
51-60	3	4.2	7	1.8
Above 60	2	2.8	7	1.8
	71	**100.0**	**384**	**100**

Findings in Table 4.28 show that majority (77.5%) of the schools sampled were charging less than 30, 000 shillings per term. A few (2.8%) of the schools were charging 60,000 shillings and above per term. Findings from the principals' were similar to those of the students where majority (68%) indicated that their schools were charging less than 30,000 shillingsper term with a further 15.9% of them reporting that the fees charged in their schools ranged between 31-40 thousand shillings per term. Only 1.8% of the students indicated that the fee charged was above 60 thousand shillings per term.

The finding on majority of schools charging less than 30,000 shillings per could be attributed to the fact that majority (46.5%) of the schools that participated in this study were day schools while 28.2% were both day and boarding. It is worth noting that most of the secondary schools in Nairobi City County are day schools due to the urban settings and as such they enjoy Free Day Secondary Education (FDSE) which makes them cheaper and affordable relative to boarding schools. Day secondary schools therefore

have the capacity of attracting more students to school because they can afford and thus are addressing the rising demand for secondary schools in Nairobi City County.

The study also attempted to establish whether there was a relationship between average amount of fees charged per term and frequency of admission requests (demand). Table 4.29 shows the cross tabulations between average amounts of fees charged per term and frequency of admission requests.

Table 4.29: Relationship between demand for secondary schools and average amount of fees charged per term

			Average amount of fees charged per term Kshs ('000)					
			Less than 30	31-40	41-50	51-60	60 and above	Total
Frequency of admission requests	Very frequent	f	19	5	2	1	0	27
		%	70.4	18.5	7.4	3.7	.0	100.0
	Frequent	f	29	3	1	2	2	37
		%	78.4	8.1	2.7	5.4	5.4	100.0
	Not at all	f	7	0	0	0	0	7
		%	100.0	.0	.0	.0	.0	100.0
Total		**f**	**55**	**8**	**3**	**3**	**2**	**71**
		%	**77.5**	**11.3**	**4.2**	**4.2**	**2.8**	**100.0**

The findings show that 70.4% of those schools that charged less than Kshs 30,000 per term had very frequent admission requests while 78.4% equivalent to 29 respondents indicated that they had frequent admission requests in their schools. The findings thus reveal no change of demand for secondary school places among schools that charge higher fees and vice versa. This is further reinforced by the fact that, of the 2 schools that charged school fees above Kshs 60,000 they reported to have frequent requests for secondary school admissions. As earlier indicated that apart from school fees, performance is a priority when parents are choosing a school for their children and probably this was the overriding factor in the 2 schools that charged school fees above Kshs 60,000. This therefore implied that the demand for secondary schools in Nairobi City County was not dependent only on the fees charged in a school.

To further determine the relationship between the amounts of fees charged per term and demand for secondary schools, a correlation between the two variables was done. The results are shown in Table 4.30.

Table 4.30: Relationship between average amounts of fees charged per term and frequency of admission requests

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Interval by Interval	Pearson's R	.076	.090	-.632	.530[c]
Ordinal by Ordinal	Spearman Correlation	.154	.106	-1.296	.199[c]
N of Valid Cases		71			

Table 4.30 shows that the correlation coefficient value between the amounts of fees charged per term and frequency of admission requests was 0.076. The correlation coefficient of 0.076 further shows that there existed no relationship between the amount of fees charged and the number of admission request in secondary schools in Nairobi City County. This could be attributed to the fact that each school had the ability to attract students of a certain economic class and thus to some of the parents, the amount of fees charged may come second while to others it may be a priority.

The current study findings on resources mimics Hewett, Mensch, Chimombo, Ghuman, Lloyd and Gregory, (2008) who found that resources both book and non-book materials, and any other learning environment that provides a learning experience to a learner to be critical in education delivery and key in enrolment. In the current study, boarding

facilities, classes and teachers were found to be significant where an improvement in the variables would increase the demand for secondary schools. The findings are in line with Fredriksson, (2004) who found that material resources such as textbooks, learning materials, classroom libraries, school facilities and human resources influence teaching in class and learner achievement thus a major factor in school enrollment. The results are also supported by Fredriksson, (2004), who indicated that it is difficult for teachers to teach when they do not have the necessary resources. In further support of the findings, Hewett et al (2008) indicated that material resource inputs are important in teaching and learning since they correlate positively with achievement.

The results on student book ratio in the current study which were found not to be significant in influencing the demand for the secondary schools negates findings of APHRC (2013) which indicated that text books are an important teaching and learning materials and has an influence on school demand. Though the current findings may be attributed to the fact that student book ratio may not be known openly when one is seeking for admission, the results are contradicted further by Verspoor (2008) who found a positive relationship between textbooks and student's choice of a school. However, the current study found school performance to be statistically significant where an improvement in performance was noted to attract more students to the school. This was is in line with Verspoor (2008) who found that there is a positive effect of textbooks on student learning and APHRC (2013) who found the associations between students mean scores and textbook pupil ratio to be positive and not to be statistically significant after controlling for school teacher and pupils characteristics.

The study results on school being mixed or not was statistically significant with a positive relationship. This implied that a secondary school being mixed attracts students in private schools in Nairobi City County relative to a public one. The study findings contradicts UNESCO (2006) which found out that availability of girl's school promotes access to girl education and vice versa for boys' school. The study results found that availing more girls' schools narrows enrolment gaps. Gender mix in schools is a major determinant of school choice. The results are further negated by Sosale, (2000) who indicated that households have to critically analyze the effect of enrolling their children in one school and not the other and holding all other factors constant, all girls and all boys' secondary schools attract more enrolments than mixed schools. The current study is further diverged by Ngware, Oketch and Ezeh (2008) and Jane (2009) who indicated that the enrolment in school is not influenced by the child's gender.

The studies found that there is a high probability of a male child being enrolled in school than a female child which concurs. According to the study, being male increases the probability of attending school by approximately 3% and if the proportion of boys increased by 1 percent, then the probability of enrolling in a private school increases by one percent relative to girls. Thus irrespective of whether a school is mixed or not the, later study indicates that enrolment is determined by the childs gender.

4.6.1 Extent to Which School Costs have Hindered Enrolment

The cost of schooling influences the school demand as this is the direct price for sending the child to school (KIPPRA, 2009). The cost of schooling a child differs from one

family to the other as it is heavier for parents of low financial status and has been found to be an obstacle in enrolment of their children. The principals were asked to indicate the extent to which school costs had hindered enrolment in their schools. Their responses are presented in Table 4.31.

Table 4.31: Extent to which school costs had hindered secondary school enrolment

Extent Cost had	**Principals**		**Students**	
hindered Demand	**f**	**%**	**f**	**%**
Great extent	12	16.9	21	5.5
Some extent	50	70.4	335	87.2
Not at all	9	12.7	28	7.3
Total	**71**	**100.0**	**384**	**100**

Table 4.31 indicates that majority of the principals (70.4%) and students (87.3%) felt that the school costs had hindered enrollment to some extent. However, a few of the school principals (12.7%)and 7.3% of the students were of a different opinion where they indicated that cost had not hindered enrollment in their schools at all. The high percentage responses from the principals and students on the extent to which school cost had hindered enrollment mimic the literature review that indicated that secondary education exerts a heavy financial burden on parents where some are unable to meet the cost (APHRC, 2007). The principals who indicated that cost had not hindered enrollment of students probably were referring to students who came from financially able backgrounds or those schooling in public day schools because of FDSE program.

4.6.2 Schools Major Sources of Income

From the literature, the major sources of income for schools are fees and government grants (Fish and Paraguaya, 2006). The principals and students were asked to indicate the schools major sources of income. The principals cited sources like bursaries, sponsors and donors, FDSE Funds, school fees, parents, CDF, MoEST, hire of school facilities, bakery, proprietorships and church funding. The students' responses were similar to those of the principals. However, they had additional sources like agriculture, games and sports, clubs, harambees, sale of uniforms, canteen, selling of the school leftovers, milk and hay. Additional income apart from the traditional sources is a substitute of the school finances and can be a strategy of addressing the rising demand for secondary education.

4.6.3 Whether the Schools Had any Income Generating Activities

As earlier indicated in the literature review, apart from charging fees, government grants and the altruism of others, schools generating their own income is also a source of school income (Fish and Paraguaya, 2006). Some of the benefits of schools generating their own income would be to get more resources to expand the school facilities as well as reduce school fees/offer scholarships to poorer students. In addition, it would offer more opportunities for students to enroll in the schools which would be a strategy of addressing the rising demand for secondary education. The principals were asked to indicate whether their schools had any income generating activities. Their responses are presented in Table 4.32.

Table 4.32: Principals and students responses on whether their schools had income generating activities

Any Income Generating Activities?	Principals		Students	
	f	%	f	%
Yes	11	15.5	187	48.7
No	60	84.5	197	51.3
Total	**71**	**100.0**	**384**	**100**

The findings show that majority of the schools did not have any income generating activities as reported by 84.5% of the principals and 51.3% of the students. However, a few of the principals (15.5%) and students (48.7%) indicated that their schools had some income generating activities. From the findings, most of the schools are no able to enjoy the gains associated with income generating activities because they are no available. This implied that schools majorly depend on fees and government grants for their operations which may be limiting. Consequently the schools lack income that could be generated from income generating activities to expand the school facilities as well as reduce school fees or offer scholarships to poorer students which denies the students opportunities to enroll in the schools. The responses from the students contradicted those from the principals where more than triple of the students compared to the principals indicated that there were incomes generating activities in their schools. Probably this discrepancy could be attributed tostudents' lack of enough information or lack of understanding of income generating activities.

Those principals and students who indicated that their schools had some income generating activities were asked to specify them. The principals indicated that their schools had some income generating activities like: bill boards erected in their schools which generated income, universities hired classes during the holiday, proceeds from school canteen, green house for vegetables, school agriculture projects, zero grazing units, hiring school facilities like school grounds and bus and school bakery. The income generating activities cited by students were similar to those of the principals with only a few exceptions showing convergence in agreement. The additional income generating activities cited by students were income from parking fees, fundraising, games and sports, payments by outsiders for school library use, school winning trophies and sale of mandazis by club members.

4.6.4 Extent to which Income Generating Activities had Enabled Schools to Control Fees

The study attempted to establish the extent to which the income generating activities in the school enabled the schools to control the fee charged. As earlier shown in the literature review, income generating activities can enable schools to reduce school fees or offer scholarships to poorer students (Miruka, 2009). In this regard, the principals were asked to indicate the extent to which the income generating activities in their schools had enabled them to control fees charges. Their responses are presented in Figure 4.7.

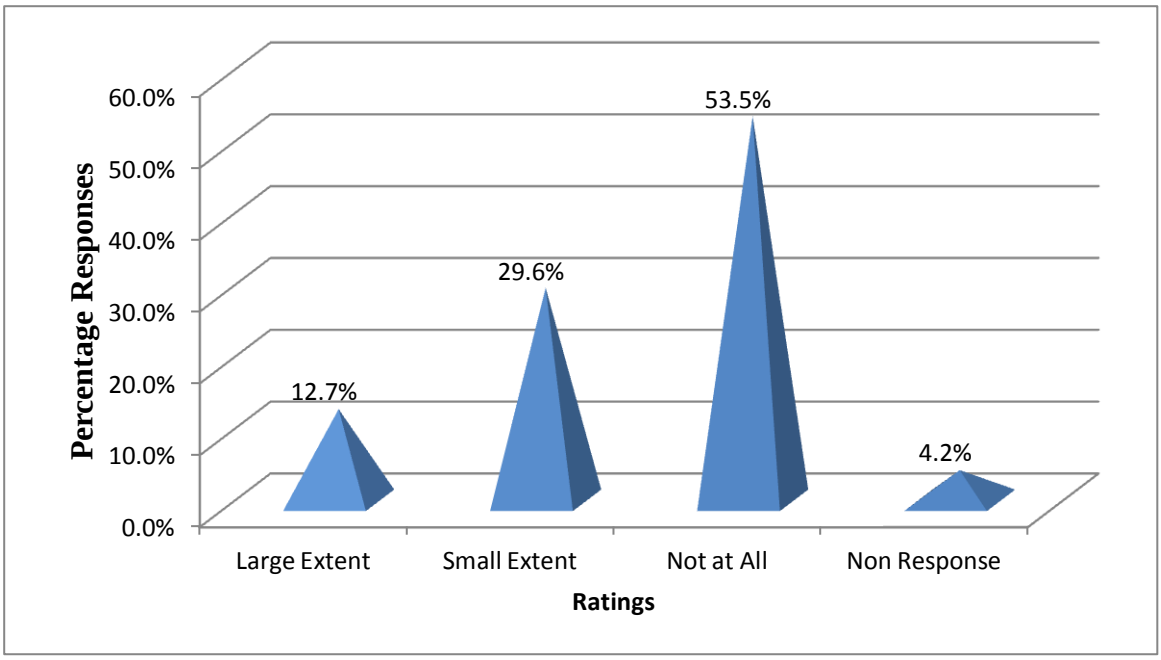

Figure 4.7: Extent of fees control through IGAsas per the principals

From the findings, the income generating activities had not enabled majority of the principals (53.5%) to control the amount of fees charged in their schools. However, 42.3% of the principals reported that income generating activities had enabled themto control the amount of school fees charged in their schools at least to some extent. The findings revealed that income generating activities had not enabled many secondary schools to control the amount of fees charged in Nairobi City County. The findings also show a high percentage response of "**Not At All**" which may be associated with those principals who had indicated that their schools did not have any income generating activities or with those schools where the income generated was insignificant.

The findings imply that very few schools in Nairobi City County were generating income which could be attributed to limited resources for the same associated with the urban

settings. These findings mimic the earlier findings which indicated that most of the schools in Nairobi City County do not have any income generating activities. Considering that school fees challenges affects demand for secondary schools and the income generating activities had only enabled only a few schools to control fees to a small extent, the magnitude of contribution of income generating activities in addressing the rising demand for secondary schools in Nairobi City Countyis also expected to be minimal.

The findings on contribution of income generating activities in addressing the rising demand for secondary schools converges with Miruka (2009) who indicated that school administrators should be encouraged to start income generating activities so as to subsidize the costs of schooling. Similarly, Miruka found income generating activities as an alternative source of school funding.

4.6.5 Percentage of Total Income Spent on Specific School Activities

School spending depends on the budget which is developed out of the available resources and the existing needs. This varies from one school to the other depending on the school characteristics. The school characteristics may differ from the resources available to the varying expenditure areas. Some schools may have to pay teachers salaries while others may not. Others have to meet the cost of boarding while day schools do not. The principals were asked to indicate the percentage of total income they spent in some selected areas. Their responses are presented in Table 4.33.

Table 4.33: Percentage of total income spent on specific activities

Percentage Income Spent on;	1-10%		11-20%		21-30%		31-40%		Above 40%		None Responses	
	f	%	f	%	f	%	f	%	f	%	f	%
Salaries	4	5.6	16	22.5	8	11.3	6	8.5	15	21.1	22	31.0
Development	37	52.1	10	14.1	0	.0	0	.0	2	2.8	22	31.0
Bills e.g electricity, telephone, water	45	63.4	3	4.2	0	.0	0	.0	0	.0	23	32.4
Daily upkeep e.g Food	7	9.9	8	11.3	16	22.5	3	4.2	11	15.5	26	36.6
Educational materials	23	32.4	13	18.3	13	18.3	0	.0	0	.0	22	31.0

Findings from Table 4.33 shows that, the schools spend 1-10% of their income on bills as reported by 63.4% of the principals, school developmentas reported by52.1% of the principals, educational materials as per 32.4% of the principals and on salaries as per 22.5% of the principals. However, 22.5% of the principals indicated that they spend 21-30% of the school income on daily upkeep. A high proportion (above 30%) of the principals did not respond to the question. This may be attributed to how sensitive issues of money are and where most of the principals especially from private schools indicated that issues of money were a docket of the school owners.

The findings indicate that the largest amount of income is spent on recurrent expenditure as compared to the development expenditure. This implies that school expansion is limited in relation to the resources that are committed to development. Considering that absorption of more students into a school requires expansion of the school facilities, the

limited resources for development constrains admission of more students into secondary schools which impacts negatively on the rising demand for secondary schools.

Salaries are major component in an institutions budget and are known to exert a heavy burden on the resources. School employees in a school include both the teaching and non teaching staff. In public schools, the teaching staff are majorly government employees with a few employed by the Board of Management (BoM) while in private schools, the employees are purely BoM employees. The study sought to establish the number of teachers and non teaching staff in schools and their respective employers. The principals therefore asked to indicate the number of teachers who were employed by TSC and BoM in their schools. Their responses are presented in Table 4.34.

Table 4.34: Teachers employed by TSC

Number of Teachers	**Employee**			
	TSC		**BOM**	
	f	**%**	**f**	**%**
0-5	2	2.8	41	57.7
6-10	24	33.8	14	19.7
11-15	15	21.1	10	14.1
16-20	11	15.5	6	8.5
21 and above	19	26.8	0	0
Total	**71**	**100**	**71**	**100**

The findings show that between 6-10 of the teachers and, 21 and above of the teachers were employed by the TSC as reported by 33.8% and 26.8% of the principals respectively. However, 57.7% of the principals indicated that 0-5 of the teachers in their schools were employed by BoM while another 19.7% of the principals indicated that 6-10 of the teachers were also employed by BoM. A few 2 (2.8%) of the principals indicated that 0-5 teachers in their schools were employed by TSC while 8.5% of the principals indicated that 16-20 of the teachers were employed by BoM.

These findings may imply that the schools that had few TSC teachers were the upcoming CDF schools and they were small in nature while schools that indicated that they had a large number of teachers employed by BOM were private schools because private schools do not receive teachers from TSC. The findings shows that a heavy financial burden is exerted on those schools which had a high number of teachers employed by the BOM. Heavy expenditure on salaries impacts on the schools income and may slow down the school expansion implying that the rising demand for secondary schools may not be addressed.

The principals were also asked to indicate the total number of non- teaching staff employed in their schools. Their responses are presented in Table 4.35.

Table 4. 35: Total number of non-teaching staff employed in schools

Total number of non-teaching staff	Frequency	Percent
5 and below	25	35.2
6-10	26	36.6
11-15	3	4.2
16-20	11	15.5
21 and above	6	8.5
Total	**71**	**100.0**

Consistent with the teaching staff, 71.8% of the principals sampled indicated that their schools had less than 10 non-teaching staff. This finding suggests small schools. However, 8.5% of the schools indicated that their schools had 21 and above non teaching staff. This finding may probably have come from the big schools and especially with boarding facilities. The schools which had a high number of non-teaching staff also had to meet a heavy salary burden which reduced the amount of available resources for the expansion of the school. Consequently, development resources are reduced which may hamper the school expansion which limits admission of more students in to the school to ease the rising demand for secondary schools.

4.6.6 Cost Cutting Measures put in Place by School Principals

Cost cutting refers to measures put in place by an institution to reduce its expenses and improve profitability. Cost cutting measures in schools may include use of best procurement procedures, reducing wastages in use of water, electricity and other consumables, reducing employees and lowering monthly bills. Qualitative information on

the type of cost cutting measures schools had put in place was sought from the principals and education officers. The principals and education officers were asked to indicate the type of cost cutting measures they had put in place in their schools. They indicated that they have been cutting cost by acquiring supplies in bulk, getting some supplies in kind, use of best procurement methods, budgeting and sticking to the budgets and avoiding borrowing. They also indicated that they save cost through direct procurement of food stuffs, educating students on how to use electricity and water to reduce costs, encourage agriculture students to utilize the school farm and every person in the school is accountable for things under them.

Some schools have expanded school bakery to supply bread externally to other schools at a subsidized cost with an aim of generating income, jointly managing some areas like lunch and transport, harnessing rain water, installation of bakery to reduce bread cost, minimizing kitchen wastage, multi tasking of workers in the school, produce management, purchasing right portions of food and rearing dairy animals for milk. Schools had separate KPLC meters for staff who live in the school, schools share expenses with primary schools, develops functional operation manual procedures and asking students to carry lunch so as to save on hiring kitchen attendant. The schools also ask for fees on time, use firewood and charcoal, not using electricity for cooking, and constant review of tendering system to take advantage of lowest cost providers.

The ministry of education officials gave suggestions on how the cost of secondary schooling could be managed to accommodate more learners in Nairobi City County.

They indicated that secondary education should be made free completely through government subsidies and with the help of private sector. Since day secondary education is free, the government can convert all secondary schools into day schools so that the boarding aspect which is a huge expense is removed. All schools should start income generating activities so as to supplement students' fees, students who do not have school fees can be given some little work to do in school during free time to earn some money to pay for their school fees and bursaries should be given to the talented students to pursue education. The MoEST officers indicated that since government provides FDSE, all schools should have a day wing to enable more students to enroll while public secondary schools should be classified in the same level i.e. abolish national, extra county and county. This provision is provided for in the education act which recommends categorization of schools only into two categories i.e. public and private (Republic of Kenya, 2015).

The proposals that were given by both the principals and education officers on the cost cutting measures schools had put in place if fully implemented would largely the rising demand for secondary schools in Nairobi City County.

4.6.7 Whether schools had Opportunities that Enabled Needy Students to Generate Fees

The study sought to establish whether schools had any opportunities that enabled needy students to generate fees. As earlier indicated, available opportunities can enable students to generate fees and improve their access and participation. The principals and students

were asked to indicate whether their schools had any opportunities that enabled needy students to generate fees. Their responses are presented in Table 4.356.

Table 4.36: Whether needy students had opportunities to generate fees

Opportunities for	Principals		Students	
Generating Fees	**f**	**%**	**f**	**%**
Yes	4	5.6	75	19.5
No	65	91.5	309	80.5
None Response	2	2.9	0	0
Total	**71**	**100.0**	**384**	**100**

Majority of the principals (91.5%) and students (80.5%) indicated that there were no opportunities for the needy students to generate fees in their schools. However, 5.6% of the principals and 19.5 % of the students indicated that their schools had opportunities that enabled the needy students to generate fees. A further two (2) of the 71 principals did not respond. From the findings, very few schools had opportunities for the needy students to generate fees in their schools. Lack of opportunities that could enable the needy students to generate fees in schools may have denied them a chance to participate and remain in school. In those schools where opportunities that can enable the needy students to generate fees exist, it may contribute in addressing the rising demand for secondary schools.

The principals and students who indicated that their schools had opportunities that enable needy students to generate fees were asked to mention these activities. The activities

included games and sports, green house farming, rearing cows, planting food in the school farm, selling mandazis in school clubs and keeping the school clean over the holidays. These opportunities enabled students to generate fees which wasa strategy of addressing the rising demand for secondary schools in Nairobi City County.

Sponsors assist students to pay all or part of their fees and enable them to enroll in schools. They assist in addressing the rising demand for secondary schools. The study thus sought to establish whether apart from their parents students had sponsors who assisted them to pay fees. Their responses are presented in Figure 4.8.

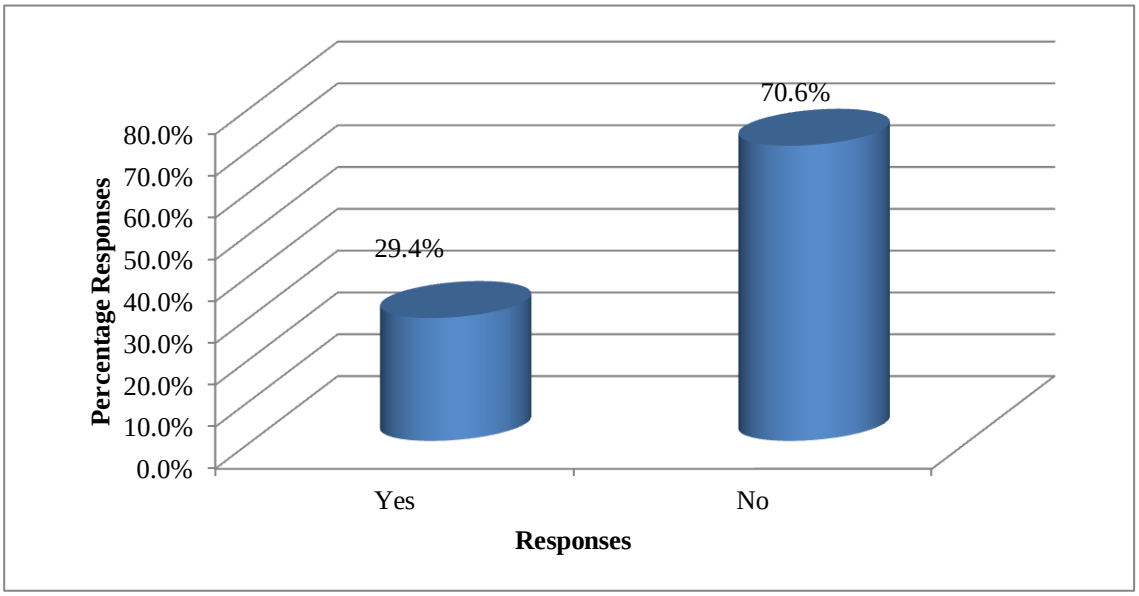

Figure 4.8: Whether students had sponsors who assisted them to pay fees

Majority (70.6%) of the students did not have any person or organization that was assisting in paying their fees. Their fees were being paid for by their parents. However, 29.4% of the students were being supported to pay fees by either a person or an organization. From the findings, it was evident that most of the parents had to shoulder

the fees burden of their children alone with only a few of them being supported. This implied that most of the parents who had financial difficulties could probably have not been able to enroll their children in secondary schools. The study results show that only a few sponsors were assistingto address the rising demand for secondary schools in Nairobi City County.

The students who indicated that they were being supported to pay fees were asked to indicate their supporter. Out of the 113 students being supported to pay fees, most 44 (38.9%) were being supported by CDF, 31% by relatives and 19.5% by NGOs. The church was supporting a few (10.5%) of the students to pay fees. From the findings, CDF was a major supporter of secondary school students in Nairobi City County.

The study further attempted to establish whether existence of income generating activities in schools had an influence on the demand for secondary schools in Nairobi City County. A cross tabulation of existence of waiting lists for admission and income generating activities in schools was done. Table 4.37 shows the results of the cross tabulation.

Table 4.37: Relationship between existence of waiting list of admissions and school income generating activities

			Are there any school Income generating activities?		
			Yes	**No**	**Total**
Is there a waiting list for admission?	Yes	f	4	37	41
		%	9.8	90.2	100.0
	No	f	7	23	30
		%	23.3	76.7	100.0
Total		**f**	**11**	**60**	**71**
		%	**15.5**	**84.5**	**100.0**

Table 4.37 shows that according to 90.2% of the principals, those schools that did not have any income generating activities had some waiting lists of admission requests while 76.7% of the principals whose schools did not have any income generating activities indicated that they had no waiting list of admission requests. Thus the results show no change across the column. Moreover 9.8% of those schools in Nairobi County that had some income generating activities had a waiting list of admission requests while a further 23.3% of those schools which had some income generating activities did not have any lists of admission requests in their schools. The findings therefore show no relationship between the demands for secondary schools in Nairobi county and schools ability to raise extra income from other sources which would lead to reduction in school

fees. This implied that the income generated in schools in Nairobi City County secondary schools was not significant enough to cause a change in school fees and hence did not affect the demand for secondary school places.

To further determine the relationship between the waiting list of admission and existence of school income generating activities, a correlation between the two variables was done. Table 4.38 is a correlation between existence of waiting list of admission and school income generating activities.

Table 4.38: Correlation between existence of waiting lists of admission and school income generating activities

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Interval by Interval	Pearson's R	-.085	.118	-1.567	.122[c]
Ordinal by Ordinal	Spearman Correlation	-.085	.118	-1.567	.122[c]
N of Valid Cases		71			

Table 4.38 shows that the correlation coefficient value between existence of waiting list of admission and school income generating activities was -0.085. Similar to the cross tabulation results, the correlation coefficient value of -0.085 showed that there existed no relationship between the existence of school income generating activities and

demand for secondary school places in Nairobi City County. As earlier indicated, the income generated in schools in Nairobi City County was not significant enough to cause a change in school fees and hence did not affect the demand for secondary school places.

4.6.8 Suggestions on How Schools Can Encourage Admission of More Students

Qualitative information was sought from the principals and students on how schools can encourage admission of more students. The principals and students were therefore asked to suggest ways in which the school can encourage admission of more students. The principals suggested that the MoEST fee guidelines should be strictly enforced as well as cost sharing between parents and the government. They also suggested that the government should subsidize needy students' fees or have a fee waiver for the needy performing students so that they can be able to enroll and remain in school. The government should also extend favour to the private schools through allocation of bursaries to needy students and also subsidized pay for teachers in private school so as to enable private schools to charge reasonable and manageable fees. This can result to attraction of more students to private schools and enhance retention and consequently address the rising demand for secondary schools in Nairobi City County.

The principals further suggested that TSC should employ and post enough teachers to schools to enable them cut down on the hiring cost and thus ease the pressure on the school budget. The government should encourage partnerships in schools to supplement efforts of the private schools so that they are affordable by also including students in

private schools in the free KNEC exam program NB: This has since been implemented starting this year. Schools should also be encouraged to look for sponsors to assist needy students.

In addition, schools should be compelled to start income generating activities and generate income which can be used to subsidize the students' fees and make the schools more affordable. They also urged the government to open more schools in the rural areas which can absorb more students across the divide and ease pressure in urban areas as well as start open learning centres for form three and four students through which more knowledge can be generated. They indicated that since Kenya's education system is very costly the Country could focus on a system with subjects beneficial to students in their daily life.

Currently the country is in the process of reforming the curriculum and this is one of the issues of interest. The principals further suggested that parents should provide services needed in schools to minimize cost of education while procurement systems should be more flexible to allow schools to purchase necessities cheaply and locally within the community. The schools should be encouraged to be renting school facilities over the holiday to generate more income while also trying to cut down on cost by employing less subordinate staff as well as by using students labour to run the schools. The principals also suggested that the government should reach out to organizations to donate or sponsor schools as a way of mobilizing resources. Finally the principals

proposed that 8-4-4 curriculum should be reviewed which was in line with the ongoing curriculum reform (KICD, 2016).

The students also gave their suggestions on the ways in which secondary schools can encourage admission of more students. They indicated that schools should come up with ways of generating additional income in the school such as schools engaging in agricultural activities, fundraising, renting school facilities to generate income, selling bakery products, students to cook chapatis and cakes for sale, selling school uniforms and boarding equipments, buying computers for developing graphics for sale, students to be allowed to work in the canteen and bookshop for pay, reduce workers so as to reduce salary expenses, asking for assistance from NGOs and buy a school bus for hire as it also acts as a way of advertising the school. They also suggested other ways of expanding enrolment such as building more classes, converting the school to be single sex schools so as to attract more students, convert the school into a day and boarding so as to accommodate more students, good use of school resources by students, utilization of bare land and the government should help construct buildings in the private schools.

Other suggestions made by students that could encourage admission of more students in schools are co curriculum activities, saving on electricity and water, start an art and craft activity to boost talents, sporting activities, improved academic performance in schools, using field for functions and using renewable sources of energy. The findings on the school being single sex and converting them into day schools are in line with the earlier

findings which showed that school being a single sex school and also being a day school encourages admissionof more students in the secondary schools (Dibski, 2003).

The findings of the current study are in line with KIPPRA (2009) which indicated that school cost is the major determinant of school demand and also a major hindrance to enrolment. The study found a negative relationship to exist between school demand and cost. The findings also converges with APHRC (2013) which indicated that private schools charges high fees which are borne by the parents and are likely to hinder school demand.

The current findings are further supported by Banerjee (2004) who found that demand for education at all levels depends on costs and the ability and the willingness of a family to pay these costs without which they cannot access. The current study shows that those who cannot afford are denied access. In further support, APHRC (2007) found that fees is a major education burden and an obstacle to secondary school enrolments which minimizes the chances of children enrolling in secondary schools as also indicate by the current findings.

The current study findings on cost mimics Efanga & Gomiluk (2014) who found a statistically significant relationship existed between educational cost and the demand for secondary education in Nigeria. The results are supported by Ndakor (2009) who also found that a relationship existed between the direct cost of education and demand for private secondary education in urban areas of Rivers State of Nigeria. The findings are

further supported by Banerjee (2004) who indicated that demand for education at all levels depend on costs and the ability and the willingness of a family to pay these costs. In the current study, an increase in the amount of fees lowered the likelihood that a parent would enroll a child in a private secondary school relative to a public one. The findings are further supported by APHRC (2013), who similarly found that private schools charges high fees of which about three quarters of the charges goes to tuition with a fifth going to school meals which is borne by the parents. Attendance to these schools is thus limited to the affordability of the amounts by the parents.

The current findings also converges with APHRC (2007) who found school fees charges to be a major education burden and an obstacle which minimizes the chances of children enrolling in secondary schools. The findings are further supported by Jane (2009) and Nafula etal (2002) who found that parental choices concerning school enrolment was influenced by cost and benefits associated with education. The study found that an increase in school fees and in the opportunity cost of attending school is likely to reduce enrolment.

The current study found a significant negative relationship to exist between the amount of fees charged in a school per term and the demand for a secondary school in Nairobi City County. This relationship contradicted KIPPRA (2009) who found a significant positive relationship to exist between school demand and school cost. This could be attributed to the fact that apart from cost other factors like the economic status of a family come into play as far as demand for secondary education is concerned. However

the current study findings were further supported by Holla and Kremer, (2008) who found that consumers are sensitive to the cost of education and that fee remains a major barrier for many families. A study in China by Sosale, (2000) found a negative relationship existed between cost and demand for secondary education whereby rural areas attracted few students in private schools due to cost though this is where over 70 percent of population resides. This was attributed to the fact that rural wages are about a half of those in urban areas and thus the cost burden was heavier.

4.7 Public Private Partnerships (PPPs) that could be Exploited to Address the Rising Demand for Secondary Schools in Nairobi City County

Public private partnerships (PPPs) in education aims at maximizing the potential for expanding equitable access to schooling and for improving education outcomes, especially for marginalized groups (Patrinos, 2009). It is thus core in expanding educational opportunities. The study sought to explore the Public Private Partnerships that could be exploited to address the rising demand for secondary education in Nairobi City County. Responses were sought from the principals. They were asked to indicate whether there were any Public Private Partnerships in their schools. Their responses are presented in Figure 4.9.

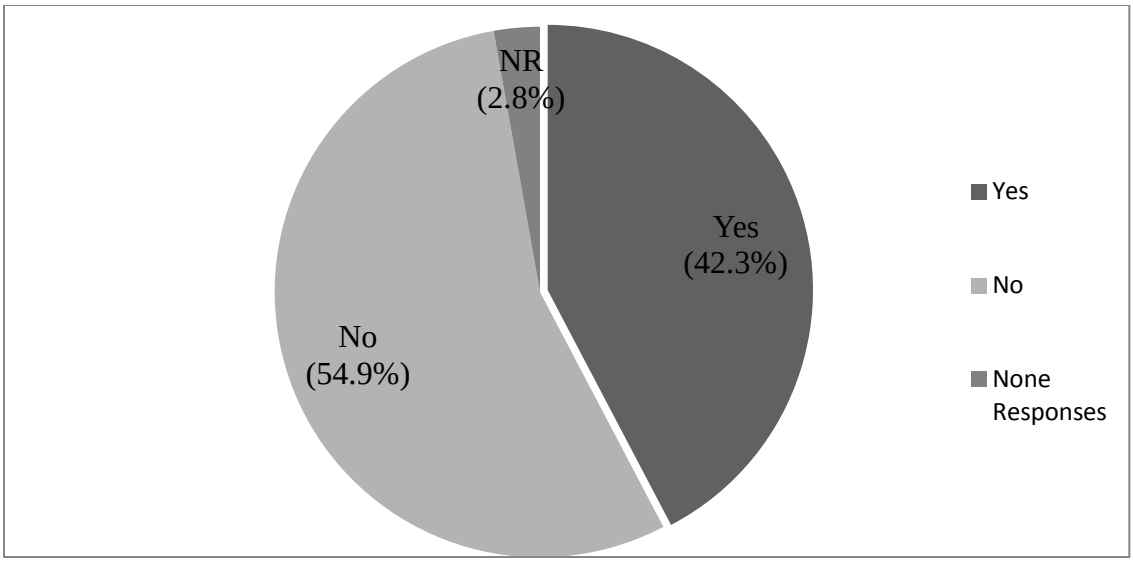

Figure 4.9: Public private partnerships in schools

The study findings show that 54.9% of the principals indicated that there were no public private partnerships in most of the schools. However, 42.35% of the principals reported that there were Public Private Partnerships in their schools. A few 2 (2.8%) of the principals did not respond to this question. The findings shows that only a few of the schools (less than half) had Public Private Partnerships. The schools that had public private partnerships were likely to benefit from expanded educational opportunities and thus address the rising demand for secondary schools in Nairobi City County. The schools that had no Public Private Partnerships loose the gains that come with the same and thus fail to address the rising demand for secondary schools in Nairobi City County.

The principals who indicated existence of Public Private Partnerships in their schools were further asked to indicate the kind of partnerships that existed in their schools. Some of principals indicated that Asian donors had built some classes for their school while others indicated that their schools were usually allocated bursaries which they termed as

a type of partnership in addition to students' sponsorship and donations from organizations.

They further indicated that capacity builders usually sponsored training of teachers while local churches usually offered financial support to some of the secondary schools. Some other principals indicated that the community around usually assisted schools in development while some members of the public supported a number of students to pay fees. In one of the schools, BIDCO had sponsored construction of classes in the school which had led to increased admission of students due to expanded facilities.

Those principals whose schools had Public Private Partnerships were further asked to indicate the extent to which PPPs had enhanced the school enrolment. Their responses are presented in Figure 4.10.

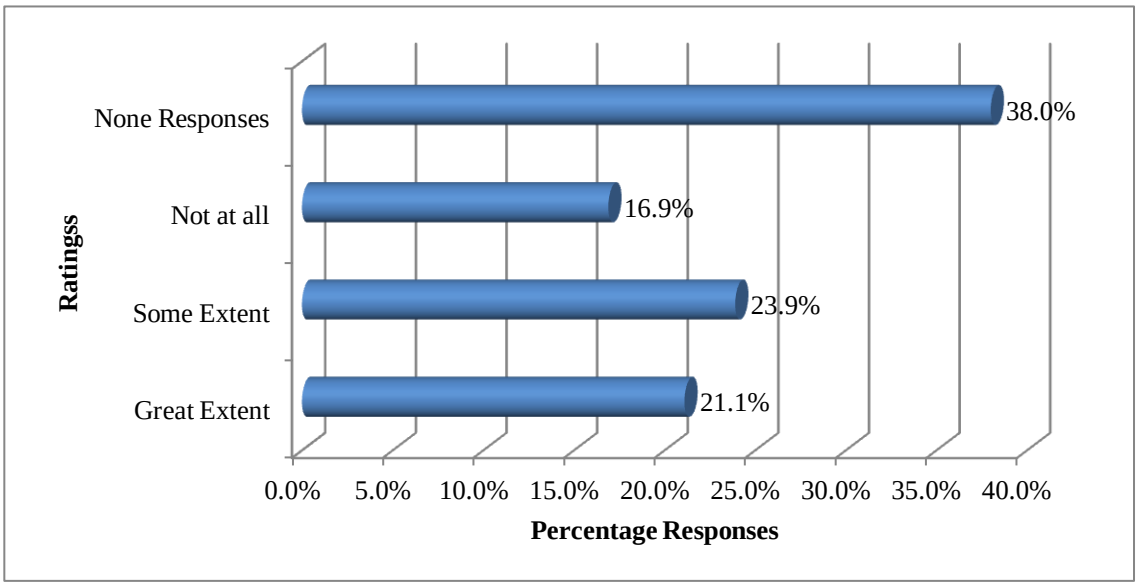

Figure 4.10: Extent to which PPPs had enhanced enrolment

From the study results, 45% of the principals' indicated that Public Private Partnerships had enhanced enrollment in the schools to at least some extent. However, 27 (38%) of the principals did not respond. The non response was attributed to those principals who had indicated that their schools did not have any PPPs and as such this question was not applicable to them. As earlier demonstrated, partnerships were not prominent in secondary schools in Nairobi City County. The minimal number of partnerships may not affectively address the rising demand for secondary schools in Nairobi County especially for students from financially challenged background.

The study also attempted to establish whether the demand for secondary schools in Nairobi City County could be attributed to existence of Public Private Partnerships. A cross tabulation of waiting list for admission and existence of Public Private Partnerships was done. Table 4.39 shows the results.

Table 4.39: Relationship between waiting lists of admission and existence of public private partnerships

			Waiting list for admission?		
			Yes	No	Total
Any Public Private Partnerships?	Yes	f	24	6	30
		%	80.0	20.0	100.0
	No	f	15	24	39
		%	38.5	61.5	100.0
	Non Response	f	2	0	2
		%	100.0	.0	100.0
Total		**f**	**41**	**30**	**71**
		%	**57.7**	**42.3**	**100.0**

From the findings, the principals (80.0%) who indicated that their schools had some form of Public Private Partnerships also pointed out that there were waiting lists for admission in their schools. A further 20% of them reported that there were no waiting lists for admission in their schools even though the schools had some form of Public Private Partnerships. However, 38.5% of those school principals whose schools had no Public Private Partnerships indicated that they had some waiting lists of admission which was an indication of existence of demand for secondary schools in Nairobi City County.

The findings demonstrate that, most of the schools that had some form of public private partnerships also had waiting lists for admissions. Thus the study reveals that existence

of some form of partnerships in secondary schools increased the demand for secondary school places. This implies that availability of Public Private Partnerships in Nairobi City County could be a strategy of addressing the rising demand for secondary education.

To further determine the relationship between the waiting lists of admission and existence of any Public Private Partnerships, a correlation between the two variables was done. The results are shown in Table 4.40.

Table 4.40: Correlation between waiting lists of admission and existence of public private partnerships

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Interval by Interval	Pearson's R	.643	.057	1.116	.049[c]
Ordinal by Ordinal	Spearman Correlation	.586	.111	3.005	.004[c]
N of Valid Cases		71			

Table 4.40 shows that the correlation coefficient value between the waiting list for admission and existence Public Private Partnerships was 0.643. A correlation (γ) value of 0.643 shows a strong positive correlation between existence of some form of Public Private Partnerships and an increase in waiting admission lists and the reverse is also true which is significant at 95% confidence interval. This means that the presence of Public Private Partnerships in schools results into an increase in demand for the school.

Thus, an increase in Public Private Partnerships could be a remedy in addressing increasing demand for secondary school education in Nairobi City County.

The study also sought to establish whether the waiting list of admissions could be attributed to the extent to which PPPs had enhanced enrolment in schools. A cross tabulation of principals responses of waiting listsof admission and existence of any Public Private Partnerships was done. Table 4.41 shows the results.

Table 4.41: Relationship between waiting lists of admission and extent to which PPPs had enhanced enrolment

			Waiting list for admission?		
			Yes	**No**	**Total**
Extent to which PPP has enhanced enrolment	Great Extent	f	13	2	15
		%	86.7	13.3	100.0
	Some Extent	f	15	2	17
		%	88.2	11.8	100.0
	Not at all	f	8	4	12
		%	66.7	33.3	100.0
	None Response	f	5	22	27
		%	18.5	81.5	100.0
Total		**f**	**41**	**30**	**71**
		%	**57.7**	**42.3**	**100.0**

Table 4.41 shows that the principals (86.7%) and 88.2% who indicated that public private partnerships had enhanced enrolment in their schools to a great extent and to some extent respectively also pointed out that there were waiting admission lists in their schools. A further 66.7% of them reported that there were waiting admission lists in their schools even though Public Private Partnerships had not enhanced enrolment in their schools. The findings mimic the earlier ones which indicated that Public Private Partnerships increases the demand for secondary schools and consequently address the rising demand for secondary schools in Nairobi City County.

A correlation between the waiting list for admission and the extent to which Public Private Partnerships had enhanced enrolment was done to determine their relationship. The results are shown in Table 4.42.

Table 4.42: Correlation between waiting lists of admission and extent to which PPPs had enhanced enrolment

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Interval by Interval	Pearson's R	.624	.094	6.626	.000[c]
Ordinal by Ordinal	Spearman Correlation	.601	.089	6.253	.000[c]
N of Valid Cases		71			

Table 4.42 shows that the correlation coefficient value between the waiting list for admission and the extent to which Public Private Partnerships had enhanced enrolment was 0.624. A correlation (γ) value of 0.624 shows a strong positive correlation between enhanced enrolment by Public Private Partnerships and an increase in waiting list of admission and the reverse is also true which is significant at 95% confidence interval. This meant that Public Private Partnerships had enhanced enrolment in secondary schools in Nairobi City County which had consequently led to an increase in waiting list of admission. This implied that an increase in enrolment through Public Private Partnerships could be a remedy in addressing rising demand for secondary education in Nairobi City County.

4.7.1 Public Private Partnerships that could be Exploited to Address the Rising Demand for Secondary School Education in Nairobi County

More information on public private partnerships that could be exploited to address the rising demand for secondary school educationin Nairobi City County was sought from the principals. The principals were asked to suggest the Public Private Partnerships that could be exploited to address the rising demand for secondary school education in Nairobi City County. They suggested that bursaries should also be allocated to students in private secondary schools to enable more students to enroll in these schools, that MoEST should also scrap KCSE exam fees for students in private schools while businessmen should also participate in schools by funding development projects. The community should support construction of classes, donation of text books and supporting girls in terms of giving them sanitary towels. They also indicated that donors

should be invited to build laboratories, classes and in capacity building courses. In addition, the government should employ the same support systems for both public and private schools and intensify support for the needy students. The principals also pointed out that school facilities could be improved by companies as part of Cooperate Social Responsibility (CRS) while the schools should acquire low interest rates from banks for building infrastructure. Further suggestion was that permits levies for operating private schools should be reduced which would enable many investors to put up quality schools that would address the rising demand for secondary education in Nairobi City County.

The field education officers also gave their suggestions on Public Private Partnerships that could be exploited to address the rising demand for secondary education in Nairobi County. The ministry of education officials suggested that the private sector could participate by giving bursaries to bright and needy students, helping to improve the infrastructure in public education institutions, mentoring or playing a role modeling function by giving motivational talks to the pupils, procuring reading and writing materials for the students or through offering professional support to teachers and BOMs for proper management of education.

The education officers suggested that the private sector could provide infrastructure by building, operating and transferring where building means they do the structures and charge to recover investment and then they fully transfer the facilities to schools when they get their money back. The schools could also expand the facilities by using parents to construct. The education officers further indicated that because MoEST allow one

project activity at a time, schools should give expansion a priority as well as allow schools to get loans from bank if it is a viable investment and use the money for expansion. The suggestionsthat the private sector can provide infrastructure by building, operating and transferring were in line with the findings of the Task Force Report on the Re-Alignment of the Education Sector 2012 which pointed out that greater involvement of the private sector would play a greater role in expanding secondary education (Republic of Kenya, 2012).

The study reveals some form of partnerships in secondary schools in Nairobi City County which has enhanced the demand. The current findings on existence of Public Private Partnerships in secondary schools and the role they play is in line with the findings of a study by Patrinos 2009 who found that PPPs enhances school participation and access. The Kenya Public Private Partnerships Act No. 15 of 2015 stipulates that Public Private Partnerships have a major role to play in mobilization of resources for expanded educational opportunities for all levels (Republic of Kenya, 2015). As a result their potential shoul be exploited for expanded education.

Patrinos (2009) found that PPPs have been used to provide support to specific group of students by means of a subsidy, a contract, or a voucher. Patrinos indicated that PPPs have had a significant impact in expanding education opportunities in countries like Netherlands, Chile and Gambia. The PPPs have been in the form of the Government providing subsidies to existing private schools or to fund student places. In Netherlands,

all education is publicly financed, including private schools, which enroll more than two-thirds of all students.

In Chile, the private sector plays an important role in providing education, but the government only subsidizes some of the students who attend private schools. In Gambia, government subsidizes independent schools while in Lesotho government partially subsidizes mission or religious schools. In Kenya, the government supports at least partially subsidized community organized schools. Elsewhere, some countries like Pakistan have public schools that are supported financially by the private sector (Patrinos, 2009). The best practices in these countries if borrowed would address the rising demand for secondary education in Nairobi City County.

The current study findings converges with Republic of Kenya, (2012) which indicated that Public Private Partnerships in education maximizes the potential for expanding equitable access to schooling as well as improving education chances of children from financially challenged backgrounds. In further support, Patrinos (2000) points out that the concept of Public Private Partnerships recognizes the existence of alternative options of providing education so as to enhance access and participation.

The current study findings found that some schools had various form of Public Private Partnerships that helps in provision of additional resources some of which the schools could not afford. This finding is supported by Sosale (2000) who found that public sector schools in most countries had limited resources to maintain school infrastructure

and offer basic amenities for an appropriate learning environment and thus any additional support was necessary. The current study revealed that the secondary schools were attempting to get alternative sources of support which is in line with Verspoor and Bregman (2008) who found that many forms of Public Private Partnerships in education were developingin Sub Saharan African countries to help students overcome the financial obstacles of enrolling in secondary schools. However, the current study findings on the upcoming forms of Public Private Partnerships in secondary schools in Nairobi City County diverged from those of Bregman (2008) like fee waivers in public schools, government scholarships or vouchers that students can use to attend private schools and free textbooks.

In the current study, very few forms of partnerships were found in schools. These negates Patrinos, Osorio and Juliana, (2009) who found that many countries had embraced use of public funding through vouchers for private school participation which are prevalent in Australia, Bangladesh, Belize, Canada, France, Japan, Republic of Korea, Poland, and the United Kingdom which have improved access to schools especially for children from financially challenged backgrounds. However, World Bank (2008) findings are in support of the current study which affirmed that Public Private Partnerships are essential to mobilize the necessary resources for sustainable enrollment.

4.8 Government Initiatives and Demand for Education

In an attempt to address the rising demand for secondary education, the Government consistently develops some initiatives. In this study, Government initiatives were seen as

government efforts that enable more students to enroll and to be retained in secondary schools. The Government initiatives that were examined were ICT, cost sharing, Free Day Secondary Education, MoEST approved fees structure, Free KNEC exams, school categorization and Bursaries. The study sought to examine the extent to which the initiatives had addressed the rising demand for secondary education in Nairobi City County. The principals were therefore asked to indicate whether the government initiatives had addressed the rising demand for secondary schools in Kenya. They were expected to rate the extentto which the existing Government initiatives had addressed the rising demand for secondary school places in Nairobi County using a rating scale. Percentages, mean ratings and standard derivations were then derived. Their extent of rating was captured on a likert scale ranging from'Not at All=1', 'Some Extent=2' or to a 'Great Extent=3'. From the responses, an average response index was computed on a continuum ranging from 1 to 3 for the purpose of depicting the general pattern of responses. The closer the index was to the maximum of 3, the more the initiative was perceived to have addressed the rising demand for secondary education in Nairobi City County. The principals' responses are presented in Table 4.43.

Table 4.43: Extent to which government initiatives have addressed the rising demand for secondary schools

Government Strategies	Not at all		Some Extent		Great Extent		Mean Ratings	Std. Deviations
	f	%	f	%	f	%		
ICT	57	80.3	9	12.7	5	7.0	1.27	.585
Cost sharing	18	25.4	48	67.6	5	7.0	1.82	.543
Free day secondary school	13	18.3	50	70.4	8	11.3	1.93	.543
MoEST approved fee s structure	30	42.3	33	46.5	8	11.3	1.69	.667
School Categorization	43	60.6	25	35.2	3	4.2	1.44	.579
Free KNEC Exams	45	63.4	23	32.4	3	4.2	1.41	.575
Bursaries	14	19.7	48	67.6	9	12.7	1.93	.569

The findings in Table 4.43 shows that free day secondary schools and bursaries were regarded highly by the principals with an average score of 1.93 out of a maximum of 3 which was a rating above average. This implied that according to the principals'free day secondary schools and bursaries had addressed the rising demand for secondary school place in Nairobi City County by 64% which was relatively high. The other initiatives that were rated above average were cost sharing at 1.82 (61%) and MoEST approved

fees structure at 1.69 (56%). The Government initiatives whose average ratings were low were ICT at 1.27 out of a maximum of 3, free KNEC exams at 1.41 and school categorizations at 1.44 which were below average i.e. below 50%. The findings indicates that free day secondary schools, bursaries, cost sharing and MoEST approved fees structure were considered to be very effective in addressing the rising demand for secondary education in Nairobi City County.

The high ratings on free day secondary schools and bursaries could be attributed to the magnitude of fees burden the initiative offloads from parents which have enabled more students to access secondary schools. The low ratings on ICT and free KNEC exams may be attributed to the fact that ICT does not have an effect on direct fees burden which is a major factor which hinders secondary education access while free KNEC exams effect is only at the final stage of completion of secondary education and not on admission and retention.

More information on the effectiveness of the secondary school initiatives in addressing the rising demand for secondary education in Nairobi City County was sought from the ministry of education officials. The ministry of education officials commented on the effectiveness of the secondary school initiatives in addressing the rising demand for secondary education in Nairobi City County. They indicated that the Government offers quality education ensuring that syllabus is covered through remedial/tuition classes.They felt that FDSE had also lowered the cost of secondary education by availing free secondary education to those in day schools while the use of ICT enables students to get

information quickly through sharing on internet and availing more materials beyond what the teacher can give.

The ministry of education officers indicated that meeting the cost of KNEC examination by the government ensures that everybody who is in a public school will sit for their examination which is an incentive. Though by the time the data was collected free KNEC exams was only benefiting students in public schools, the government has so far extended to private schools starting this year (2017). The ministry of education officials also indicated that the free KNEC exam was a relief to parents and an enabler meant to ensure that all students go through the full cycle. However, mean ratings contradict the ministry of education officials' sentiments as the ratings were below average in addressing the rising demand for secondary education in Nairobi City County. This could be attributed to the stage at which the exam support come as earlier indicated.

The mimistry of education officers indicated that because of FDSE many CDF schools had been opened to enable more students to access secondary education where estates have created space and used CDF money to start secondary schools which have enhanced access and participation in secondary schools. The County governments have also come in and built schools while at the same time there are NGOs which supports education and thus have helped to address the rising demand for secondary education in Nairobi City County. The ministry of education officials cited the ongoing national policy on curriculum reform that focuses on restructuring education to reduce time spent in primary schools to 6 years and utilize the space for junior secondary education and

indicated that it will address the rising demand of secondary education by freeing some of the classes meant for primary schools to serve secondary school purposes..

The ministry of education officials suggested that ICT information should be packaged and given to students which had not happened. The approved fees structure had been implemented but should be enforced so as to attract more students to schools. They indicated that bursaries are a Government initiative but they are currently being managed at county levels and they are supposed to assist needy students. However, the officers indicated that they have been thinned to an extent that there help in not significant and the core purpose of the bursaries may be lost. They indicated that building secondary schools within primary school is the most current government initiative and targets where there is space and are meant to create more access to secondary schools as well as address the rising demand for secondary education in Nairobi City County.

An analysis of the frequency of admission requests as an indicator of demand for secondary school education (as the dependent variable) against some strategies that the government has put in place to address the rising demand for secondary education (as the independent variables) was conducted. The results are presented in Table 4.44.

Table 4. 44: Model summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.789[a]	.623	0.056	.654

a. Predictors: school categorization, MoEST approved fees structure, Free KNEC Exams, cost sharing, setting up secondary schools within primary schools, Free day Secondary Education & Bursaries

b. Dependent Variable: frequency of admission requests

The findings show that the R value for the model is 0.798. This revealed a high positive degree of correlation between the dependent and the independent variables. Further a value of R^2 of 0.623 shows that Government initiatives put in place can explain 62.3% of the extent to which they have addressed the rising demand for secondary education in Nairobi City County. This implies that the current Government initiates are at least 62.3% effective and can be used to address the rising demand for secondary school education in Nairobi City County.

Table 4.45 is the coefficients for the regression model for the extent to which government initiatives address the rising demand for secondary education in Nairobi City County.

Table 4.45: Coefficients for the model

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	2.009	.370		5.425	.000
Free day secondary school	.308	.201	.007	.038	.048
Cost sharing	.203	.184	.003	.018	.049
MoEST Approved Fees	.146	.142	.153	1.027	.049
structure	.340	.241	.036	.164	.042
Bursaries	.046	.203	.041	.226	.822
Free KNEC Exams	.090	.154	.080	.582	.563
School Categorization					

a. Dependent Variable: frequency of admission requests

The results show that all the existing Government initiatives have a predictive value on addressing the rising demand of secondary school education in Nairobi City County apart from school categorization, and free KNEC Exams. A model in this case takes the form;

Frequency of admission requests = 2.009+.308free day secondary school+.203Cost sharing+.146MoEST approved fee structure+.340Bursaries+.046free KNEC Exams+.090school categorization+e

The findings on the extent to which the existing Government initiatives had addressed the rising demand for secondary school education in Nairobi City County are consistent with Kande (2007) who noted that Free Day Secondary Education (FDSE) and availability of students' bursaries leads to consistent increase in school enrolment. Kande indicated that Free Day Secondary Education (FDSE) and bursaries acts as incentives that attract learners to school and the findings converge with the current study. The current study findings on school being boarding or not and school location variable was statistically significant with a negative relationship. This implies that a secondary school being boarding relative to being a day lowers the demand for private secondary schools in Nairobi City County relative to public ones while a secondary school being located in a slum area compared to other areas in Nairobi City County lowers the likelihood of a student choosing a private secondary school relative to a public one.

Ewing et al (2004) found that day schools usually draw children from the neighbourhood and cost less thus also impact positively on school demand. The choice of whether to attend a boarding or a day school is highly dependent on distance to school among other factors. Parents cited long distance as a primary barrier to children walking or biking to school. The location of a school from home is thus a very key determinant of student's enrolment because as it pertains to whether it is accessible and also whether the environment is secure for movement of children. The study found that the costs associated with boarding schools are higher than that of day schools where a parent has to make serious considerations when enrolling a child. As a result where cost is of concern

especially in poor households, day schools attracts high demand relative to boarding schools. Boarding schools may also restrict demand to accommodation facilities which discourages demand. Day schools may offer more education opportunities to the learners at a lesser cost as teachers, instructional materials and classrooms are majorly the key requirements and subsidies through the FDSE.

4.9 Overall Regression Model Summary of the Study Data

To establish the overall contribution of the variables to the study, a multiple linear regression was used. The study calculated the overall model summary of the study data. The study considered the frequency of admission requests against one variable in each objective. It was run by randomly selecting one dependent variable (frequency of admission requests) against independent variables from each study objective.Table 4.46 shows the model summary of the overall study regression data.

Table 4.46: Overall study regression model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.786[a]	.618	.383	.291

a. Predictors: school categorization, MoEST approved fees structure, Free KNEC Exams, cost sharing, setting up secondary schools within primary schools, Free day Secondary Education & Bursaries

b. Dependent Variable: frequency of admission requests

The model shows that overall the study variables accounts for 61.8% explanations of the strategies of addressing the rising demand for secondary school education in Nairobi City County as shown by the value of 0.618 for R^2 (coefficient of determination). This implies that the study variables could not account for 38.2% explanations of the possible strategies of addressing the rising demand for secondary schools places in Nairobi City County.This implies that the demand for secondary school education in Nairobi City County can be predicted with some degree of confidence.

Table 4.47 shows coefficients for the regression model.

Table 4.47: Coefficients[a] for the model

Model	Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B	
	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
(Constant)	1.159	.240		4.834	.000	.680	1.638
Resources	.063	.099	.063	.636	.527	-.135	.262
PPPs	.007	.001	.636	6.250	.000	.005	.009
Cost	.037	.092	.040	.398	.692	.148	.221
Govt Strategies	.133	.087	-.157	-1.533	.000	.307	.040

a. Dependent Variable: waiting list for admission

The findings show that Public Private Partnerships (PPPs) and provision of free day secondary school are significant in determining the demand for secondary school education at alpha 95% confidence interval. As a result they should be intensified.

4.10 Logit Estimation Model

A logit estimation modelwas alsofitted to further assess the relationships between independent and dependent variables. A binary logit regression model was fitted using students' data, with the type of school as the outcome variable. Public school was used as the base category for the dependent variables. The model was chosen as the dependent variable is binary that took the values 0 if public and 1 if private school. The likelihood of a student choosing a private secondary school given a public school in Nairobi City County is determined by the variables used in the binary logit model which are defined in the Table 4.48.

Table 4.48: Definitions of variables used in the binary logit model

Variable	Definition	Measurement
KCPE Marks attained	Marks attained at KCPE	Continuous Variable
Students Gender	Male or female	Male = 0 Female =1
School location	Slum or other areas in Nairobi County	other areas = 0 Slum =1
School category (Mixed or not)	Mixed School or not	Single sex = 0 Mixed =1
School category (Boarding or not)	Boarding or not	Not Boarding =0 Boarding=1
Class size	Number of pupils in a class	Continuous Variable
Teacher student ratio	Average number of students per teacher in a school	Continuous Variable
Any Income generating activities (IGAs)	Activities that enable school to generate income	No=0 Yes=1
Fees per term	Amount of money paid by a student per term	Continuous Variable
Number of streams	Number of streams per class per school	Continuous Variable
Sponsorships	Any other person other than parent or, an organization paying fees for student	No=0 Yes=1
Student Book ratio	Average number of students sharing a book in a school	Continuous Variable
Any unoccupied classes?	Classes that are not being used in a school	No=0 Yes=1
2014 Mean grade	Current Average KCSE mean score	Continuous Variable
Public Private Partnerships	Presence of financial, material or service supporters in the school	No=0 Yes=1

From the model, estimates of the likelihood of a student chosen at random either joining a public or private school in Nairobi City County can be estimated. In the model, the likelihood of a student choosing a public secondary school is used as the base relative to

choosing a private secondary school which assumes the value of 1. Table 4.49 shows the results of the overall study binary logit model.

Table 4.49: Overall logit estimation modelModel 1: Binary Logit, using observations 1-384

Dependent variable: Likelihood of a student chosen at random either joining a public or private school

Standard errors based on Hessian

	Coefficient	*Std. Error*	*z*	*p-value*	
KCPE Marks attained	0.315234	0.503402	0.6262	0.5312	
Students Gender	−0.445192	0.325506	−1.3677	0.1714	
School location	−2.49221	0.438674	−5.6812	<0.0001	***
School category (Mixed or not)	2.7255	0.591806	4.6054	<0.0001	***
School category (Boarding or not)	−4.02692	0.6531	−6.1658	<0.0001	***
Class Size	−2.13081	0.375554	−5.6738	<0.0001	***
Teacher pupil ratio	1.00502	0.483223	2.0798	0.0375	**
Any Income Generating Activities	−0.486031	0.331529	−1.4660	0.1426	
Fees per term	−0.738458	0.365207	−2.0220	0.0432	**
Number of streams	−0.244325	0.371037	−0.6585	0.5102	
Sponsorships	−0.834912	0.500922	−1.6668	0.0956	*
Student Book ratio	−0.453434	0.414513	−1.0939	0.2740	
Any unoccupied classes?	−0.732001	0.354941	−2.0623	0.0392	**
2014 KCSE Mean grade	−0.74796	0.340084	−2.1993	0.0279	**
Public Private Partnerships	1.0324	0.318034	3.2462	0.0012	***
Constant	−10.5136	2.4409	−4.3073	<0.0001	***

Mean dependent var	1.489583	S.D. dependent var	0.500544
Log-likelihood	−149.4775	Akaike criterion	332.9550
Schwarz criterion	400.1159	Hannan-Quinn	359.5940

*Significant at below 10% ** Significant at below 5% *** Significant at below 1%

From the regression results, it is evident that the school location, school being mixed or not, school being a boarding or not, class size, teacher pupil ratio, fees charged per term, presence of unoccupied classes, KCSE mean grade and existence of Public Private Partnership variables had a high Z value of above 2 thus highly significant when alpha was 0.05 and 0.025 in predicting the dependent variable which was the type of secondary school and hence they did have a significant influence on the dependent variable. For the purpose of estimating the likelihood of a student choosing either a public or a private secondary school in Nairobi City County, use of only the highly significant variables was made.

The regression results show that school location variable was significant at 99% as shown by a Z score of -5.7 and P value of 0.0001 with a negative relationship. This implied that a secondary school being located in a slum area compared to other areas in Nairobi City County lowers the likelihood of a student choosing a private secondary school relative to a public one. Given schools located in slum areas, students would rather choose a public secondary school relative to a private one.

The regression results show that the school being mixed or not variable affects the choice of a secondary school in Nairobi City County. A Z score of 4.6 and P value of 0.0001 indicates that school being mixed or not was significant at 99% with a positive relationship. This implies that a secondary school being mixed attracts students demand in private schools in Nairobi City County relative to a public one. There is a likelihood of a student choosing a private mixed secondary school in Nairobi City County relative to a

public one. School being mixed or not variable affects demand for secondary school education in Nairobi City County.

School being boarding or not affects the choice of a secondary school in Nairobi City County as the variable was very significant at 99% with Z value of -6.2 and P value of 0.0001 though the relationship was negative. This implies that a secondary school being boarding relative to being a day lowers the demand for private secondary schools in Nairobi City County relative to public ones. School being boarding or not thus affects demand for secondary school education in Nairobi City County.

Class size variable was very significant at 99% with Z value of -5.7 and P value of 0.0001 though the relationship was negative. This implies that an increase in class size lowers the demand for private a secondary schools in Nairobi City County relative to public ones. However, an increase in class size increases the demand for public secondary school in Nairobi City County relative to private ones. Class size thus affects demand for secondary school education in Nairobi City County.

The regression results show that the teacher pupil ratio was significant at 95% where the Z score was 2.1 with a P value of 0.0375. This implies that an improvement in teacher pupil ratio increases the demand for private secondary schools in Nairobi City County relative to public ones. An improvement in teacher pupil ratio will attract more students to private secondary schools than in public ones in Nairobi City County. Teacher pupil ratio thus affects the demand for secondary education in Nairobi City County.

The fee charged in a school per term was significant at 95% as shown by Z score of -2.0 and P value of 0.0432 as shown by the regression results. The relationship between choice of a secondary school and fees charged was negative. This implies that an increase in fees per term lowers the likelihood that a student will demand education in private secondary schools in Nairobi City County relative to public ones. Fees charged per term affects demand for secondary school education in Nairobi City County.

Having unoccupied classes in a school was a variable of interest in this study. The regression results showed that having unoccupied classes in a school was significant at 95% where Z score was -2.1 with a P value of 0.0392. A negative sign of Z score revealed a negative relationship between demand for private secondary schools and having unoccupied classes in the school. This meant that having unoccupied classes reduced the likelihood of a student choosing private secondary schools in Nairobi City County relative to public ones.

KCSE performance (Mean grade) was significant at 95% as shown by a Z score of -2.2 and P value of 0.0279 with a negative relationship. This implied that a decline in KCSE performance (mean grade) lowered the demand for private secondary schools in Nairobi City County relative to public ones. Thus KCSE performance affects demand for secondary schools in Nairobi City County. A decline in KCSE performance lowers the likelihood of a student choosing a private secondary school relative to a public one.

From the regression results, Public Private Partnership variable was significant at 99% as indicated by a Z score of 3.2 and P value of 0.0012. This implied that having Public Private Partnerships in a school increased the demand for private secondary schools in Nairobi City County relative to public ones. There is therefore a likelihood that a student will choose a private secondary school with Public Private Partnership in Nairobi City County relative to a public one. Thus, public private partnerships have a direct effect on demand for secondary schools in Nairobi City County.

The study finally attempted to establish how the study data was distributed around the mean i.e. the homoscedasticity and normality of residuals. Figure 4.11 shows the study results.

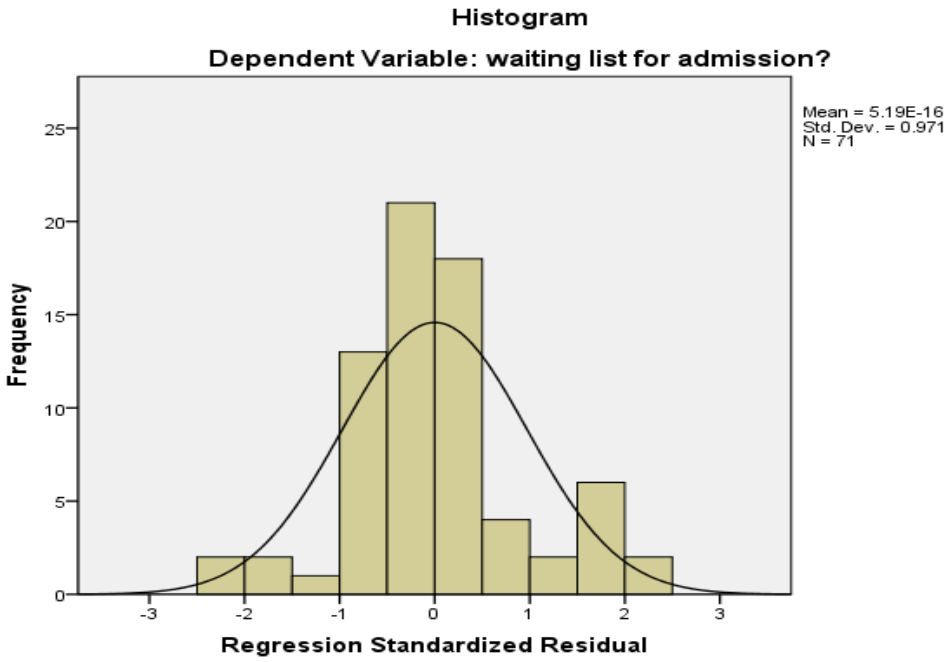

Figure 4.11: Homoscedasticity and normality of residuals

The histogram above indicates that the residuals approximate a normal data distribution. That means that the data was normally distributed.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the entire document highlighting the main research findings, conclusions, recommendations and suggestions for further studies.

5.2 Summary

The purpose of this study was to explore the strategies of addressing the rising demand for secondary school education in Nairobi City County. Nairobi City County was experiencing excess demand in education which had not been fully met due to overstretched Government budget. The objectives of the study focused on utilization of the existing school resources, influence of cost on demand for secondary education, Public Private Partnerships (PPPs) and Government initiatives out of which research objectives were developed.

This study relied on the utility theory which provides a methodological framework of alternative choices made by individuals. The theory assumes that any decision is made on the basis of utility maximization principle according to which the best choice is the one that provides the highest utility to the decision maker.

The study employed a descriptive survey design. The target population for this study was the 70,000 students who were in 77 public and 158 private secondary schools in Nairobi City County. A sample size of 71 schools yielding a 30% of the total number of

secondary schools in Nairobi City County was used. Out of the 71 schools that were used in this study, 24 were public and 47 were private secondary schools. The Krejcie (1970) model adapted by Morgan (1990) was used to determine the required sample size of 384 students for this category. All the 71 principals in the sampled schools participated in this study.

Questionnaires, interview and observation schedules were used to collect data in this study. Data was analyzed using SPSS and STATA which generated both descriptive and inferential statistics.

The study sought to establish the level demand for secondary schools in Nairobi City County. The findings show that majority of the students had preferred to join public secondary schools when they were in primary school. However, a few had preferred to join private secondary schools. This implied that demand for public secondary schools is higher than that of private schools right from the primary schools.

The study revealed that most schools had a waiting list of students who wanted to join the schools. However, a few schools had no waiting lists of students. The waiting list of students showed existence of high demand for secondary education in Nairobi City County.

The study found that lack of vacancies was the major reason for not admitting students in the waiting list. However, some schools indicated that low marks was a reason for not admitting the students in the waiting list while others attributed it to financial challenges.

The summary of the findings are presented according to the specific objectives of the study.

5.2.1 Utilization of Resource in Secondary Schools in Nairobi City County

The first objective was to establish the extent to which the existing school resources had been utilized to address the rising demand for secondary schools in Nairobi City County. The study established that majority of the schools in Nairobi City County were medium sized schools with a student population ranging from 301-400. Proportionately, public secondary schools were larger in size than the private ones as they had enrolled more students.

The study revealed that overall the average class sizes in secondary schools in Nairobi City County were in the range of 26-45. Based on the type of secondary school, some of the public secondary schools had an average class size ranging from 46 students to 56 and above while most of the private secondary schools had an average class size ranging from 26 to 45 students. The study found that there was an increase in demand for admission in public schools as the class size increased as shown by existence of waiting lists in schools with bigger class sizes. This would be explained by the fact that parents tend to seek for admissions in schools with good performance even though the class population may be large. This was supported by the results of the logit regression model which found class size variable to be very significant at 99% with Z value of -5.7 and P value of 0.0001. This implied that an increase in class size lowered the likelihood that a

student would join a private secondary school in Nairobi City County relative to a public one.

In relation to the number of streams in a school, majority of the principals indicated that most of the schools in Nairobi City County were single streamed. Based on the type of school, more than half of the private secondary schools in Nairobi City County were single streamed while about a quarter of the public secondary schools visited had attained three streams. This situation was found to be a limiting factor in addressing the rising demand for secondary schools education in Nairobi City County especially for private schools.

The study found that overall, there were no empty classrooms in the school. Based on the type of school, in almost half of the private secondary schools visited, there were unoccupied classes indicating that they were not being utilized. The findings indicated that having unoccupied classes reduced the likelihood of a student choosing a private secondary school in Nairobi City County relative to a public one.

From the study findings, lack of school fees was the reason given for not admitting more students in the school though there were unoccupied classes. The correlation results showed that there was no relationship between existence of unoccupied classes and the reasons given (lack of vacancies, low marks and lack of school fees) for not admitting students on the waiting lists.

The study findings revealed that overall the most efficiently used school resource in addressing the rising demand for secondary school education in Nairobi City County was boarding facilities followed by land. The findings showed that school being boarding or not affected the choice of a secondary school in Nairobi City County. This implied that a secondary school being boarding relative to being a day lowered the demand for private secondary schools in Nairobi City County relative to public ones. Thus day secondary schools attracted more students than boarding secondary schools.

5.2.2 Cost and Demand for Secondary School Education in Nairobi City County

The second objective was to establish the extent to which cost of schools had influenced the demand for secondary schools in Nairobi City County. Most of the schools sampled were charging less than 30,000 shillings per term while a few of the schools were charging 60,000 shillings and above per term. In most of the schools, costs had hindered enrollment to some extent while in a few of the schools costs had not hindered enrollment at all.

Most of those schools that charged less than Kshs 30,000 per term had very frequent or frequent admission requests in their schools. A few of the schools that charged fees above Kshs 60,000 also reported to have frequent requests for secondary school admissions. The findings thus revealed no change of demand for secondary schools among schools that charged higher fees and vice versa. The findings showed that there existed no relationship between the amount of fees charged and the number of admission request in secondary schools in Nairobi City County. This was attributed to the fact that demand for

education in a particular school is sometimes based on the class which a parent belong and can afford.

The findings showed that most of the schools did not have any income generating activities. However, a few of the schools had some income generating activities. Further, most of the schools with income generating activities did not show any reduction in fee charges though a few of the schools with income generating activities had enabled the schools to control fee charges at least to some extent.From the findings income generating activities in secondary schools in Nairobi City County variable was not significant in predicting the choice of a secondary school in Nairobi City County and hence did not have a significant influence on the dependent variable. Thus in this study, the income generating activities in secondary schools variable could not be used to predict the demand for secondary schools in Nairobi City County.

The study established that though most of the schools had no opportunities for the needy student to generate fees, a few schools had opportunities that enabled the needy students to generate fees. This could be attributed to the limited income generating activities in most of the secondary schools in Nairobi City County which had consequently denied students from financially challenged backgrounds education opportunities.

In most of the schools, parents were paying fees for their children. However, a few students were being supported to pay fees by either a person or an organization. The study results showed that sponsorship variable was not significant in predicting the

demand for secondary schools and hence did not have a significant influence on the dependent variable. Thus in this study, the student sponsors variable could not be used to predict the demand for secondary schools in Nairobi City County.

5.2.3 Public-Private Partnerships (PPPs) that could be Exploited to Address the Rising Demand for Secondary Schools in Nairobi County

The third objective sought to explore the public-private partnerships (PPPs) that could be exploited to address the rising demand for secondary schools in Nairobi City County. Majority of the schools did not have any Public Private Partnerships while a few of the schools had some forms of Public Private Partnerships. This implied that public private partnerships were not prominent in secondary schools in Nairobi City County. The findings indicated that enrollment had been enhanced at least to some extent in those schools which had Public Private Partnerships.

The study findings revealed that existence of Public Private Partnerships in secondary schools increased the demand for secondary school education. This implied that Public Private Partnerships in Nairobi City County could be a strategy of addressing the rising demand for secondary schools. The findings also implied that there was a likelihood of a student choosing a private secondary school with Public Private Partnership in Nairobi City County relative to a public one.

Some of the public private partnerships that existed in schools were donors who had built some classes for the schools, bursaries, student sponsorships and donations, sponsored training of teachers and financial support to some schools.

5.2.4 Effectiveness of the Existing Government Initiatives in Addressing the Rising Demand for Secondary Schools in Nairobi City County

The fourth objective sought to examine the effectiveness of the existing government initiatives in addressing the rising demand for secondary school education in Nairobi City County. The findings indicated that overall the free day secondary schools and bursaries were the most effective government initiatives in addressing the rising demand for secondary school education in Nairobi City County.

Cost sharing was the second rated most effective government initiatives in addressing the rising demand for secondary school education in Nairobi City County followed by MoEST approved fees structure. The government initiatives whose average ratings of effectiveness were low were ICT, free KNEC exams and school categorizations whose ratings were below average. These findings indicated that all the existing government initiatives had a predictive value of addressing the rising demand of secondary school education in Nairobi City County apart from school categorization, and free KNEC Exams.

5.3 Conclusions

The study concluded that the demand for secondary schools is high in Nairobi City County. This was demonstrated by existence of waiting lists of admissions, high number of students in the waiting lists and high frequency of admission requests in secondary schools.

The study concluded that most of the existing resources in secondary schools had not been efficiently utilized in addressing the rising demand for secondary education in Nairobi City County. These included land whose efficiency of use was 54%, boarding facilities whose efficiency of use was 60% and classrooms whose efficiency of use was 56%.

The study established that the school fees charged in secondary schoolsin Nairobi City County had to some extent hindered their demand. The study therefore concluded that the school fees charged in secondary schools in Nairobi City County was an obstacle in addressing the rising demand for secondary education in the County.

The study established that majority of the schools did not have any Public Private Partnerships. The study therefore concludes that Public Private Partnerships are not prominent in secondary schools in Nairobi City County and thus schools were deriving little or no gain at all from Public Private Partnerships in addressing the rising demand for secondary education in Nairobi City County.

The study found that the Government initiatives model had a predictive value. The study therefore concludes that the current government initiatives can be used to address the rising demand for secondary education in Nairobi City County.

5.4 Recommendations

Based on the study findings and conclusions, the following recommendations were made;

The study found that the existing resources in secondary schools had not been efficiently utilized to address the rising demand for secondary education in Nairobi City County. The study therefore recommends that MoEST should ensure that all the available school resources are efficiently utilized so as to attain 100% efficiency of use as a remedy in addressing rising demand for secondary school education in Nairobi City County.

The study found that most of the secondary schools in Nairobi City County were single streamed. The study therefore recommends that MoEST should enforce the recommendations of Basic Education Act No 14 of 2013 which indicated that all schools should strive to attain a maximum of 3 streams by utilizing all the available room space including construction of storied buildings in the event of scarcity of land.

The study recommends that the Government should come up with pro-poor programs borrowing from the best case scenario countries to assist students from financially challenged background to access secondary schools. The government can embrace fee waivers in public schools and use of public funding through vouchers for private school participation which are prevalent in Australia, Bangladesh, Belize, Canada, France,

Japan, Republic of Korea, Poland, and the United Kingdom which have improved access to schools especially for children from financially challenged backgrounds. This is in addition to intensifying the already existing ones like bursaries as well as expanding them to also cater for students in private secondary schools.

The study established that majority of the schools did not have any Public Private Partnerships. The study therefore recommends that all secondary schools either on their own through BoMs or the MoEST should strive to forge Public Private Partnerships so as to mobilize resources to expand schools and address the rising demand for secondary education.This could be realized through formation of linkages with international bodies, NGOs, churches, business organizations and individuals of good will.

The study recommends that Government initiatives should be enhanced to address the rising demand for secondary schools in Nairobi City County.

5.5 Suggestions for Further Research

This study focused on strategies of addressing the rising demand for secondary school education in Nairobi City County, Kenya. It is recommended that further research be conducted in the following areas;

a) Since the current study was only carried out in Nairobi City County which has diverse population characteristics, a similar national study should be carried out to establish the strategies of addressing the rising demand for secondary education in Kenya. This will reveal the extent to which the strategies of addressing the rising demand for secondary school education in Kenya differ by regions.

b) The researcher also suggests that there is need to carry out a study of this nature in primary schools in Nairobi City County. The results of the study will reveal the extent to which the strategies of addressing the rising demand for primary school education in Nairobi City County influences demand for secondary schools in the County. This will assist in developing interventions for addressing demand for secondary school education in Nairobi City County.

REFERENCES

African Population Health & Research Centre (APHRC). (2013). Community participation and after-school support to improve learning outcomes and transition to secondary school among disadvantaged girls: A case of informal urban settlements in Nairobi, Kenya: Shelter Afrique Centre.

African Population Health & Research Centre (APHRC). (2013). Quality and Access to Education in Informal Settlements in Kenya. Nairobi: Shelter Afrique Centre.

African Population Health & Research Centre (APHRC). (2007). Factors Affecting Transition to Secondary Education in Africa. Nairobi: Shelter Afrique Centre.

Agabi, O.G. (2002). Finance and Economic of Public for Education. Port Harcourt: International Centre for Educational services.

Akinsanya, O. (2010). Differential Distribution and Utilization of Human and Material Resources on Students Academic Performance in Secondary Schools in Ogun State. African Journal for the Study of educational issues Vol (3, 4) 2010.

AIR (American Institute for Research). (2003). Alternative Models for Secondary Education in Developing Countries: Rationale and Realities: http://www.eldis.org/vfile/upload/1/document/0708/DOC12104.pdf

Alderman, H., Orazem, P., & Paterno, E. (2001). "School quality, school cost and the public/private school choices of low-income households in Pakistan." *Journal of Human Resources* 36 (spring 2001), 304-326

Alderman, H. & Elizabeth, K. (1998). "School quality, school cost and the public/private school choices of low-income households in Pakistan." *Journal of Human Resources* 36 (spring 2001), 304-326

Appleton, S., Bigsten, A., & Manda, D. (1999). "Educational expansion and economic decline: returns to education in Kenya." Centre for the Study of African Economies, University of Oxford, 1978-1995. WPS/99-6

Bank of Africa. (2011). Corporate Social Responsibility in Education. Nairobi. 74(1): 3-32.

Baird, S., Craig, M., & Berk, O. (2010). "Cash on Condition: Evidence from a Randomized Cash Transfer Program." World Bank Working Paper.

Banerjee, A. (2004). "Education Policy and Economics of the Family." *Journal of Development Economics*

Barasa, D. Y. (2006). *Consequences of financial mismanagement in public secondary schools in Vihiga district*. M.phil thesis, Masinde Muliro university.

Bauer, A., Brust, F., & Hubbert, J. (2002). Expanding Private Education in Kenya: Mary Okello and Makini Schools. New York: Columbia University.

Bedi, A., Kimalu, P., Manda, D., & Nafula, N. (2004). "The decline in primary school enrolment in Kenya." *Journal of African Economies*, Vol. 13, No. 1, pp. 1-43.

Blaug, M. and Mace, J. (1977). "Recurrent Education - The New Jerusalem," *Higher Education*, 6: 217–299.

Brunello, G. & Rocco L. (2008). "Educational Standards in private and public schools. " *The Economic Journal*, pp. 1866-1887

Buckingham, J. (2000). The Truth about Private Schools in Australia. WWW.CIS.ORG.AU.

Cheruiyot, P. K. (2012). Strategies adopted by secondary school principal to address the rising cost of education: a case study of Kuresoi District, Nakuru County. University of Nairobi.

Chweya, N. (2007). The impact of cost sharing policy in education on the dropout rates of public secondary schools in Keumbu division, Kisii central district. University of Nairobi.

Cook, M. (2002). "The difficulty of making the secondary choice", www.theage.com.au/articles/2002/07/24/1027332400123/ Accessed: 30th Sept 15

Coleman, J. S. (1992). "Some Points on Choice in Education." Sociology of Education. 65(4):260-262.

Deolalikar, A. B. (1997). "The determinants of primary school enrolment and household schooling expenditures in Kenya: Do they vary by income?" Department of Economics, University of Washington WP No. 97-12

Dibski, J. D. (2003). *Educational costing and financing in developing countries: Focus on District Education Office, Uasin Gishu (2008 June, 16th).* Discussion with District Education Officer‟s Personnel.

Drew, C., Hardman, M., & Hosp, J. (2008). Designing and Conducting Research in Education. USA. Sage publication. Inc.

Duflo, E., Pascaline, D., & Kremer, M. (2010). "Education, HIV, and Early Fertility: Experiment Evidence from Kenya." MIT Department of Economics Working Paper.

Efanga, S. I. & Gomiluk, O. I. (2014). Educational Costs and Demand for Private Secondary Schools in Akwa Ibom State, Nigeria. *British Journal of Education.* European Centre or Research Training and Development UK.

Edame, G. E. (2008). Economic Impact of Higher Education and Manpower Resource Development in Nigeria. Calabar, Unical Press.

Ewing, R., Schroeer, W., & Green, W. (2004). School Location and Student Travel: Analysis of Factors Affecting Mode Choice. Newyork: University of Maryland.

Evans, D. E., Tandon, A., & Murray, C. J. L. (2000). The Comparative Efficiency of National Health Systems in Producing Health: An Analysis of 191 Countries, Global Programme on Evidence for Health Policy DiscussionPaper No. 29. Geneva: World Health Organization.

Fish, T. M. & Paraguaya, F. (2006). Beyond Fees: A Guide to Income Generation in Schools. http://www.teachamantofish.org.uk/resources/beyondfees.pdf. Accessed on 10/4/2016.

Fredriksson, U. (2004). *Quality Education*: *The Key Role of Teacher Education International,Working Papers no.14.* Washington D.C:.World Bank.

Fraenkel, J. R. & Wallen, N. E. (2000). How to design and evaluate research in education. Boston MA: McGraw Hill Publishers.

Gay, L., Mills, G., & Airasian, P. (2009). Educational Research Competencies for Analysis and Applications. 9th Ed. Edward Brothers. USA. Pearson Education.

Gay, L. R. (2001). *Educational Research: Competencies for Analysis and*

Application10th Edition. Macmillan Publishing Company, New York, USA. Inc.

Gertler, P. & Glewwe, P. (1990). "The willingness to pay for education in developing Countries: Evidence from Rural Peru."*Journal of Public Economics*, vol.42.

Gitogo, I. G. (2016). Relationship between KCPE and KCSE Examination Performance among Secondary School Students with a Public and Private Primary School Background. A Case of Nyandarua County Kenya. Laikipia University, Nyahururu, Kenya.

Gibbons, S., Machin, S., & Silva, O. (2006). "Choice, competition and pupil achievement". *Journal of European Economic Association*, Vol. 6(2008), pp. 912- 947

Glick, P. & Sahn, D. E. (2000). Schooling of girls and boys in a West Africa Country: The effects of parental education, income, and household structure. *Economics of Education Review, 19*, 63-87 http://dx.doi.org/10.1016/S0272-7757(99)00029-1.

Greyling, J. (2009). Reading for the Dream: Quality Education for all. Educational studies 35, 4, 425

Green, S. (2002). "Rational Choice Theory: An Overview." Baylor University Faculty Development Seminar on Rational Choice Theory. http://business.baylor.edu/steve_green/green1.doc.

Grosskopf, S. K. J. H., Lori, L. T., & William, L. W. (1997). "Budget-Constrained Frontier Measures of Fiscal Equality and Efficiency in Schooling," Review of Economics and Statistics 79(1): 116-124

Grosskopf, S. & Valdmanis, V. (1987). "Measuring Hospital Performance: A Non-Parametric Approach," Journal of Health Economics, vol. 6, no. 2, pp. 89-107.

Hanushek, E. & Rivkin, S. (2004). "How to improve the supply of high quality teachers." Brookings Papers on Education Policy, pp. 7-25. The Brookings Institution.

Hanusheck, E. (1999). The evidence of class size. In Mayer, S.E., & Peterson, P.E. (Eds). *Earning and learning*: How schools matter. Washington, DC: Brookings Institution.

Hewett, P. C., Mensch, B. S., Chimombo, J., Ghuman, S., Lloyd, C., & Gregory, R. (2008). *Measuring and Assessing School Quality in Rural Malawi.* Malawian

Journal.

Holla & Kremer. (2008). “Pricing and Access: Lessons from Randomized Evaluation in Education and Health”, in What Works in Development: Thinking Big and Thinking Small, eds. William Easterly and Jessica Cohen, Washington D.C.:Brookings Institution Press.

Hopkins, K. D. (1998). Educational and psychological measurement and evaluation (8th ed.). Boston: Allyn & Bacon.

Hoenack, S. (1997). Economics of Education Review. U.S.A. :University of South Carolina Columbia.

Huisman, J. & Smit, J. (2009). Effects of household and district level factors on primary school enrolment in 30 developing countries. World Development, 37(1), 179-191.http://dx.doi.org/10.1016/j.worlddev.2008.01.007.

IPAR (2006). *Towards Improving Kenya’s Primary Education*: Suggested Policy Interventions. Nairobi: Institute of Policy Analysis and Research.

Jubilee Manifesto, (2017). Continuing Kenya’s Transformation, Together. Government Printers. Nairobi.

Jane, N. (2009). “Determinants of primary Schooling. KIPPRA Publications.

Jaimason, D. T. & Lau, L. (1982). *Farmer Education and Farm Efficiency*. Baltimore: University Press.

Kande, L.W (2007). Private schools involvement in provision of secondary school.

Karmokolias, Y. & Maas, J. (1997). “The business of Education, a look at Kenya’s Private Education Sector.” IFC DP. No. 32.

Katavi, M. & VanderWesthizen, P. C. (1997). Problems facing beginning Principals in Developing Countries: A study of Beginning Principals in Kenya. *International Journal of Education Development,* 17.

Kenya Airways (2008). Corporate Social Responsibility in Education. Nairobi.

KICD (2016). Needs Assessment Study for Secondary School Curriculum. KICD

Publications. Nairobi.

KICD (2014). An Evaluation of the Utilization of Curriculum Resource Materials in Primary and Secondary Schools in Kenya. KICD Publications. Nairobi.

KICD (2010). Summative Evaluation of the School Curriculum. KIE Publications. Nairobi.

KIPPRA (2009). Kenya Economic Report 2009. KIPPRA. Nairobi, Kenya. Retrieved from http://www.kippra.org on 10/4/2016.

KIPPRA (2002). The decline in primary school enrolment in Kenya. KIPPRA Discussion Paper No. 14.

Kirjavainen, T. & Loikkanen, H. A. (1998). "Efficiency Differences of Finnish Senior Secondary Schools: An Application of DEA and Tobit Analysis." Economics of Education Review 17(4): 377-394.

Kivuitu, M. (2005). Perspective of Corporate Social Responsibility for Enviroment and development. International Institute for Environment and Development (IIED). London

Kombo, D. & Tromp, D. (2006). Proposal and thesis writing: an Introduction. Nairobi. Pauline Publication Africa.

Kothari, C. R. (2003). *Research Methodology. Methods and Techniques.* Second Edition. New Age International Publishers. New Delhi.

Kremer, M. & Alaka, H. 2009. "Improving Education in the Developing World: What Have We Learned from Randomized Evaluations?" In Kenneth J. Arrow and Timothy F. Bresnahan, eds. *Annual Review of Economics*, vol. 1.

Krejcie, R.V. & Morgan, D.W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement.*

Kulundu, D. & Mwabu, G. (2006). Determinants of Demand for Schooling. Nairobi: KIPPRA.

Lewis, K. & Caillods, F. (2001). *Financing Secondary Education in Developing Countries: Strategies for Sustainable Growth.* UNESCO office, Paris http://www.unesco.org, 2/12/2014

Lockheed, E. M., Verspoor, A. M., & Associates. (1991). *Improving Primary Education in Developing Countries.* London: Oxford university press.

Lewin, K. M. (2006). Planning for Secondary Expansion in Sub Saharan Africa – Key Issues for Sustainable Growth in Access Perspectives in Education, Vol 24(2), and June 2006, Nigeria, Bofwon Publishers.

Lewin, K. (2003). Secondary Education in Africa: Issues of Cost and Finance. Paper presented at Secondary Education in Africa Conference, Kampala, Zimba, Publishers.

Malenya, F. L. (2009). The Free Secondary Education Agenda. Paper presented at the Education Stakeholders‟ Symposium. Nairobi: February 20, 2008.

Makori, G. H. (2006). Rising cost in Public secondary schools and head teachers management strategies. Unpublished M.phil thesis, Egerton University.

Mariara, J. & Mwabu, D. (2007). "Determinants of school enrolment and education attainment: empirical evidence from Kenya". *South African Journal of Economics.* Vol. 75:3

Mbipon, G. (2010). Educational Administration and Planning, Calabar, University of Calabar Press.

McAliney, P. J. (2009). Positioning the Learning Assessment Portfolio as a Key Component in Organizations Management Strategy. *Performance Improvement*., 48: 16–24. doi:10.1002/pfi.20083

Mingat & Jee-Peng. (1996). The Full Social Returns to Education: Estimates Based on Countries' Economic Growth Performance: Human Development Department, The World Bank.

Miruka. (2009). Rising costs in Public Secondary Schools, Head teachers Management Strategies in Kisii District. Moi University.

MoEST (2015). National Education Sector Plan Volume One &Two: Operational Plan 2013 – 2018. Ministry of Education Science & Technology, Nairobi, Kenya.

MoE (2015). Secondary School Form One Selection / Intake. Retrieved from

http://www.education.go.ke/formone in March 2015.

MoEST (2014). Basic Education Statistical Booklet. Ministry of Education Science & Technology, Nairobi, Kenya.

MoE (2013). ICT Integration in Teaching and Learning. A Manual for Teachers and School Administrators. Nairobi. MoE.

Mosteller, F. (1995). The Tennessee study of class size in the early school grades. *The future of children: Critical issues for children and youths.* Accessed on February 22, 2016from.http://www.princeton.edu/futureofchildren/publications/docs/10-3

Mokshein, S. E., Ahmad, H.H., & Macrow, A. V. (2009). Secondary Teacher Policy Research in Asia: Towards providing quality secondary education: Training and retaining quality teachers in Malaysia. Bangkok: UNESCO, Bangkok.

Muhammad, I. (2012). Public versus Private Secondary Schools: A Qualitative Comparison. *Journal of Research and Reflections in Education.*

Mutisya, M. M. (2011). Impact of Free Secondary Education on Quality of Secondary Education in Katangi , Yatta District - Machakos County, Kenya. Kenyatta University.

Mugenda, O. M. & Mugenda, A. G. (1999). Research methods. Quantitative and Qualitative Approaches. Nairobi.ACTS.

Mwabu, G., Muriithi, M. K., & Mutegi, R. G. (2014). National Transfer Accounts for Kenya: the economic lifecycle in 1994. *Population Aging and the Generational Economy: A Global Perspective.* Cheshire Printers, UK.

Nafula, N., Onsomu, E., Manda, D.K. & Kimalu, P. (2007). "Private sector investment in Primary and secondary education in Kenya: Issues, challenges and Recommendations." Kenya Institute for Public Policy Research and Analysis (KIPPRA) Publications.

Nairobi City County (2014). Task Force Report on Improvement of Performance in Public Primary Schools and Transition Rates from Primary to Secondary Schools Nairobi, Kenya: Government Printer.

Ndakor, R. (2009). The Academic Cost and Quality Assurance. Benin City, Ekewan

Publishers.

Ngware, M. M., Mutisya, M., & Kodzi, I. (2010). Does teaching styles explain differences in learning achievement in low and high performing schools in Kenya. (Working Paper No. 44). Nairobi: African Population and Health Research Centre.

Ngware, M. W., Onsomu, E. N., & Muthaka, D. I. (2007). Financing secondary education in Kenya: Cost reduction and financing options. Education Policy Analysis Archives, 15 (24). Retrieved [12/5/2016] from http://epaa.asu.edu/epaa/v15n24/

Ngware, M., Oketch, M., & Ezeh, A. (2008). "Do household characteristics matter in Schooling decisions in urban Kenya?" African Population and Health Research Center (APHRC) Working Paper No. 37

Nzomo, J., Karuki, M.W., & Gnantai, I. (2001). The quality of education: Some Policy Suggestions Based on a Survey of schools. SACMEQ policy Research No. 6 Kenya, Paris 11EP http//www.sacmeq.org/educationKenya.htm retrieved on September 19, 2015.

OECD. (2008). Public Private Partnerships: In pursuit of risk sharing and value for money. Paper for the PPP seminar in Zurich.

Okumbe, J. A. (1998). *Educational management theory and practice*. University of Nairobi Press.

Owolabi, A. (2006). Quantitative methods of Educational Planning. Lucky Odomi Publishers, Ijebu-ode.

Orwa, W. O. (1986). *The study of organization and effectiveness of in-service education and training in teacher's performance*. PhD Thesis Kenyatta University.

Patrinos, H. P., Osorio, F. B., & Juliana, G. (2009). The role and impact of public-private partnerships in education. The World Bank. Washington DC

Patrinos, H. A. (2000). "Market Forces in Education." E*uropean Journal of Education* 35(1): 61–80.

Psacharopolous, G. & Woodhall, M. (1985). *Education and development: An Analysis*

on Investment Choices. New York: Oxford University Press.

Psacharopolous, G. (1994). "Returns to Investment in Education: A Global Update." World Development.

Republic of Kenya. (2016). Economic *Survey.* Nairobi: Government printer.

Republic of Kenya. (2015a). The Basic Education Act No 14 of 2013. Nairobi, Kenya: Government Printer.

Republic of Kenya, (2015b). Public Private Partnerships Act No. 15 of 2015. National Council for Law. Nairobi.

Republic of Kenya. (2013). National Education Statistics and Indicators. Ministry of Education, Nairobi, Kenya.

Republic of Kenya. (2012a). Reforming Education and Training Sectors in Kenya. *Sessional Paper No 14 of 2012* . Nairobi, Kenya: Government Printer.

Republic of Kenya. (2012b). Education Sector Report: 2013/14-2015 Medium Term Expenditure Framework. Ministry of Education, Nairobi, Kenya.

Republic of Kenya. (2012c). Task Force Report on the Re-Alignment of the Education Sector to the Constitution of Kenya 2010: Towards a Globally Competitive Quality Education for Sustainable Development. Nairobi, Kenya: Government Printer.

Republic of Kenya. (2007). Government of Kenya, Vision 2030. Nairobi: Government Printers.

Republic of Kenya. (2005). *Economic Survey.* Nairobi: Government printer.

Republic of Kenya. (2005). A Policy Framework for Education and Training. *Sessional Paper No 1 of 2005* . Nairobi, Kenya: Government Printer.

Rusell, G. (2008). Accountability: The Hidden Curriculum. CMA , 66 (No. 6), 4.

Ruggiero, J. (1998). "A New Approach for Technical Efficiency Estimation in Multiple Output Production," European Journal of Operational Research, vol. 111, pp. 369-380.

Robson, C. (1993). Real World Research: A Resource for Social Scientists and Practitioners - Researchers, Blackwell, Oxford.

Sakari, J. S. (2013). Public-Private Partnership in Education: The Role of Nzoia Sugar Company in the Development of Secondary Schools in Bungoma County, Kenya. KU. Kenya.

Saleemi, N. A. (1988). Commerce Simplified. Nairobi, Kenya: N. A. Saleemi Publishers.

Scheuermann, F. & Pedró, F. (2009). Assessing the Effects of ICT in Education. Luxemberg. OECD. Accessed on 4th January 2014 http://www.crie.minedu.pt/files/@crie/1278088469_.pdf

Sosale, S. (2000). "Trends in Private Sector Development in World Bank Education Projects" World Bank Policy Research Working Paper No. 2452. http://ssrn.com/abstract=632522, 2/14/06

Tuckman, B. C. (1988). Conducting Educational Research. (5th Ed.) Ohio. Harcourt Brace College Publishers.

United Nations (2015) "Transforming our world: the 2030 Agenda for Sustainable Development". United Nations – Sustainable Development knowledge platform. Retrieved 23 August 2016.

UNESCO (2014). *Global Monitoring Report 2013/4. Teaching and Learning: Achieving Quality for* All. Paris: UNESCO Office.

UNESCO (2009). Analyzing and Choosing Among Policy Options: Improving Access, Equity, Quality in Education. Paris: UNESCO Office.

UNESCO (2006). *Global Monitoring Report 2007. Strong Foundations.* Paris: UNESCO Office.

UNESCO (2001). General Secondary School Education in the Twenty-First Century: Trends, Challenges, and Priorities. Beijing, China: UNESCO International Expert Meeting on Secondary Schooling.

USAID (2001). *Expanding Secondary Education for Sub Saharan Africa. Where are the Teachers?* Washington Pennsylvania Ave., NW Washington, DC.

Verspoor, A. & Bregman, J. (2008). At the Crossroads: Challenges for Secondary Education in Africa. Africa Human Development Department (AFTHD). World Bank.

Walton, J. & Ruck, J. (1975). *Resources and Resource Centres.* London. Ward Lock.

World Bank. (2008 a). *The Power of Partnership: Coming Together for Secondary Education in African*. Washington D.C. Country Report. New York.

World Bank. (2008 b). Governance, management and accountability in secondary education in sub-Saharan Africa. Secondary Education in Africa (SEIA) Africa Region Human Development Department. The World Bank. Washington, D.C.

World Bank. (2005). Expanding Opportunities and Building Competencies for Young People: A New Agenda for Secondary Education. Washington D.C.: The International Bank for Reconstruction and Development.

World Bank. (2002). World Bank Development Report: Constructing Knowledge Societies: New Challenges for Tertiary Education. New York: Oxford University Press.

World Bank. (1995). Priorities and strategies for education: A World Bank Review: Washington, DC.

World Bank. (1993). *Improving Primary Education in Developing Countries.* Washington D.C.: World Bank.

APPENDICES

APPENDIX A: Letter of Introduction

Hannah W. Muchiri
University of Nairobi
Kikuyu Campus
P.O. Box 92 Kikuyu
21st October 2015

To respondents,

Dear Sir/Madam,

RE: PARTICIPATION IN AN EDUCATIONAL RESEARCH

I am a PhD student in the School of Education at the University of Nairobi. I am interested in exploring the **Strategies of Addressing the Rising Demand for Secondary School Education in Nairobi City County, Kenya.**

You have been chosen to participate in this study. I kindly request you to respond honestly to all the items in the questionnaire provided. The information gathered will be used only for the purpose of this research. Your identity will also be held in confidence.

Your cooperation will highly be appreciated.

Yours faithfully,

Hannah Muchiri

APPENDIX B: Questionnaire for the Principals

Dear respondent,

I am a PhD student in the School of Education at the University of Nairobi. I am interested in exploring the Strategies of Addressing the Rising Demand for Secondary School education in Nairobi City County. You have been chosen to participate in this study. I kindly request you to respond honestly to all the items in the interview schedule. The information gathered will be used only for the purpose of this research. Your identity will also be held in confidence. Your cooperation will highly be appreciated.

Section A: Background Information

1. Name of School: _____

2. Principals Gender: Female ☐ Male ☐

3. Age in Years: Below 30☐ 31-35☐ 36-40 ☐ 41-45☐ 46-50 ☐ 51-55☐ 55&Above ☐

4. Highest Educational Qualification: O-level☐A-Level ☐ Diploma ☐ Degree☐ Masters☐

5. Highest Professional Qualification: P1 ☐ ATS ☐ SI☐ B.Ed☐ Med☐ PHD ☐

6. Teaching Experience in years: Below 1 year ☐ 1-5 ☐ 6-10 ☐ 11-15 ☐ 16-20 ☐ 21&above ☐

7. Experience as a School principal Below 1 year☐ 1-5☐ 6-1☐ 11-1☐ 16-☐ 21 and ab☐e

8. No. of years as a School principal in the current school: 0-5 ☐ 6-10 ☐11-15 ☐16-20 ☐ 21&bove☐

9. Type of school: Public ☐ Private☐

10. If public school, indicate whether: National ☐ Extra County☐ County ☐

11. School Location: Urban☐ Slum ☐ Rural ☐

12. School Category 1: Boys ☐ Girls ☐ Mixed ☐

13. School Category 2: Boarding ☐ Day ☐ Day and Boarding ☐

Section B: Demand for Secondary Schools

14. Is there a waiting list of students to be admitted in your school? Yes ☐ No ☐

15. If **YES** to Qn14, how many? ☐

16. How frequent do you receive admission request in the school?

Very frequent ☐ Frequent ☐ Not at All ☐

17. Indicate the reason for not admitting the students in the waiting list.

Lack of Vacancies ☐ Low Marks /Poor performance ☐ Students have no fees ☐

Any other reason (specify)

_____

Section C: Utilization of Existing Secondary School Resources

18. Please indicate the total number of students in the school ☐

19. Indicate the total number of teachers in the school. ☐

a) TSC employed ☐

b) BOG employed ☐

20. Indicate the total number of non- teaching staff. ☐

21. Please indicate the teacher pupil ratio: 1:20 ☐ 1: 25 ☐ 1:30 ☐ 1:35 ☐ 1:40 ☐ 1:45 ☐ 1:50&above ☐

22. Please indicate the average class sizes in the school: 15 and below ☐ 16-25 ☐ 26 -35 ☐ 36–45 ☐ 46-55 ☐ 56 and above ☐

23. Please indicate the book pupil ratio in each form

Form One: 1:1 ☐ 2: 1 ☐ 3:1 ☐ 1:4 ☐ 1:5&above ☐

Form Two: 1:1☐ 2: 1☐ 3:1☐ 1:4 ☐ 1:5&above☐

Form Three: 1:1 ☐ 2: 1☐ 3:1☐ 1:4 ☐ 1:5&above ☐

Form Four: 1:1 ☐ 2: 1☐ 3:1☐ 1:4 ☐ 1:5&above☐

24. Indicate the number of streams in each class in your school

Form 1 ☐ Form 2 ☐ Form 3 ☐ Form 4 ☐

25. Does the school have any unoccupied classes Yes ☐ No ☐

26. If yes to 25, explain why.

_____

27. Please indicate the KCSE Mean Grade in your school for the years indicated in the table below.

Year	**2010**	**2011**	**2012**	**2013**	**2014**
KCSE Mean Grade					

28. Rate the extent to which the following school characteristic encourages admission of students in the school? (Tick as appropriate)

NB: VM–Very Much M-Much NA-Not at All

Serial No.	**School Characteristics**	**VM**	**M**	**NA**
1.	School being Public			
2.	School being Private			
3.	School being Boys Only			
4.	School being Girls Only			
5.	School being mixed			
6.	School being Boarding			
7.	School being Day			
8.	School being Day and Boarding			
9.	No. of Teachers			
10.	School Performance			
11.	Class Size			
12.	Book ratio			
13.	School Location			

29. In your opinion, to what extent have the following resources been used efficiently to meet the rising demand for secondary school places in Nairobi County?

GE– Great Extent SE- Some Extent NA-Not at All

Serial. No.	School Resources	GE	SE	NA
1.	Land			
2.	Finances			
3.	Time			
4.	Classrooms			
5.	Teachers			
6.	Laboratories			
7.	Curriculum support materials			
8.	Furniture			
9.	Boarding facilities			
10.	Buildings			
11.	Recreation facilities			
12.	Transport Facilities			
13.	Any other (Specify)----------			

30. Comment on how efficiently the existing secondary schools resources can be utilized to accommodate more learners?

_____

Section D: Public-Private Partnerships (PPPs)

31. Does the school have any Public Private Partnerships? Yes ☐ No ☐

32. If **YES** to 31, indicate the types of Public-Private Partnerships

_____

_____

33. Indicate the extent to which the above Public Private Partnerships have enhanced enrolment in the school. Great Extent ☐ Some Extent ☐ Not at All ☐

34. What Public Private Partnerships (PPPs) can be exploited to expand supply of secondary school education so as to accommodate more learners in secondary schools in Nairobi City County?

_____

Section E: Managing School Costs

35. What is the average amount of fees charged in your school per term? Kshs ('000). Less than 30 ☐ 31-40☐ 41-50 ☐ 51-60☐ More than 60 ☐

36. To what extent have the school costs hindered students' enrolments in the school?

Great Extent ☐ Some Extent ☐ Not at All ☐

37. What are the school's major sources of income?

_____

_____

38. Does the school have any income generating activities? Yes ☐ No ☐

39. If Yes to Qn38, please indicate the types of income generating activities in the school.

_____

_____

40. What percentage of the total income do you spend in the following areas?

	Percentage Expenses
Salaries	
Development	
Bills e.g. Electricity, Telephone, Water	
Daily Upkeep e.g. Food	
Educational Materials	
Others (specify)	
Total	**100%**

43. What cost saving measures have you put in place to manage costs in the school?

_____

_____

44. Does the school have opportunities that enable needy students to participate in activities to enable them generate fees? Yes☐ No ☐

45. If **YES** to Qn 44, please name these opportunities.

_____

46. To what extent has the income generating activities in the school (if any) enabled the school to control school fees charges?

Large Extent ☐ Small Extent ☐ Not at all ☐

47. In your own opinion indicate how the cost of secondary education can be managed to accommodate more learners in secondary schools in Nairobi City County.

_____

Section F: Government Initiatives

48. To what extent have the following Government initiatives addressed the rising demand for secondary education in Nairobi City County?

GE– Great Extent SE- Some Extent NA-Not at All

Government Strategies	GE	SE	NA
Free Day Secondary Schools			
Cost Sharing			
ICT			
Bursaries			
KNEC Exams			
School Categorization i.e. national, extra county, county schools			
Any other (Specify)----------			

49**.** Comment on how the existing Government initiatives have managed to address the rising demand for secondary education?

_____

_____

50. Overall, give suggestions on what can be done to address the rising demand of secondary education

_____

THANK YOU

Appendix C: Questionnaire for Secondary School Students

Dear respondent,

I am a PhD student in the School of Education at the University of Nairobi. I am interested in exploring the Strategies of Addressing the Rising Demand for Secondary School education in Nairobi City County. You have been chosen to participate in this study. I kindly request you to honestly respond to all the items in the questionnaire. The information gathered will be used only for the purpose of this research. Your identity will also be held in confidence. Your cooperation will highly be appreciated.

Section A: Background Information

1. Name of School: _____

2. Gender: Male ☐ Female ☐

3. Class: Form 1 ☐ Form 2 ☐ Form3 ☐ Form 4 ☐

4. Type of former primary School: Public ☐ Private ☐

5. How many marks did you attain in KCPE? ☐

6. Indicate the type of secondary school you had preferred to join after your KCPE?

Public ☐ Private ☐

Section B: Secondary School Information

7. Type of secondary school: Public ☐ Private ☐

8. If public school, indicate whether: National ☐ Extra County ☐ County ☐

9. School Location: Urban ☐ Slum ☐

10. School Category 1: Boys ☐ Girls ☐ Mixed ☐

11. School Category 2: Boarding ☐ Day☐ Day and Boarding ☐

Section C: Utilization of School Resources

12. How many are you in your class? ☐

13. Indicate the number of streams in each class in your school

Form 1 ☐ Form 2 ☐ Form 3 ☐ Form 4 ☐

14. Does the school have any unoccupied classes Yes ☐ No ☐

15. If yes to 14, please explain why.

_____

_____

16. Indicate the adequacy of teachers in your school: Very Adequate ☐ Adequate ☐ Not Adequate ☐

17. How do you share books? 1 student per book ☐ 2 students per book ☐ 3 student per book ☐ 4 students per book ☐ More than 5 students per book ☐

18. Schools have different charactestics e.g. some may be boarding, others may be day while others may be boys or girls schools. Using the table below to rate the way the school characteristics attract students to join a school using the scale given. (Make one choice per a school characteristic and Tick as appropriate)

NB: VM–Very Much M-Much NA-Not at All

Serial No.	School Characteristics	VM	M	NA
1.	School being Public			
2.	School being Private			
3.	School being Boys Only			
4.	School being Girls Only			
5.	School being mixed			
6.	School being Boarding			
7.	School being Day			
8.	School being Day and Boarding			
9.	No. of Teachers			
10.	School Performance			
11.	Class Size			
12.	School Location			

Section D: School Costs

19. How does your school make money for daily use?

_____

20. Does the school have any income generating activities? Yes ☐ No ☐

21. If Yes to Qn20, please indicate the types of income generating activities in the school.

_____

22. Indicate the average amount of fees your parents pay for you in your school per Term?

Kshs ('000). Less than 30 ☐ 31-40 ☐ 41-50☐ 51-60☐ More than 60 ☐

23. To what extent have the school costs hindered students' enrolments in the school?

Great Extent ☐ Some Extent ☐ Not at All ☐

24. Does the school have opportunities that enable needy students to participate in activities to enable them generate fees? Yes ☐ No☐

25. If yes to Qn 24, please name the opportunities.

_____

Public Private Partnership

26. Apart from your parents, is there any other person or organization that pays your fees?

Yes ☐ No ☐

27. If Yes to Qn26, indicate who: NGO ☐ Relatives☐ CDF Bursaries ☐ Church☐

Any other (Specify) _____

28. Indicate some of the ways in which the school can generate income or save expenses in the school so as to reduce the fees charged and encourage more students to be admitted in the school.

THANK YOU

Appendix D: Interview Schedule for MoEST Officers

Dear respondent,

I am a PhD student in the School of Education at the University of Nairobi. I am interested in exploring the Strategies of Addressing the Rising Demand for Secondary School Education in Nairobi City County. You have been chosen to participate in this study. I kindly request you to respond honestly to all the items in the interview schedule. The information gathered will be used only for the purpose of this research. Your identity will also be held in confidence. Your cooperation will highly be appreciated.

Section A: Background Information

1. County: _____

2. Gender: Male ☐ Female ☐

3. Designation_____

Section B: Addressing the Rising Demand of Secondary Education

4. Comment on utilization of the existing secondary schools resources in Nairobi City County in meeting the rising demand for secondary school education (Probe for optimum use of land, buildings, human resource etc).

_____

_____

5. What Public-Private Partnerships (PPPs) can be exploited to expand the supply of secondary education in Nairobi City County so as to accommodate more learners in secondary schools (Probe for management, professional, facility, educational materials support etc).

_____

_____

6. Comment on extent to which cost of schools have influenced the demand for secondary education in Nairobi City County and suggest how the cost of secondary schooling can be

managed to accommodate more learners in Nairobi City County (Probe for government stipends, school initiating Income Generating Activities, converting all secondary schools into day schools, students offering services at a cost etc)

_____

_____

7. Comment on the effectiveness of the Government initiatives in addressing the rising demand for secondary school education in Nairobi City County? (Probe for free day secondary schools, cost sharing, ICT, Approved Fees structure from MoEST, Bursaries, Free KNEC Exams, Setting up secondary schools within primary schools, school categorization into National, Extra County & County)

_____

_____

Appendix E: Observation Schedule

1. Name of Institution: _____

2. Type: Public ☐ Private ☐

3. Resources

Serial. No.	School Resources	Available	Not Available	Comment on whether they are fully utilized
1.	Land for expansion			
2.	Income Generating Activities			
3.	Students projects			
4.	Classrooms			
5.	Teachers			
6.	Laboratories			
7.	Laboratory equipment and materials			
8.	Desks			
9.	Chairs			
10.	Play ground			
11.	Boarding facilities			
12.	Dining hall			
13.	Course books			
14.	Reference materials			
15.	Boys Toilets			
16.	Girls toilets			
17.	Water supply			
18.	Computers			
19.	Computer room			
20.	Staff houses			
21.	Sports and games facilities			
22.	School library			
23.	Any other (Specify)------			

Appendix F: Research Permit

THIS IS TO CERTIFY THAT:
MS. HANNAH WAKONYO MUCHIRI
of UNIVERSITY OF NAIROBI , 104790-101
Nairobi,has been permitted to conduct
research in *Nairobi County*

on the topic: *POSSIBLE STRATEGIES OF ADDRESSING THE RISING DEMAND FOR SECONDARY SCHOOL PLACES IN NAIROBI COUNTY KENYA*

for the period ending:
3rd November,2016

Permit No : NACOSTI/P/15/27872/8530
Date Of Issue : 3rd November,2015
Fee Recieved :Ksh 2,000

.....
Applicant's Signature

.....
Director General
National Commission for Science, Technology & Innovation

CONDITIONS

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

REPUBLIC OF KENYA

NACOSTI

National Commission for Science, Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No. A 7051

CONDITIONS: see back page

Appendix G: Research Authorization

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

9th Floor, Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

Ref: No. **NACOSTI/P/15/27872/8530**

Date: **3rd November, 2015**

Hannah Wakonyo Muchiri
University of Nairobi
P.O. Box 30197-00100
NAIROBI.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Possible strategies of addressing the rising demand for secondary school places in Nairobi County Kenya,"*** I am pleased to inform you that you have been authorized to undertake research in **Nairobi County** for a period ending **3rd November, 2016.**

You are advised to report to **the Principal Secretary, State Department of Education, Ministry of Education, Science and Technology, the County Commissioner and the County Director of Education, Nairobi County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

SAID HUSSEIN
FOR: DIRECTOR GENERAL/CEO

Copy to:

The Principal Secretary
State Department of Education
Ministry of Education, Science and Technology.

The County Commissioner
Nairobi County.