THE EFFECT OF HOUSEHOLD BACKGROUND CHARACTERISTICS AND ASSET PORTFOLIOS (CAPITAL) ON STUDENT'S ACADEMIC ACHIEVEMENT IN KENYA CERTIFICATE OF PRIMARY EDUCATION (K.C.P.E): A CASE OF BARINGO COUNTY.

BY

VICTOR KIPKEMBOI KIBET

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DECLARATION

This project paper is my original work and has not been submitted for a degree to any other university.

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Victor Kipkemboi Kibet **Date**

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

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Prof. Njuguna Ng'ethe **Date**

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Dr. Mary Kinyanjui **Date**

Institute for Development Studies

University of Nairobi

DEDICATION

This paper is dedicated to my late loving parents (William Chemobo & Hellen Jemesunde): Though you never lived to see me through my education process you gave me the requisite foundation and impetus that kept me going. RIP

To my loving wife Dorothy Makandi and sons Nathaniel Kirui and Shalom Kiptala for your unwavering support towards my studies. Finally, to my step mother Margaret Kabon, and late loving Grandmother Kokob Jeniffer, in her memory.

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ASALs	Arid and Semi-Arid Lands
CPE	Certificate of Primary Education
CRA	Commission of Revenue Allocation
FPE	Free Primary Education
G.o.K	Government of Kenya
GER	Gross Enrolment Rate
H.H	Households
HDI	Human Development Index
KANU	Kenya African National Union
KCPE	Kenya Certificate of Primary School
KCSE	Kenya Certificate of Secondary Education
KIHBS	Kenya Integrated Household Budget Survey
KNEC	Kenya National Examination Council
KNUT	Kenya National Union of Teachers
KRA	Kenya Revenue Allocation
MDGs	Millennium Development Goals
MoE	Ministry of Education
MoEST	Ministry of Education Science and Technology
NCEOP	National Committee on Educational Objectives and Policies
OECD	Organisation for Economic Co-operation and Development
SES	Socioeconomic Status
SPSS	Statistical Package for Social Sciences
SSA	Sub-Saharan Africa
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation

ABSTRACT

The study investigated the relationship between household background characteristics and asset portfolios (capital) on students' academic performance in Kenya Certificate of Primary Education in Baringo County. The study covered students who sat for KCPE in the year 2012. The study was based on one general objective and two specific objectives namely: to investigate the effect of household asset portfolio on student academic achievement in Kenya Certificate of Primary Education (K.C.P.E); to investigate the household background characteristics of the form one students and how they influence student's achievement in K.C.P.E.; and to find out how do household asset portfolios (capitals) affect educational achievement of a student in K.C.P.E.

The study used an ex-post facto research design, and relied on both primary and secondary sources of data. Data was collected from form one students' in Baringo County using systematic random sampling to select student's from each school to respond to the questionnaires. The data collected was analysed using Statistical Package for Social Sciences (SPSS). The study too used cross tabulation and Chi square tests to establish relationship between household asset portfolios (capital) and students' academic performance variables. The relationship was tested at 0.005 level of significance.

The study found that not all household asset portfolios (capital) affect students' academic performance in KCPE. But some assets more than others have high correlation with academic performance i.e. physical and human capital were highly correlated to high performance than natural and social capital. This could be due to the fact that natural and social capitals are difficult to maintain and manage. The study also found out that household background characteristics have a far reaching effect on student's academic performance in KCPE. It influences performance either way positive or negative. Through this finding, the study concluded that the higher the asset portfolio of a household, the higher the performance of a student in KCPE and vice versa.

Based on the findings, the study recommends government to create assets and cash transfers to poor households' replica to cash transfers for the elderly. Secondly the government should increase both liquid and illiquid assets for families to increase their economic well-being through social welfare programs. Thirdly, Adult education should be made free to encourage most of the parents to better their academic qualification; this is because it was found that the level of education of a parent determines the marks a student attains in national examination (KCPE). Lastly, Government should device a way in which students' from public schools accesses services replica with those of private schools. Such a move would ensure neutrality in doing national exams between students from household with different asset portfolios in society.

The study concludes that further research on the effect of household asset portfolios on students' academic performance should be replicated on a large scale in Kenya and beyond in order to draw wider policy implications from it.

CHAPTER ONE: INRODUCTION

1.0 General Introduction

Like in Nigeria and other countries worldwide, Kenya's education system is concerned about students' achievements and high academic standards (Akomolafe et al. 2011). This high academic standard undoubtedly promotes national and households development process in a positive way. However, high academic standards are not easily achieved in Kenya due to persistent poor performance of primary school students in Kenya Certificate of Primary Education (KCPE) conducted by Kenya National Examination Council (KNEC).

For example, the results released by KNEC in January, 2013 shows that about 48.65% of the candidates that sat for the 2012 examination did not enter Form one because they did not perform above the 250/500 mark in all the five subjects. Equally, about 51.74% of candidates that sat for Nov/Dec 2011 examination failed to get the 250/500 mark thus the likelihood of not proceeding on to secondary school and further to university (KNEC 2012). This information is disturbing because primary school students of today are expected to contribute to future national development by gaining sufficient knowledge and skills through education (Akomolafe et al. 2011). Although students may be of comparable capabilities in their learning process, their academic performance still varies due to many factors that affect or influence their academic performance. This study therefore, focuses on two possible factors, that is, to investigate the effect of household background characteristics and asset portfolio on student's academic achievement in Kenya certificate of primary education (KCPE). The research hypothesized positive direction of the effect of household background characteristics and asset portfolios (capital) on academic achievement of student's in primary education in Baringo County of Kenya.

This study is organised in six parts. The introduction chapter covers the study background, the problem statement, the research questions and objectives, the justification of the study, limitations and assumptions, and finally the definition of concepts and study hypothesis. The literature review, the theoretical and conceptual/analytical framework are covered in the second chapter. The third

chapter focuses on the methodology that was used in the study. Fourth and fifty chapters deal with study findings and discussions. And finally, the sixty and last chapter summarised the study findings and recommended policy options and further studies.

1.1 Background of the Study

Education is an essential enterprise in the development of any given nation. Education furnishes people with the capabilities to make informed choices about their lives and a positive contribution to society. It facilitates the realisation of other rights, provides an exit out of poverty, and reinforces social cohesion and integration (World Bank, 2001).

Investing in the education system in Kenya has helped the Government meet its obligations and commitments in the international arena by adhering to these protocols such as: The UN Convention on the Rights of the Child (1989), the African Charter on the Rights and Welfare of the Child (1999), and the Millennium Declaration (2000). All these declarations oblige their signatories to realise the right of every child to education. Kenya for instance domesticated this obligation in the 2001 Children's Act, and has now made education a constitutional right (Articles 43 and 53 of the Constitution of Kenya, 2010).

World Bank (2005) indicates that primary education is important in human capital development as it ensures acquisition of knowledge and enabling skills necessary for civic participation and economic success. Globally, investing in primary education is thought to have a direct impact on the effort to realize Millennium Development Goal (MDG) 2 - Universal Primary Education. According to UNESCO (2005) increasing the provision of and access to secondary education serves as an incentive for primary school children to perform better in national examinations because there is an increased motivation for graduation from primary school when a student has a realistic opportunity to continue with studies in secondary school.

Demand for secondary education is growing rapidly in Africa due to the fact that citizens have recognised the significance of education. Lewin, (2008) attributes this

expansion in demand to the recognition that breaking away from low economic growth equilibrium will necessitate African economies to invest heavily in secondary education. Despite this recognition, access to secondary education in Africa is still a challenge to some households due to poor performance at primary level and high cost of secondary schooling coupled with other factors that limit children from enrolling and advancing to secondary school. UNESCO (2011) estimated secondary school Gross Enrolment Rate (GER) in Sub-Saharan Africa (SSA) at 39.6%, against 70% global secondary school GER, with many of those enrolled attending school irregularly and/or failing to complete. Conversely, North America and Western Europe have achieved universal primary and secondary education with GER above 100%. It is incontestable that poor performance and low secondary school enrolment in Africa has negative consequence on the region's competitiveness and economic growth.

Since independence the Government of Kenya (G.o.K) has committed itself to improve access, equity and quality in education through various policies and programmes (G.o.K, 2012). The re-introduction of Free Primary Education (FPE) in 2003 increased primary school enrolment rate to over 95% but, in comparison, less than 50% of qualified children continued to secondary school (MoEST, 2005). It is documented that the low transition rate from primary to secondary school was due to high cost of secondary education borne by households (MoEST, 2005). In response, the government introduced free secondary education programme in 2008 to ensure that all children who are academically qualified for secondary education gain access regardless of their socio-economic backgrounds. Under this programme, the government meets tuition fees of Kshs. 10,265 per student per year for all children enrolled in public secondary schools while households cover costs of lunch, transport, uniform, and development projects. In addition, households with children in boarding schools are also required to meet boarding expenses (MoE, 2008).

Despite this positive responsibility by government many households cannot raise the basic requirements for a primary school student to perform well in school thus proceeding to the next level. The national fees guidelines for example indicate that

school fees in day schools have been reduced by 77% and in boarding schools (district and provincial) by 9.7% (MoE, 2008). As a result, statistics from the Ministry of Education show that more students have been able to enrol in both primary and secondary school. For instance, the transition rate from primary to secondary school increased markedly from 59.6% in 2007 to 64.1% in 2008, further increasing to 66.9% in 2009, 72% in 2010 and 74% in 2012 (KNEC, 2012). On the other hand, it's worrying to note that in 2005 registered candidates for KCPE was 671,550 and those who did exams in KCSE in 2009 were 337,404 students (KNEC, 2012). While it is appreciated that free basic education in Kenya has improved both in primary and secondary school enrolment nationally, critical statistics based on the above statistics from KNEC reveals national level transition dilemma that exist in the country. For instance, what can explain where the vast majority of 334,146 students who did not transit to secondary school level in 2005 went? What factors hindered these students not to proceed to secondary school? Regional disparity could be a factor because some regions more than others are affected by calamities such as poverty, floods and conflicts which in effect can influence achievement in national examinations. Therefore, it is important to investigate how some factors for instance household assets in such regions affects educational achievement in such challenging contexts as in Baringo County.

Kenya, like many other African nations, has adopted an education system that is designed to guarantee all children a minimum of twelve years of basic education, i.e. eight years of primary schooling and four years of secondary education (MoEST, 2001). Kenya has consistently implemented policies to improve the quality, quantity, and accessibility of education. Examples of such commissions are the national committee on educational objectives and policies (NCEOP), or the Gachathi report (GoK, 1976), relating education to employment opportunities which pointed out that "The schools as they are today, do not have capability, time, even motivation to teach the values of society. This is because the schools are geared entirely towards the passing of formal examinations". One major role of examination in an education system is the selection and placement of candidates in various institutions and stations in society. The report also criticised the Kenya National Examination

Council (KNEC) by observing that 'examinations have been used to serve the highly selective objectives, structure and content of the formal education system'. But looking to the 8.4.4 system and specifically K.C.P.E objectives, this study can demystify this critic by quoting the first two objectives which are;

(i) To rank candidates according to attainment of knowledge, skills and attitudes as specified in the various syllabuses.

(ii) To use performance as a base for selecting pupils to secondary school and to post primary technical training institutions (Amutabi, 2003).

It is true that one of the means of judging academic achievements is through examinations results. KCPE examination are administered by (KNEC), which is a state corporation established by Government of Kenya in 1980 by an Act of parliament (CAP 225a) with the mandate of developing and managing examinations and certification for school and post school examinations. The importance of passing this examination cannot be overemphasised, because it serves as means for evaluating achievement for further education in secondary schools, post-secondary school and employment. (GoK, MoE, 2003) observes that student's scores in this examination are expected as a proxy of achievement in education. Wamai (1991) confirms that examination results are taken as a valid measure of student's educational achievement and that Kenya regards examination as a trustworthy instrument for categorizing students into groups of achievers and none achievers. The same view is supported by Muola (2010) who argues that in Kenya, student's academic performance is a key aspect of education since examination has been used as a basis of judging student's ability and as a means of selection for educational advancement. This may therefore imply that student's academic performance in terms of the mean score at different levels partly determines his/her benefits from education.

Academic performance in Kenya Certificate of Primary Education (KCPE) may determine the destiny of a primary school graduate (Somerset, 1973). For instance, it determines the secondary school one can attend. Therefore, low performance in

KCPE would mean that future opportunities for proceeding with education and eventually landing a good job are minimised while passing could open up many avenues for future advancement in education, careers and other opportunities. This has made examinations have a central place in the activities of educational institutions in Kenya and the world over. However, several factors are said to influence success in these examinations: school factors and student's family background factors (Valentine, 1968).

This study focused on the student's households background factors, specifically on the effect of wealth on achievement. While household wealth is strongly related to educational achievement of children nearly everywhere, the magnitude and patterns of the effect of wealth differs widely. Little empirical evidence has being published on this achievement gap in Kenya. It is therefore necessary to research in-depth on the effect that household wealth in terms of assets portfolios has in determining children's outcomes in KCPE examinations. This was one of the objectives of this study carried out in Baringo County.

1.2 Problem Statement

The development of any nation or community depends largely on the quality of education offered. It is generally believed that the basis for any true development must commence with the development of human resources (Akanle, 2007). Hence formal education remains the vehicle for socio-economic development and social mobilization in any society. Poor education outcomes can have detrimental effects on a country's economic and social development. At the individual level, low learning achievement not only limits one's progression further in school but also negatively affects an individual's future income and productivity (Hanushek and Pace, 1995). Nevertheless, the recognition of the problem of poor learning outcomes has let achievement researchers to search deeply on factors affecting academic performance. In Kenya for instance, household background has been identified to affect academic performance but very little research has been done to dissect specifically what in the household background affects performance in an examination.

This study sought to investigate the relationship between household asset portfolio (capital) and students' academic achievement in Kenya Certificate of Primary Education (KCPE) because this relationship has not been investigated. This study therefore, sought to fill this gap by empirically investigating and documenting findings on the effect of household asset portfolio on student academic achievement in (K.C.P.E.). The study also determines whether there is any link between achievement and affluence in general.

Another gap is that most programs undertaken to improve educational efficiency in emerging countries focus on changing the educational system itself (Harbison and Hanushek, 1993). This has also been true in Kenya where policy planners generally recommend revising the curriculum, increasing the number of schools, and distributing educational materials more widely and equitably. This course of action overlooks the role of households and personal factors in shaping the academic trajectories of school children. Of particular importance is that some of these non-educational influences may also be the root cause for poor achievement in examination and this is what the study tried to uncover. Baringo County was chosen for this study.

1.3 Research Questions

The overall research question for this study is: What is the effect of household background characteristics and asset portfolio (capital) on student academic achievement in Kenya Certificate of Primary Education (K.C.P.E): A case of form one students in Baringo County?

To answer this question, the following specific questions were used in this study:

1. What are the household background characteristics of the form one students and how did they influence student's academic achievement in 2012 K.C.P.E?
2. How do household asset portfolios (capital) affect educational achievement of a student in 2012 K.C.P.E?

1.4 Objectives of the Study

The main objective of the study was: To investigate the effect of household background characteristics and asset portfolios on student academic achievement in Kenya Certificate of Primary Education (K.C.P.E): A case of form one students in Baringo County.

This study was guided by the following specific research objectives:

1. To investigate the household background characteristics of the form one students and how they influence student's academic achievement in K.C.P.E.
2. To find out how do household asset portfolios (capital) affect educational achievement of a student in K.C.P.E

1.5 Justification

It appears to be a rational argument that; if teachers deliver in class, children should be able to perform regardless of their household economic status. But this viewpoint is misleading because it ignores how household background characteristics and asset portfolio characteristics in our society influence achievement of children in primary schools.

In view of the aforementioned and the vital role that examinations play in the lives of students, this study finds it necessary to inquire if household background characteristics and asset portfolios has any effect on student achievement in K.C.P.E examinations. This gap has existed for nearly a century and policy makers have avoided the obvious implications of this understanding that raising the achievement of for example lower-class children requires that public policy addresses the social and economic conditions of these children's lives, not just school reforms.

This research finding therefore, will provide useful feedback to policy makers in education, curriculum developers, implementers and other stakeholders on ways of improving performance of students in order to attain quality education for all Kenyans as attested by MDGs. Beneficiaries of this study will include parents who will be able to invest in household assets if proved to have positive effect on

performance, education policy makers who will formulate policies addressing disparities in achievements, K.N.E.C especially in setting the same examinations for all students regardless of their household wealth, the selection committee of form ones who should select students based not only on academic achievement but also on household characteristics, and finally the ministry of education will also benefit by knowing the effect of household asset portfolio on academic achievement thus the need to promote awareness on the significance of household asset portfolio.

1.6 Limitations

There are some wealthy households who by conviction chose to live without some of the household asset portfolio indicators. Their children were regarded as coming from high asset portfolio homes, yet they do not enjoy the benefits of those assets. There are also some poor households who have overstretched themselves in order to have some of the assets portfolio indicators i.e. buy computers for their children.

Due to time constrain, finance and distance, the study was limited to four schools selected randomly using stratified and purposive sampling methods from Baringo County.

1.7 Assumptions

That K.C.P.E examination score is the adequate standardized measure of student's academic achievement. Thus appropriate to be used in this study.

That questionnaire was adequate instrument for collecting household asset portfolio information required for this study.

That Respondents (form one student's) interviewed were sincere about their household asset portfolio.

That the examinations data obtained from K.N.E.C were reliable and valid for this study analysis.

1.8 Definition of Concepts

Education

There are a number of definitions put forward for education. Abayo, (1999) defines it 'as the long term learning activity aimed at preparing individuals for the variety of roles in society as citizens, workers and members of family groups.' In this study education refers to the process through which an individual acquires knowledge, skills and change in attitude in a formal process.

Primary education: refers to a first few years of structured, formal education. Usually, it consists of 8 years of schooling that usually starts from the age of 5 or 6. Apart from basic literacy, the main aim of primary education is to establish foundations in a variety of subjects, such as, mathematics, science and social sciences. In Kenya, these subjects are examined through a national exam called KCPE at the end of eight years primary learning. This study therefore sought to investigate causes of disparities in performance in this examination.

Achievement

Achievement can be defined as the gaining of social position or social status as the outcome of personal effort in open competition with others, i.e. competition in formal examinations. In this study student achievement refers to aggregate means score received in standardized KCPE exams for the year 2012. It is measured out of a total 500 marks, with those getting 350> classified as high achievers, 250> classified as medium achievers and <250 as low achievers.

Household

The term household has different definition according to the context of the study. However, this study chooses to use a definition by Kenya, (2001a) which defines household as people who live in the same homestead or compound but not necessarily in the same dwelling unit, have common housekeeping arrangement and are answerable to the same household head. Empirically, this study refers the term household to mean the total capital in a student's homestead.

Asset Portfolio

Generally, an asset is identified as a "stock of financial, human, natural or social resources that can be acquired, developed, improved and transferred across generations" (Sherraden, 1991). "It is also said to generate flows or consumptions as well as additional stock of wealth used to generate well-being" (Oliver and Shapiro, 2006; Sherraden 1991) In this study, the concept of assets Portfolio or capital endowments includes both tangible and intangible assets, with the capital assets of the household referred to as portfolios: natural, physical, social, financial and human capital. In analysis of data, those households with high number of capital were classified as high-asset households, those with average number referred to as medium-asset households, and finally those with little capital were coded as low-asset households.

Poverty

There are many definitions of poverty. World Bank, (2001) defines poverty as pronounced deprivation in wellbeing which is often more than being hungry, lacking shelter and clothing, being sick and not cared for, or being illiterate and not schooled. Chambers, (1997) perceives the poor as struggling against five interlocking disadvantages, which traps them in deprivation and these are: poverty itself, physical weakness, isolation and powerlessness. Thus, the essence of poverty is not only lack of material resources but also lack of alternatives.

According to the approach used in this study (Asset-based approach), poverty is arguably best understood as a household-based phenomenon, rather than individual. Ngethe and Omosa, (2009) referring to (Siegel and Alwang, 1999) posits that "the poor are households which have low asset bases and with low asset productivity. These households too trapped in poverty are vulnerable, and their response to shocks can lead to lower quantities of assets" (Ngethe and Omosa, 2009:2). The operational definition of poverty in this study based on asset portfolio is that households with limited assets or non-whatsoever are classified as poor asset households and thus living in poverty.

1.9 Hypothesis

Crosswell (1994) discourages the simultaneous use of both objectives and hypothesis in one study on grounds of redundancy. Nevertheless this research chooses to supplement the above stated research objectives with hypothesis.

Hypothesis represents declarative statement of the relationship between two or more variables (Kerlinger, 1979). Hypothesis leads to easier evaluation of the relationships, if any, or differences if any, between given variables. The study hypothesised that;

Ho1: Household background characteristic has positive effects on students' academic achievement in KCPE.

Ho2: **P**hysical capital of a household has positive effect to a students' academic performance in KCPE.

Ho3: Productive capital of a household has positive effect on a students' academic performance in KCPE.

Ho4: Students from households with high human capital perform higher and better in KCPE than students' from households with low human capital.

Ho5: Households social capital affects a students' academic performance negatively.

Ho6: Students' from households with high natural capital perform poorly than students with low natural capital.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This section presents analysis of the existing relevant theoretical and empirical literature to the study. The goal is to identify existing gaps of knowledge that the current study seeks to fill. To do this, the section is divided into parts. The first part looks into the relevant theoretical literatures review of the effects of household asset portfolio on student achievement in K.C.P.E. The review begins by looking at the theoretical literature on historical overview of education situation and examination in Kenya, after which it will review literature on household characteristics affecting student's achievement in primary education and conclude with analytical framework used in this study. Following through is the empirical literature which were reviewed starting with household background and academic achievement after which it looks unto; Household assets and educational achievement, and finally household wealth and student's academic achievement. All these literature informed this study on the effect of household asset portfolio (capital) on student achievement in KCPE. This section also contains the conceptual/analytical framework on which the study was based.

2.1 THEORETICAL LITERATURE

2.1.1 Historical Overview of Education Situation and Examinations in Kenya

Education has been defined by Wosyanju (2012) as a path through which knowledge, skills, and values are imparted for the purpose of integrating the individual in a given society, or changing the values and norms of a society. Education also is said to equip people with the capacities to make informed choices about their lives thus making positive contribution to society. Further, it is believed to facilitate the realisation of other rights, providing an exit out of poverty, besides reinforcing social cohesion and integration. However, not every person has access to these educational opportunities.

Bogonko (1992) argues that Kenyan communities had their own traditional systems of education prior to colonialization. He further observes that these systems were not stratified in any way because their main goal was to train individuals to fit into their societies as useful members. Additionally, Sifuna and Otiende, (1992) posits that these African education systems provided skills, knowledge, attitudes, and values relevant to the society growth and development.

Kenya's formal educational history then, dates back to the period 1900-1910 which witnessed a 'scramble' among many missionary bodies for supreme influence in different areas of Kenya (Bogonko, 1992). These led to the locals to embrace and value western education, though for reasons that it could offer them an avenue of escape from poverty, an avenue to social advancement (Bokongo, 1992). Through formal education Kenyans moved from rural areas to the new urban worlds thus gaining the secret of the new white man's success (Sifuna and Otiende, 1992).

Despite this influx and expectations by Africans the colonial formal education was segregative and exploitative. Thus Africans questioned the existing education system demanding that it should be made beneficial to them. To note too was the fact that education system at colonial times was stratified into Europeans, Asians, and Africans in that order of superiority Kinyanjui (1981). However, after independence this stratification was transformed to private versus public representing different status in society (G.o.K, 1989).

Politically, the then Kenya's ruling party KANU is said to have highly prioritized education in its election manifesto before independence: It is believed to have committed itself to an eventual provision of universal free education besides spelling out other socio-economic aspirations to be met by education (Eshiwani, 1993, pg. 18). This commitment was followed by Sessional paper number 10 of 1965 on 'African Socialism and its application in Kenya; here, education is said to have been valued much more as an economic service rather than a social service; 'the principal means for relieving the shortage of domestic skilled manpower and equalising economic opportunities among all citizens'. This gap was filled by those who had basically primary education.

Primary education is very important universally because it plays a vital role in a student's life, and for the nation growth and development as is attested by every development plan or development policy framework paper since independence in Kenya (Otiende et.al 1992). Performance at the end of this level generally affects chances of proceeding to other levels of formal education, despite the assurance provided by our new constitution (2010) and Dakar Framework of Action (DFA) which guarantee basic education for all by 2015. DFA is also committed to refining all aspects of quality education and ensures that recognized and measurable learning outcomes are achieved by all, especially in literacy, numeracy, and important life skills (UNESCO, 2000). These pledges have been echoed across East Africa, bringing a renewed emphasis on primary education. Consequently, extensive development has been made in increasing primary school enrolment across this region. Evidence shows that today upwards of 90% of all eligible children are enrolled in primary school in Kenya (Uwezo, 2012).

Despite these high enrolment rates in our primary schools, not all children enrolled transits to secondary school level because of low achievement at national examinations. Empirical literature on achievement consistently shows that household background is important in predicting children's academic performance (Coleman et al, 1966; Achola, 1995; and Nkinyangi, 1981). However this relationship is somewhat mixed. Gakuru (1982) asserts that progression to secondary school in Kenya is highly correlated with the type of primary school attended and performance in Certificate of Primary Education (C.P.E). The people newspaper of Thursday, December 30, 2010 reports of an academy called Moi Nyeri complex that was out of reach for the ordinary Kenyans. It is said to be a school of choice for children of the ***'cre'me de la cre'me of society'*** and its results in national examinations were unmatched. Why? Could it be that the richer you are the better the performance of your child? Or parental wealth has an influence in child's examination performance?

Trying to answer this question, K.N.U.T chairman Wilson Sossion is quoted by Daily Nation of Friday 30, December 2011 attributing the poor performance by public primary school to failure by government to invest in education. He further stated that the disparity was as a result of heavy investment in private schools as opposed to the meagre allocation by government. He is quoted as saying "The fact is that there are two societies now; what do you expect shillings 1,050.00 per child allocation by the government to do as compared to as high as shillings 100,000.00 that rich parents pump into private schools per term?". This observation shows the gap of capability and wellbeing in Kenya's present day education system. It is therefore necessary to investigate further anything hindering good academic performance of students in school.

2.1.2 Household Characteristics Affecting Student's Achievement in Primary Education

Household characteristic is vital to a student's life in and outside of school; it is considered the most important factor influencing students learning and achievement (Majoribanks, 1996). Majoribanks also states these household characteristics include home environment, socioeconomic status (SES), child-rearing practices and ambitions of the student. These characteristics are highly believed to influence students' academic performance in an examination and future ambitions.

Studies by (Barry, 2005) found that SES of a student has the highest effect on achievement. He further quotes studies by (Jeynes 2002; Majoribanks 1996, and Eamon 2005) as supporting the same view. Low socio economic status are said to deny households access to useful resources which in turn affects households stability leading to poor academic performance of a student (Eamon 2005). Barry, (2005 page 8) referring (Seyfried, 1998) posits that low SES students scores about ten per cent lower on the national exams than higher SES students. It is therefore evident that SES has also upper hand over other educational influences such as parental involvement (McNeal 2001).

Factors affecting academic performance are related to each other, for instance SES is said to be closely tied to household setting. Household setting here refers to home environment/surroundings (Barry, 2005)-referring to a study by Eamon, (2005) who found students living in wealthy households perform better in school than those who live in poor households. Eamon (2005) attributes this to the fact that poor households lack enough resources, role models, and networks to better schools. This type of setting may hinder children from establishing good social networks which could contribute to lack of motivation hence leading to poor academic performance. This study therefore hypothesises positive effect of household background characteristics on academic performance of a student in KCPE.

Besides socio economic status (SES) and home environment factors; Research has shown parental marital status as a factor influencing students' academic performance. Barry, (2005) quoting Majoribanks, (1996) reports that students from single-parent households do not perform well in school compared to students from household with two parents because of scarcity of resources and time spent by single parents in motivating their children is inadequate leading to poor performance compared to two parents. Eamon, (2005) quoted by Barry (2005) links small household size with high academic performance. Her argument is that children with few siblings are likely to get more parental care and have more access to capital than students from large households who are expected to compete for scarce resources available. Barry concludes her observation by reviewing findings of a research done by (Domina, 2005) who found out more conclusively that parental involvement helps a child to prevent behavioural problems which in turn boost his/her concentration in class.

Household social capital is another key factor that is argued to affect academic achievement of a student (Eamon, 2005). Barry, (2005 pg. 9) observes that despite both parents education being important in the household. Mothers' level of education plays a significant role in students' performance. This is because mothers with high education have higher self-esteem which intrinsically motivates a student to work extra hard for better results.

Also to be noted is that, household assets may affect or influence students' academic achievement in several ways: Some of these may include family affluence level as observed by Rotich (2003) who argued that households with wealthy in society can 'buy' expensive and better education for their children which in turn enhance their achievement levels in an examination. Conversely, Students from poor households may suffer from fatigue due to many domestic duties he/she is called to perform at home, over-crowding sleeping quarters could adversely affect his/her sleep, inadequate clothing, insanitary living conditions can contribute to chronic ill-health in a student which can affect his/her performance. To be noted too, is the fact that household assets i.e. Computers, T.V, Radio, Motor car and other assets like land and livestock can be sold or liquidated to pay school fees or school demands (Sherraden, 1991). All this avenues gives a student assurance and confidence for further advancement academically thus, the need to perform well in examinations.

2.2 Theoretical Framework

This study will employ the Human Development Approach as the broad approach covering both household background characteristics and asset portfolios. The study specifically used Asset-Based Approach as the main analytical approach for asset portfolios (capitals), because education is considered as one of the basic human needs. Further, Asset-Based Approach focuses on defining such concepts as assets, vulnerabilities, capabilities and endowments, and developing policies to address the impacts of shocks by focusing on the assets and entitlements of the poor (World Bank, 2001). The rationale behind these approaches is to invite policy makers to economically empower households, especially poor households; through accumulation of assets. This will go a long way in the belief that; 'when people begin to accumulate assets, their thinking and behaviour changes as well', thus the ability to perform well i.e. in examinations.

2.2.1 The Human Development Approach and Household Characteristics

Human development approach was pioneered and popularised by the United Nations Development Programme (UNDP) through its Human Development Reports produced since 1990. This approach refers to a process of widening people's choices and raising their standards of living through expansion of human capabilities and access to opportunities in the social, economic and political spheres (UNDP 2001). These human capabilities embrace leading and enjoying a healthy life, being knowledgeable and having access to resources within an individual environment. This approach is holistic because it captures all aspects of life beginning at the household level and has the advantage over other developmental paradigms which captures only a few facets of development.

Human development is measured through the human development index (HDI) which is a compound index based on three main indicators: Longevity, educational attainment and standard of living. This approach is wholesome in that it encompasses all other relevant approaches to this study i.e. (Asset-based approach by Sen's 1981). Eckert, (1995) recommends human development approach as useful because it acts both as a process and an outcome which is concerned with the process through which choices are enlarged, and also focuses on the outcome of the enhanced choices. This is reflected through the provision of more educational opportunities by households and living in a clean environment (KHDR, 1999).

These enlarged "choices" refers to a general principle of parents having the freedom to choose which household background characteristics and assets would best be utilised to enhance performance of their children in school in accordance with his/her own social, economic and political values (Sen, 1981). This approach therefore is relevant and appropriate for this study because educational achievement is itself a measure of human development and it is a contributor to other components of human development. This approach is also said to deal with issues of gender, healthy, human welfare and social networks which are all components of household background characteristics affecting students' academic achievement in national exams i.e. KCPE.

2.2.2 Asset-Based Approach

The specific analytical framework that this study adopts is Asset-based approach to development which is entrenched in the international poverty alleviation/reduction debate of 1990s (Moser, 2006). This reduction debate referred to as conventional measurements of poverty into question by Moser, (2006 pg.7) is said to identify the multi-dimensionality of poverty and the relationship between inequality, economic growth and poverty reduction in the poor countries of the south.

Asset-based approach is heavily influenced by Sen (1981) study on famines and entitlements, assets and capabilities, as well as those of Chambers (1992; 1994) on risk and vulnerability. Moser, (2006 pg.7) posits that this reduction debate of 1990s was successful in distinguishing between poverty as a static concept, and vulnerability as a dynamic one. This approach is therefore believed to focus on defining aspects such as assets, vulnerabilities, capabilities and endowments, and developing policies which address impacts of shocks by concentrating on the assets and entitlements of the deprived (Moser, 2006 pg.8).

Additionally, Moser, (2006 pg.8) implies asset-based approaches to be concerned with assets and asset accumulation strategies. These strategies are said to be closely linked to the concept of capabilities. Moser further quotes Bebbington, (1999) who says "assets are not simply resources that people use to build livelihoods: they give them the capability to be and to act". Moser concludes this argument with Sen, (1997) writings which identifies assets as the "basis of agents' power to act and reproduce, challenge or change the rules that govern the control, use and transformation of resources". This study therefore, applies this operational approach in the sense that household asset portfolio influences students' academic performance thus limiting their capabilities and exposing them to several vulnerabilities which in turn affect their academic achievements.

Assets-based approach is justified for this research because it posits that assets are not simply nice to have, but yields various behavioural consequences such as enabling people to focus their efforts, allowing people to take risks, creating an orientation towards the future, and encouraging development of human capital

(Sherraden, 1991). This approach further argues that, the relationship between parental assets and children's well-being is evident. This demonstrates therefore that assets have positive effects on self-esteem for children in school leading to better performance.

Assets are also said to decrease exposure to poverty for children in rural areas and female-headed households. In fact, some of the strongest and most consistent empirical evidence for the positive effects of assets comes from studies involving outcomes for children of parents who hold 'high-assets' particularly in the form of home ownership in urban areas. Further, many of these effects are largest for children from 'low-asset' poor families (Min and Sherraden, 2003). Sen, (1981) beliefs that even small number (or amount) of assets can positively influence academic outcomes in an examination. Kao, (1995) in support of this approach argues that the accessibility of home resources offers a conducive setting for studying hence encouraging children to attend school. Kao further points out that, parents with more education and income are likely motivated to provide home resources for their children's education leading to their high academic performance in an examination.

Despite this approach being successful in explaining the link between household assets portfolio and academic achievement, it however fails to recognize that universal provision of education in a country like Kenya, is likely to benefit wealthy households more than the poor and in effect increase inequalities in educational access and advancement between the poor and the wealthy (Castro-Leal *et al.,* 1999). Poor or disadvantaged households may therefore, require tailor-made policies that could address their dilemma and enable them have equal playing ground with their wealthy counterparts.

2.3 EMPIRICAL LITERATURE

2.3.1 Household Background and Academic Achievement

Households are said to play an important role in children's academic achievement. Household's background characteristic varies on the ways in which they affect educational academics. Several studies show that household background has both positive and negative effect on school attendance and achievement. But this effect is particularly larger in primary school level.

Coleman report's findings that school-level differences had little effect on difference among individual children in terms of their academic success, set the stride for further investigation on household background and its effects on academic success for children (Coleman et.al. 1966). Chowa et al. (2012) further reports of similar findings in Great Britain by (Peaker, 1971) who concluded that household background was more significant than school factors in determining children's academic achievement. A shift in this debate is said to have been introduced by Heyneman (1980) who replicated Coleman's study in Uganda and suggested the opposite: "that household background (parent's occupation, parent's education, and household assets) is less important than school factors in determining academic achievement". Centre for social development, working papers 12-17 by (Chowa et al. 2012. page 4) reports of a subsequent study by Heyneman and Loxley (1983) which generalized their findings to developing countries and found out that a certain part of change attributable to household background was generally smaller compared to that of school characteristics, which was much bigger.

Other studies by (Behrman and Birdsall, 1983; Lockheed, Vail, and Fuller, 1986 as reported also by Chowa et al. (2012) found out that teacher training, textbooks, and libraries strongly determines academic achievement of a student in an examinations. The working paper also criticised these studies on the basis that, the influence of schooling in emerging countries are different from those of developed countries and that a gap exists because of cultural importance by SES indicators which are omitted and more modern ideologies from developed countries are embraced (Fuller and Clarke, 1994).

Chowa et al. (2012 pg.5) referring to a study by Lockheed et.al. (1989) in Malawi found out that basic qualities of a household, labour demand on children, and mother tongue use are the main household background characteristics consistently related to academic achievement of a student than parental occupation and educational level. The same results were earlier reported by (Bernstein, 1971) when he found out that language use and social class were forces that restricts achievement from children of low socio economic background. Bernstein, further observed middle class parents teaching their children to be self-directed even in high labour demands while the working class parents teach their children to conform to authority thus the likelihood to be exploited.

Household structure is also believed to affect educational attainment of a student in national examinations. This household structure includes number of children a parent has which is believed to have resource dilution hypothesis where the material resources and parental attention are diluted with additional children in the household (Bachman, 2002) as reported by Chowa et al. 2012. However, the same report quotes Marks (2006) cross-country study on the effect of household size on academic achievement, which found that in almost all countries the effect of household size declined by between a quarter and a half when taking into account a household's socioeconomic background. Marks concluded that much of the association between household size and educational outcomes are simply due to the correspondence between large households and lower socioeconomic status households. It is therefore evident that household background characteristics have an influence on student's academic achievement.

One of the objectives of this study was to investigate the ways in which household background characteristics influences student's achievement in KCPE. This information has provided a basis for determining whether household background characteristics could influence the student education thus effecting his/her academic achievement. Though the studies reviewed provide insights into understanding how household background characteristics affects student's achievement and research in the same field, the effects of household background varies significantly with the

level of assets within a household, and length of stay by a household in a specific wellbeing. The current study will specifically establish how household asset portfolio (capital) affects student's KCPE performance in Baringo County.

2.3.2 Household Assets and Educational Achievement

Household assets exists in many forms; physical, social, natural, human, and also in productive form. These forms of assets are hypothesised to have an effect in educational achievement of a student in national exams. Research by (Gina et al. 2012) shows assets being associated with positive educational outcomes. The report further gives an example of a trial study done in Uganda, which found out optimistic relationships between asset ownership and higher academic grades and test scores (Curley et.al. 2010). Gina et al. (2012) referring to an empirical evidence by (Filmer and Pritchett, 1999) suggested positive relationship between assets and other educational outcomes including; school enrolment, higher school attendance, and higher educational achievement. At the same time, asset ownership is also linked with low school drop-out rates (Curley et al., 2010; Filmer and Pritchett, 1999 as reported by the same research report 12-56).

Despite household assets being championed to having positive effect in educational outcomes of students in an examination, little is said if the same effect is felt by both developing and developed countries. Chowa et al. (2010) found mixed results on the relationship between assets and educational outcomes in developing countries. However, he concluded that; not all types of assets have positive influence in children's educational outcomes. He gave an example of assets requiring considerable amount of time to maintain such as; large number of livestock or permanent crops. These he argues were associated with negative educational outcomes and low school attendance because the time spent in performing these roles hampers time dedicated for studies.

Alternative finding by Chowa and Sherraden (2009) shows the effect of household asset ownership in developing countries. This asset ownership is said to affect education by improving a household's ability to efficiently adjust—production

decisions during periods of change; Schultz, (1989) is reported arguing that asset building is central in expanding opportunities and overcoming persistent socio-economic restraints. Grinstein-Weiss et al. (2011) is reported also to have found marital status having an effect on asset accumulation and shocks. He posits that, the joint resources of a married couple may provide a cushion that allows them to cushion crises and accumulate assets over time.

However, finding from more developed countries shows positive association between household assets and specifically children's math achievement (Chowa et al. 2012 referring to Elliott, 2009). Chowa et al. (2012 page 5) reports a research review conducted by Elliott et al. (2011) which suggested that the type of asset, as well as the child's age and race, differently affects academic achievement. Huang et al. (2010) is reported also to have supported this finding in his study which found out that assets, specifically liquid assets, have a strong predictive effect on educational achievement. Finally, Chowa et al. 2012) reports of a research review led by Shanks et al. (2010) which confirmed assets having greater influential role in children's educational outcome independent of the effects of household income and parent's education.

These studies have exposed how household assets affect educational achievement of a student in an examination like KCPE, which is one of the objectives of this study. Although the studies reviewed are from Uganda and developed countries, the same results were expected in Kenya through this study conducted in Baringo County.

2.3.3 Household Wealth and Student's Academic Achievement

The link between household wealth and students' academic achievement is highly contentious because both children from wealth and poor households sometimes perform highly or poorly in examinations. However, this study had sought to investigate if household wealthy in form of asset portfolios have positive or negative effects in students' academic performance in KCPE. Empirical finding shows the rich investing heavily in education, for example Shankers, (1993) is quoted saying 'rich people know that they can pass on money and land tittles to their children, but the poor have one great gift they can give to their children and that is good education; with the hope that through education, their children will live better lives and move to a higher social status in society'. Todaro, (1985) argues also that children from poor households are at a competitive disadvantage vis-à-vis the wealthy household children in school activities. Based on these arguments, the question then to ask is; does household wealthy such as land, livestock or vehicle ownership influence student's academic performance?

Centre for social development, working paper number 12-17 by (Chowa et al. 2012) reports of a research by Elliot et al. (2011) showing that a family's economic status - defined to including household income, years of education completion, and profession affects children's education completion, transition to higher education, academic performance, and educational ambitions and prospects. The paper further suggested that children from households with low earnings and less education have markedly negative academic attainment. Chowa et al. (2012 pg. 6) observes that research in this area has shifted from concentrating only on income as a proxy for household's economic status to incorporating assets, which provide a better picture of the household wealth status accrued over time. Wealth in the other hand is argued by (Oliver and Shapiro, 2006) as one of the most critical components of well-being and can be considered as a more precise indicator of the long term economic resources of the household and household's access to opportunities and advantages.

The same working paper by (Chowa et al. 2012) reports a research by Hossler et al. (1999) which shows variations in student's levels of educational ambition or

prospect are influenced by household wealthy. Further reported research by Schmitt and Wadsworth, (2006) also shows positive correlation between household computer ownership and children's academic performance. Additional research, by (Elliot, 2009; Elliott et al. 2010) shows that having varied assets among households from lower SES is associated with greater educational aspiration and prospect by a student in the hope that their family can sell those assets for them to continue with their education.

Psychologically, children are said to realize whether or not their families can afford to provide for their education. Chowa et al. (2012) referring to finding by Markus and Nurius, (1986) suggested that 'a cognitive shift takes place in student's thoughts leading to change in their objectives and outlooks, thus he/she begins to perform better in school because he/she has realized that going further in school is possible (Elliot et al. 2011). Ezeru, (1996) concurs with this finding in his study of primary school students in Nigeria. He observed that students from poor households were hardly encouraged to attend school. However, he noted that students from wealthy households tended to go to school at a younger age and often aspire for highly rated academic professions. This means that they must perform highly academically for them to access those professions' compared to poor households' children who have competing variables: scarcity versus achievement.

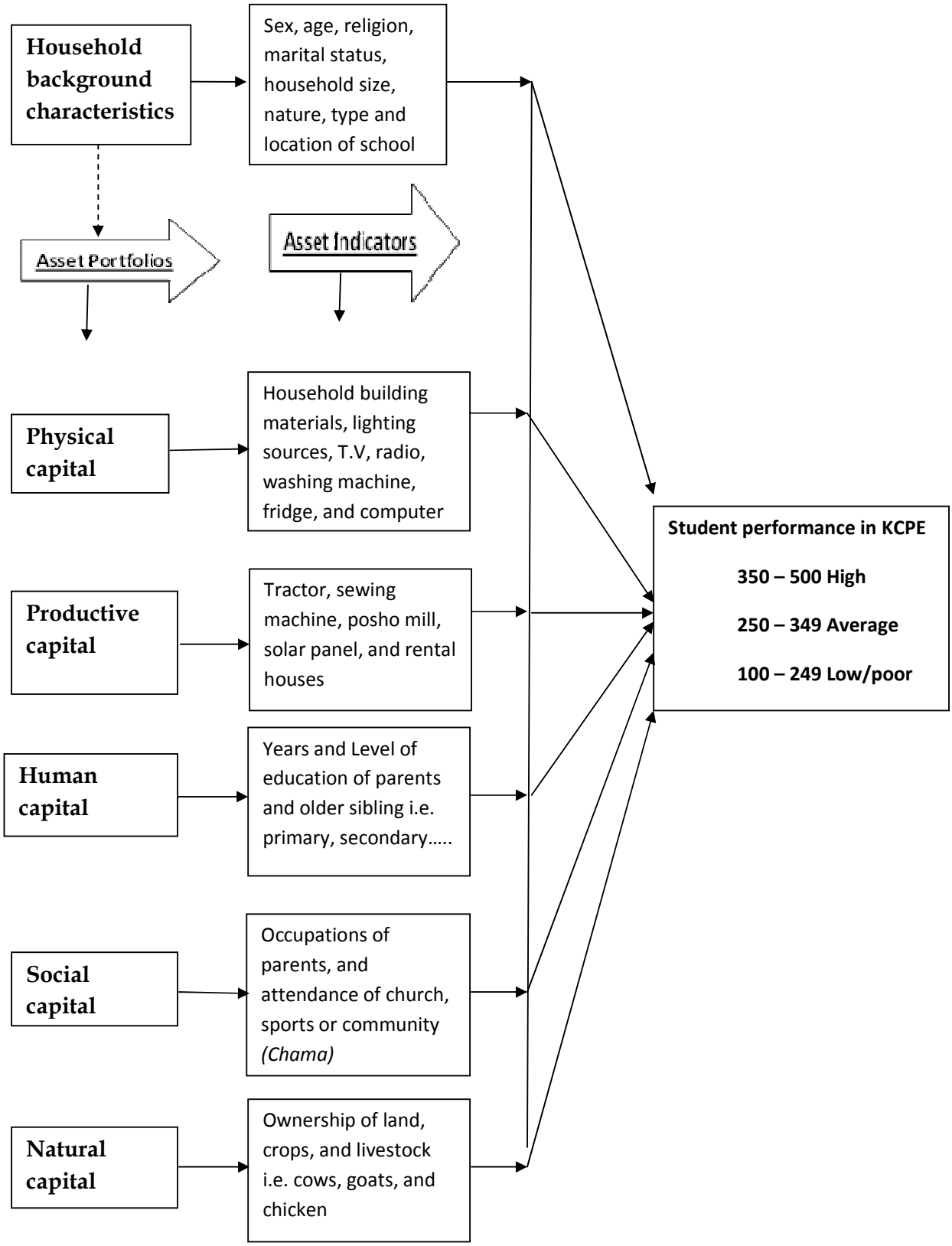
2.4 Conceptual / Analytical Framework

The conceptual framework that guides this study is captured in the schematic Figure 2.1, the arrows show the flow through the framework and the relationship between variables is understood by following the arrow to the next box. But the key question to ask in this study is why do household background characteristic and asset portfolios have such an effect on academic achievement? According to Chowa et al. (2012) referring (Teachman, 1987) who argued that parents use material and non-material resources in creating favourable atmosphere at home that fosters academic skills. It is also argued that parents allocate resources to children that may influence their academic achievement. Teachman, (1987) is further quoted stating that there is likelihood of educational resources being availed in homes where parents are educated and economically stable.

This study therefore, advances the conceptual framework adopted by Coleman (1990, 1998) which offered three forms of capital that are said to influence a child's education: financial, human and social capital. Coleman is said to have argued that all the three forms of capital are interrelated and that a child requires all the three to achieve optimal growth. He posits further that educated parents (human capital) are believed to hold stable jobs (financial capital) and are more open with their children's education (social capital). This study advances this framework by investigating further on the effect that productive capital and natural capital has on students' academic performance in Kenya Certificate of Primary Education (KCPE).

Chowa et al. (2012) posits that although this framework may be helpful in correlating household background characteristics and asset portfolios it does not hold very well in developing countries like Kenya where parents do not necessarily have to attain a university degree to provide educational resources and pay tuition fee for their children. This research had hypothesised that household background characteristics and asset portfolios has an effect in students, academic performance in KCPE. These variable indicators flows are shown clearly diagrammatically in (Figure 2.1).

Figure 2.1: Analytical Framework Used by the Study.



Source: ***Author's conceptualization considering Coleman 1989, 1990 contribution***

CHAPTER THREE: METHODOLOGY

3.0 Introduction

This section presents the research methodology applied by this study. A research methodology is significant in any study because it links theory with practice. Konthari (1984) observes that a research methodology is a study of the various steps and logic that are generally adopted by a researcher in studying his/her research problem. These steps not only guide the researcher throughout the study but also help other researchers in understanding one's study, particularly where replication is desired. In this section, the methodology of the current study is discussed under the following sub-sections: research design, study site, sample and sampling procedure, research instruments, and data collection procedure, Measures and data analysis techniques.

3.1 Research Design

This study used both quantitative and qualitative research techniques in order to provide a better understanding of the research problem. Quantitative strategies were used to collect and analyse hard data (involving numbers), while qualitative strategies were used to complement quantitative methods as a way of obtaining in-depth information.

The study used ex-post facto research design. Ex-post facto research design is defined by Mohit Jain in (www.preservearticles.com) website as a systematic empirical inquiry in which scientists do not have direct control of independent variables because they cannot be inherently manipulated. This study is used where the researcher wants to obtain pertinent and precise information concerning the current status of phenomena and to draw valid general conclusions from the facts discovered Lokesh (1986). This design was used to investigate if household asset portfolios have an effect on students' academic performance in K.C.P.E results.

This design was suitable for this study because it involved studying student's that had done their K.C.P.E and comparing their achievement results with their household asset portfolios: the dependent variable (K.C.P.E performance) had

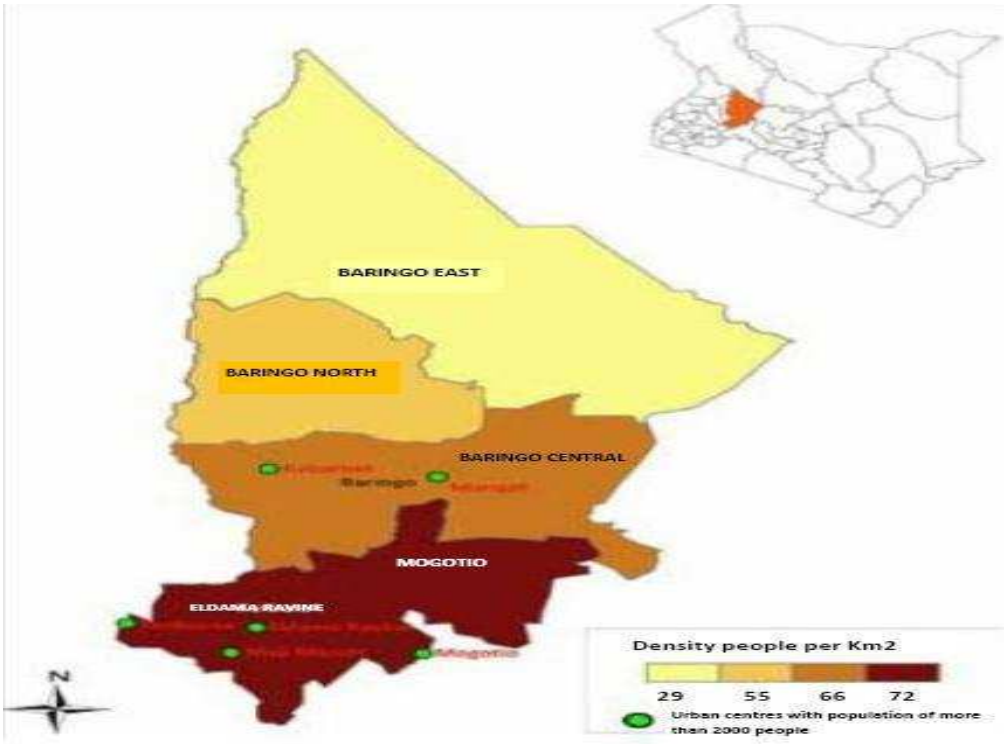
already occurred while household asset portfolio is investigated if it influences academic performance in K.C.P.E cannot be manipulated.

3.2 Study Site

The study was carried out in Baringo County, which forms one of the forty seven counties of Kenya. As shown by Figure 3.1, Baringo County has six districts namely; Baringo Central District, Baringo East District, Baringo North District, Baringo South District, Eldama Ravine District, and Mogotio Districts. Baringo County is therefore inhabited by the Tugen sub-ethnic people who are mixed farmers historically specialising in cattle keeping and crop farming.

Commission of Revenue Allocation (C.R.A, 2012) classifies Baringo County as arid lands having a population of 555,561 people with a surface area of 11,015 square KM and a density population of 50 people per square KM. The County poverty rate is reported to be standing at 57.4% according to Kenya Intergraded Household Budget Survey (KIHBS 2005-2006) besides it having infrastructural challenges such as; 35.1% of the households accessing improved water, 57% accessing improved sanitations, while 9.6% accessing electricity and 15.7% of the total roads are paved according to (Household survey 2009).

Figure 3.1: A Physical Map Showing Baringo County



Source: Baringo County Map from KRA 2012 Report.

County Education Situation

The county has a total of 526 primary schools registered for in 2012 KCPE exams, of this 24 are private schools and the rest 502 public schools. The county is also reported to having 85 public secondary schools and 6 Tertiary training institutions. The total populations attending school, 15-18 years stands at 84.4% while those with secondary education are 11.7% according to (KIHBS 2005-2006). The question to ask is why such disparity? The reason given varies with 52.7% reporting that their parents did not let them to proceed on to the next level, 7.6% saying that they had to work or help at home and 10.3% reporting the distance between their home and school as a factor i.e. In Baringo County 2.1% of students reported to KIHBS (2005 - 2006) survey that they travel 500 meters or less to school while the vast majority of 94.8% travelling 5 or more kilometres to school.

The above factors contributed to this study site selection, especially the fact that, the County being classified as Arid and Semi-Arid lands (ASALs) by Commission of Revenue Allocation (C.R.A 2012) and the fact that it was ranked 5th best County in the recent release of 2012 KCPE results with a mean of 270/500 according to Kenya's Daily Nation newspaper dated 29th January 2013. Despite these results, the paper analysis shows that all the best schools in the county are private primary schools rather than public schools who are under government sponsored free primary schooling. Due to this characteristics of the County, it is expected the performance of these students to be poor in national examinations but overall it has proven vice versa why? It is under this background that Baringo County has been chosen for this study on the effect of household asset portfolios on student academic performance in KCPE.

3.3 Sample and Sampling Procedure

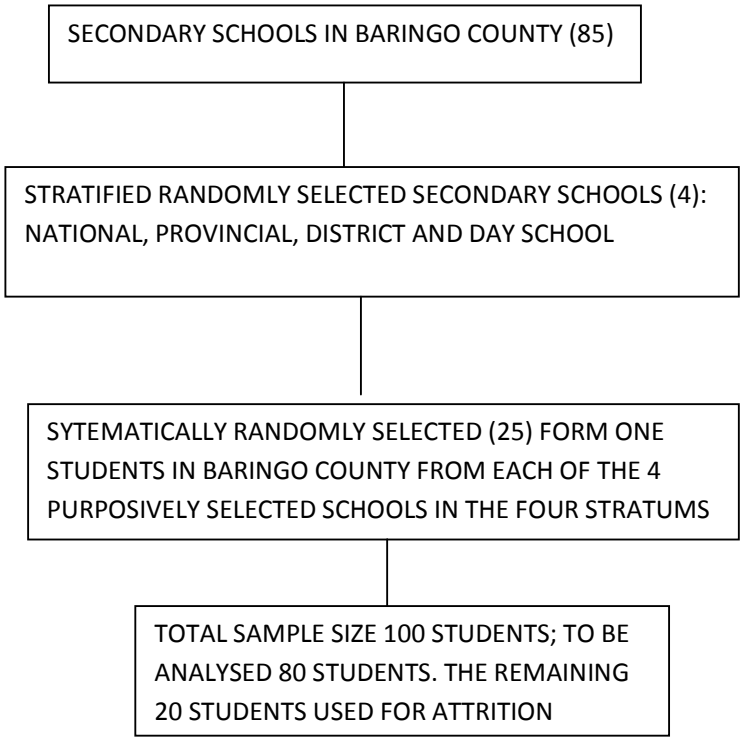
The target population were form one students from secondary schools in Baringo County. The entire population of form one candidates in all these schools would be too large a sample to study. It was necessary to select a representative sample of a manageable size, which would be used to draw a conclusion about the population (Webster 2000). A sample of 80 students was obtained using stratified and purposive sampling methods which ensured that each region of the County was well represented.

Stratified sampling applies to a study in which a drawn sample does not constitute a homogeneous group (Konthari, 1984). Stratification is used to obtain representation of the sample. Under this procedure the population was divided into several strata's and then select items from each stratum to constitute a sample. In this research all secondary schools in the County were stratified into: National, Provincial, district, and day schools. Then one school from each stratum was selected.

At least four schools were purposively sampled out of the 85 schools in the stratums, and twenty five form one students were systematically randomly selected from each school to fill the questionnaires. Also considered was gender and oversampling to

take attrition into account. See Figure 3.2 which shows a clear plan of the sampling design.

FIGURE 3.2 A CLEAR PLAN OF SAMPLING DESIGN.



3.4 Research Instruments

Questionnaire containing both open ended and structured questions was used for data collection pertaining to the variables information about the student's household portfolio i.e. ownership of T.V, Fridge, and Computers (Appendix 1). To enhance the validity of the questionnaire a pre-test was conducted on a population similar to the target population for a pilot study within the educational zone. The objective was to gather evidence of construct validity (Gall et al. 1996). The repetitive questions in the questionnaire were discarded while those that were unclear in the initial phase were reconstructed.

3.5 Data Collection Procedure

In addition to the primary sources (Form one students), secondary sources of data i.e. books, journal and internet were also utilised in the study. This information was collected from published and unpublished materials and formed part of the literature review. The administration of research data collection instruments was done by the researcher both at the pilot and main study. A research letter was obtained from the Institute for Development Studies and then phone calls were made to the head teachers of the purposively selected schools representing national, provincial, district and day school from each part of the County. On receipt of their positive response the researcher visited the schools and administered the questionnaires.

Due to distance between schools the researcher administered and collected questionnaires the same day from each school. This reduced respondents discussing and modifying their responses. The researcher also created rapport before administering questionnaires so as to gain confident and trust from the respondents. To ensure co-operation, the researcher explained the significance of the study and their participation besides assuring all respondents of confidentiality and security of information given.

3.6 Measures

3.6.1 Dependent Variables

The only dependent variable used is 2012 K.C.P.E test scores. This is an average score of all the quizzes and tests that students took during their final academic term in primary school. The researcher choose to use the K.C.P.E score because it is a national exam thus bringing in the aspect of standardization in the research project, besides it is a better indicator of academic performance at the end of primary schooling. In this study, the highest possible score for all the subjects is 500 marks and the lowest possible score is 100 marks. Student's performance score for this research were set as follows: 350 – 500 marks as high performers; 250 – 349 marks as medium/average performers, and finally 100 – 249 marks as low/poor performers.

3.6.2 Covariates of Household Asset Ownership

Based on theory and empirical literature, predictors of family or household asset ownership, including household items, include head of household's gender, marital status, education, and employment or occupation status. Other important predictor includes number of economic dependents in the household. Gender was a binary variable that was coded as 1 for male and 2 for female. Parental education was also a dichotomous variable that was coded according to the level of education and actual number of years in formal education. Marital status in the household was too a dichotomous variable that was coded as 1 for married, 2 for single parent, 3 for divorced, and 4 for separated . Age was a continuous variable measured in years. Employment status was a dichotomous variable that was coded according to categories of employment. The number of economic dependents was also coded as continuous variable measured as the number of individuals, regardless of age, who rely on the head of household for food, shelter, clothing, or other basic needs.

3.6.3 Household Assets Portfolio (Independent Variables)

This study grouped household assets into portfolios for easy analysis. Hulme and McKay (2005) argue that social scientist prefer to examine asset-portfolios as proxy for wealth in research lacking detailed income and expenditure besides understanding the specific root causes of poverty. A variable for ownership of household items was coded according to the assigned asset portfolio as shown in the table 3.1.

HOUSEHOLD ASSET-PORTFOLIOS

TABLE 3.1: Asset portfolio, Asset categories and Index component

Asset portfolio	Asset categories	Coded index components
Physical capital	Housing	Roof, wall, and floor materials, lighting sources, toilet type and rooms in the H.H
	Consumer durables	T.V, radio, washing machine, bike, motorcycle, vehicle, computer, and mobile phone, gas cooker, fridge, washing machine, and other durables
Productive capital	Productive durables	Tractor, Plough, Sewing machine, Solar panel and Posho mill.
	Transfer/rental income	Monthly rental income and source of H.H income.
Human capital	Education	Years and Level of education of parents: Illiterate, some primary school, secondary or technical college, university, post-graduate.
Social capital	Household	Household location, Occupation of parents and student desired career.
	Community	Attendance of household to church, sports group or community (*chama/merry go round*).
Natural capital	Productive	Land ownership, crop and Livestock ownership, and students' engagement in productive work.

3.7 Data Analysis Technique

Data analysis involved regular reviewing and summarising of information provided by participants. Statistical Package for Social sciences (SPSS) was used for analysis of quantitative data collected. Frequency tables, charts and graphs were used to present the demographic characteristics of household asset portfolios and students in Baringo County.

The hypotheses of the study were tested through Chi Square since they involve analysis of various relationships. The researcher cross tabulated each of the dependent variables (household asset portfolios) against the independent variables (students' academic performance in KCPE) and then used Chi Square at a significance level of 0.005 to analyse the data and establish the relationships. These relationships were between household asset portfolios and student's academic achievement.

CHAPTER FOUR: HOUSEHOLD BACKGROUND CHARACTERISTICS AND STUDENT'S ACADEMIC ACHIEVEMENT IN K.C.P.E.

4.1 Introduction

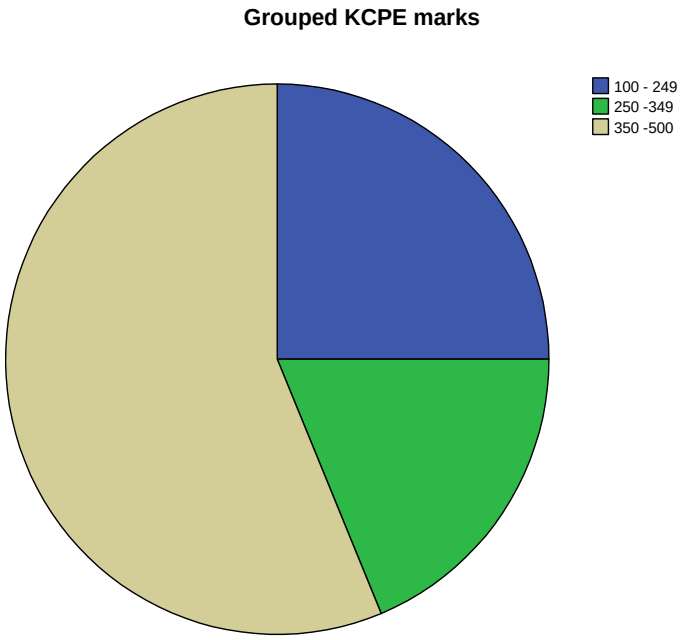
This chapter presents findings of the study on the effects of household assets portfolio on students' academic achievement in KCPE in Baringo County. It discusses the effect of household background characteristics on students' academic performance in KCPE. The discussion begins by looking at students' academic achievement in KCPE, followed by household background characteristics such as age, sex, religion, parental marital status, and household source of water and lighting. Tables, pie charts and graphs are used to illustrate the findings.

4.2 Students' Academic Achievement in KCPE

The academic achievement of the 80 students was average, as indicated by a large number of students (68.7%) who scored above the sample's mean mark of (323.15 out of 500) whereas the remaining 31.3% scored below the sample's mean. The student with lowest mark scored 172 marks out of the total 500 marks while the highest student scored 394 marks out of the 500 marks. The standard deviation was found to be 64.52 indicating that most of the respondent performed above the average mark to joint secondary school in Kenya.

Students' academic performance in KCPE was grouped into three categories: Low/poor, average, and high achievers/performers, in order to simplify the analysis of this study objectives. The low achievers/performers category consisted of students with 100 – 249 marks; average achievers/performers category consisted of students with 250 – 349 marks; and finally the high achievers/performers category consisted of students with 350 – 500 marks. The rationale for grouping these marks together was due to the reason that majority of the study objectives will be correlated with these marks categories. After grouping, majority of the students (56.3%) of the total sample had scored highly with a score of 350 and above, 25% scored poorly and fell in the 100 -249 mark category, while 18.8% performed averagely with 250 – 349 mark category (See Figure 4.1).

Figure 4.1: Grouped Students' Academic Performance in KCPE



Source: Field Research, 2013.

These findings of 80 form one students' sampled randomly in Baringo County shows that 75% performed above the 250/500 mark contrary to the national figure of 51.35% released by KNEC in January 2013 showing students who did their exams in 2012. At the County level the overall mean grade of the 2012 KCPE candidates was 270/500 compared with this study findings of 323.15/500 mean score can be explained based on the sampling procedure used for selecting four schools: national, provincial, district, and day school. Thus, the cut off mark for form one students could have been high for the national and provincial schools leading to the difference in mean scores.

4.3 Household Background Characteristics and Student's Academic Achievement in K.C.P.E.

This section reports the findings on the effect of household background characteristics on students' academic achievement in KCPE in Baringo County. The discussed attributes include; sex, age, religion, marital status of the household, and total number of household members. Also to be looked at are; who is the head of the household, the type of lighting used by the household, the source of water used by the household, the type of fuel used for cooking by the household, the type of toilet facility used by the household, the language of communication used by the household, primary school attended by the respondent, distance and mode of transport used to and from school, and lastly if the household have a house help.

This information is very important because it defines the household characteristics that have bearing on students' academic performance in KCPE. The data is presented in form of tables, pie charts and graphs. The data also has been analysed and discussed using descriptive statistics, cross tabulations and chi-square test.

4.3.1 Sex

Out of the 80 respondents interviewed, 56.3% of the respondents were male while 43.8% were female. This shows that male students were more than female students by 12.5%. Additionally, the finding are representative of KNEC analysis on primary enrolment in Baringo county for the year 2012 which was 51.31% male students' against 48.69% female students' leading to the vast majority of male students joining secondary schools. Table 4.1 shows this finding and goes further in analysing the relationship between sex of the student and his or her academic performance in KCPE.

Table 4.1: Cross tabulation between students' sex and academic performance in KCPE.

		Sex of the respondent		Total
		Male	Female	
Grouped KCPE marks	100 - 249	4	16	20
	250 -349	9	6	15
	350 -500	32	13	45
Total		45	35	80

X^2 = 14.084, df = 2, p = 0.001, Significance level = 0.005

Source: Field Research, 2013.

The students' academic performance in KCPE differed by sex in that most male students performed highly with 32 out of 45 of the sampled getting more than 350 marks out of the total 500 marks while only 13 out of 35 female students performed that highly. Chi-square test (x^2 = 14.084, df = 2, p = 0.001) confirms that there is strong correlation between students' sex and academic performance in KCPE. It's worth noting in this study that students' sex influences performance in an examination.

4.3.2 Age

The age of the sampled students' ranged between 13 to 16 years. The mean age was 14.21 years with a mode of 14 years. Most of the respondents were aged 14 years and comprised (51.25%) of the total sample; followed by students of age 15 years comprising of 27.5% of students interviewed. Those aged 13 years were 16.25% and those aged 16 years were only 5% students. The explanation given for majority of this students' are being aged 14 years is simply that Kenya's standard age for form one students' is 14 years. (See table 4.2 for further analysis).

Table 4.2: Cross tabulation between students' age and academic performance in KCPE.

		Age of the respondent				Total
		13	14	15	16	
Grouped KCPE marks	100 - 249	4	9	6	1	20
	250 -349	3	6	4	2	15
	350 -500	6	26	12	1	45
Total		13	41	22	4	80

$X^2 = 4.274$, df = 6, p = 0.640, Significance level = 0.005

Source: Field Research, 2013.

Cross tabulation analysis tests performed on the relationships between students' age and his/her academic performance reveals that there is no statistical significance between age and KCPE marks. (Chi-square test ($x^2 = 4.274$, df = 6, p = 0.640). This could be because some students' repeat primary school as attested by one male student interviewed "*I had to repeat class eight to get this marks which enabled me to come to this provincial school*".

4.3.3 Religion

In terms of religion, the majority of the respondents were Christians' (97.5%) while the remaining 2.5% were Muslims. The reason for the high percentage Christians is that the historical missionary activities by the early missionaries among the indigenous Tugen sub ethnic tribe of the Kalenjin community. While the reason for the 2.5% Muslims could be due to some respondents' coming from other Counties. The relationship between religion and KCPE performance shows that the majority (55%) of the Christians scored highly with more than 350 marks out of the total 500 marks. However Chi-square correlation tests show that there is no relationship between the type of religion the student belongs to and his/her performance in KCPE ($x^2 = 0.912$, df = 2, p = 0.634). (See table 4.3).

Table 4.3: Cross tabulation of religion in two categories on academic performance in KCPE.

		Religion in two categories		Total
		Christian	Muslim	
Grouped KCPE marks	100 - 249	19	1	20
	250 -349	15	0	15
	350 -500	44	1	45
Total		78	2	80

X^2 = 0.912, df = 2, p = 0.634, Significance level = 0.005

Source: Field Research, 2013.

4.3.4 Marital Status

Regarding marital status of the households, 87.5% of the respondents reported their parents were married. The rest were single parent (7%), divorced (1%), and separated (2%). An analysis of the relationship of marital status of the household and academic performance in KCPE shows high statistical correlation (Chi-square test = 15.924, df = 6, p = 0.014). This implies that students from two parent families performed better than single parents' students as seen in the table below, more than half of the sampled respondents 55% were in married households and performed highly with over 350 marks category, while the remaining 32.6% were shared equally between 100 – 249 and 250 – 350 category with each receiving 16.3%. Almost all students in the single, divorced or separated households performed poorly. This concurs with Majoribanks (1996) findings that students with single parent undergo several challenges both psychological and economical which in turn affect their academic performance and stability. (See table 4.4).

Table 4.4: Cross tabulation between parental marital status and students' academic performance in KCPE.

			Marital status of the household head				Total
			Married	Single parent	Divorced	Separated	
Grouped KCPE marks	100 - 249	Count	13	5	1	1	20
		% of Total	16.3%	6.3%	1.3%	1.3%	25.0%
	250 -349	Count	13	2	0	0	15
		% of Total	16.3%	2.5%	.0%	.0%	18.8%
	350 -500	Count	44	0	0	1	45
		% of Total	55.0%	.0%	.0%	1.3%	56.3%
Total		Count	70	7	1	2	80
		% of Total	87.5%	8.8%	1.3%	2.5%	100.0%

X^2 = 15.924, df = 6, p = 0.014, Significance level = 0.005

Source: Field Research, 2013.

4.3.5 Household Size

The respondents covered in the study reported their household size. The finding shows that the minimum population size in a household was 4 members and the household with the highest members had 11. The mean household size is 7 members and a standard deviation of 2. Most households had 6 members.

Household sizes have been grouped into 3 categories for this study analysis, those with 1 – 5 members were 25%, while those with 6 – 10 members were 67.5%, and the final category of 11 – 15 members had 7.5%. This shows that majority households in the County have 6 – 10 members in the household. And to establish the relationship between household size and KCPE performance, a Pearson chi-square test (x^2= 4.090, df = 4, p = 0.394). This test confirms poor relationship between the household size and students' performance in general. This finding justifies what (Eamon, 2005 and Majoribanks, 1996) found that smaller household size is linked to higher academic achievement and that fewer siblings have access to resource support leading to better academic performance. It can be concluded that because of the high household size in Baringo County, performance is influenced negatively as seen in the findings on table 4.5.

Table 4.5: Cross tabulation between household number and students' academic performance in KCPE.

			HH no Group			Total
			1 – 5	6 - 10	11 – 15	
Grouped KCPE marks	100 – 249	Count	7	12	1	20
		% of Total	8.8%	15.0%	1.3%	25.0%
	250 -349	Count	5	8	2	15
		% of Total	6.3%	10.0%	2.5%	18.8%
	350 -500	Count	8	34	3	45
		% of Total	10.0%	42.5%	3.8%	56.3%
Total		Count	20	54	6	80
		% of Total	25.0%	67.5%	7.5%	100.0%

$X^2 = 4.090$, df = 4, p = 0.394, Significance level = 0.005

Source: Field Research, 2013.

4.3.6 Head of the Household

Household head plays a significant role in giving direction and planning for the household wellbeing including children's education. In this study 90% of the interviewed reported father as the head of the household and only 10% reported mother. The vast majority (55%) of those who reported father as the head of the household performed well with over 350 marks. On testing statistical significance between household head and performance in KCPE, revealed positive significance at a level of 0.016 and a degree of freedom (df) of 2 (See table 4.6). This finding implies that fathers more than mothers have a role in academic performance.

Table 4.6: Cross tabulation between head of the household and students' academic performance.

			Head of the household		Total
			Father	Mother	
Grouped KCPE marks	100 – 249	Count	17	3	20
		% of Total	21.3%	3.8%	25.0%
	250 -349	Count	11	4	15
		% of Total	13.8%	5.0%	18.8%
	350 -500	Count	44	1	45
		% of Total	55.0%	1.3%	56.3%
Total		Count	72	8	80
		% of Total	90.0%	10.0%	100.0%

$X^2 = 8.210$, df = 2, p = 0.016 Significance level = 0.005

Source: Field Research, 2013.

4.3.7 Type of Lighting

Of the total sampled households, (60% or 48) reported to be using electricity for lighting, (10%) using solar, 26.3% using paraffin, and lastly 3.8% using firewood. This high percentage usage of electricity by the majority (60%) could explain why majority of the students sampled performed well in their KCPE performance leading to a mean grade of (323.15/500 marks). Statistical analysis shows that there is high correlation between household type of lighting and KCPE performance. This could be due to the fact that light is used for studying thus those with lights have extra time to study at home compared with those household without (See Table 4.7)

Table 4.7: Cross tabulation between the type of lighting used by the household and students' academic performance in KCPE.

		Type of lighting used at home				Total
		Electricity	Solar	Paraffin	Firewood	
Grouped KCPE marks	100 – 249	0	4	14	2	20
	250 -349	5	2	7	1	15
	350 -500	43	2	0	0	45
Total		48	8	21	3	80

$X^2 = 59.704$, df = 6, p = 0.000 Level of significance = 0.005

Source: Field Research, 2013.

4.3.8 Household Source of Water

Almost half of the households (46.3%) reported using piped water, following through 33.8% are households fetching their water from the river, those using water in the tank were 18.8%, and finally one household comprising 1.3% of the total sampled population reported using water gotten from the well. This implies that the majority of the households used piped water meaning their household members don't waste time in fetching water. This study sought to identify if household source of water influences academic performance in KCPE. The results shows high significance level with (Chi-square = 64.841, df = 6, p = 0.000). This finding shows that water source greatly influences performance in KCPE, more so positive performance as seen in table 4.8. The majority of the students (32) using piped water scored high marks with over 350 mark out of 500. Also observed is that majority 21

out of 27 female students' fetches water from the river thus wasting time and energy leading to overly poor performance of girl child. (See table 4.8)

Table 4.8: Cross tabulation between household main source of water and students' academic performance.

		Household main source of water				Total
		Piped water	River	Well	Water tank	
Grouped KCPE marks	100 – 249	0	20	0	0	20
	250 -349	5	6	1	3	15
	350 -500	32	1	0	12	45
Total		37	27	1	15	80

$X^2 = 64.841$, df = 6, p = 0.000, significance level = 0.005

Source: Field Research, 2013.

4.3.9 Type of Fuel Used For Cooking By the Household

Similar t**o** the water source findings, 46.3% households reported using gas for cooking, 35% using firewood, 11.3% using charcoal, and finally 7.5% using biogas. The relationship between household cooking fuel and KCPE performance is high with a chi- square test of (Chi-square = 61.342, df = 6, p = 0.000). This result shows the majority of the high performers use gas for cooking and the low performers use firewood. For those using firewood the finding shows 20 out of 28 female students' reported to be responsible for fetching firewood leading to their poor performance compared to fellow male students'. It can therefore, be argued from these findings that time spent for fetching firewood and the process of lighting fire is time consuming compared to the gas, thus affects students' performance (See table 4.9).

Table 4.9: Cross tabulation between types of fuel used for cooking at the household and academic performance in KCPE

		Type of fuel used for cooking at the household				Total
		Firewood	Charcoal	Biogas	Gas	
Grouped KCPE marks	100 – 249	17	3	0	0	20
	250 -349	9	4	0	2	15
	350 -500	2	2	6	35	45
Total		28	9	6	37	80

$X^2 = 61.342$, df = 6, p = 0.000, significance level = 0.005

Source: Field Research, 2013.

4.3.10 Household Toilet Facility

Statistics shows that more than half (58.8%) of the households use pit latrine, 38.8% use flush toilets, and 2.5% of the respondent reported their household having no toilet. The relationship between toilet facility used by the household and students' performance shows high correlation with a (Chi-square value of 33.353, df = 4, p = 0.000). This relationship can be linked with ecological systems theory to well-being which argues that the relationship between parental socioeconomic status and the self-esteem of the children influences a host of factors which determine both cognitive and economic success of a child. It can therefore be argued in this study that toilet facility explains the status of the household thus leading to the level of academic performance of a student in KCPE. (See table 4.10)

Table 4.10: Cross tabulation between the kind of toilet facility used by the household and students' academic performance in KCPE.

		Kind of toilet facility used by the household			Total
		No toilet	Flush toilet	Pit latrine	
Grouped KCPE marks	100 – 249	2	0	18	20
	250 -349	0	2	13	15
	350 -500	0	29	16	45
Total		2	31	47	80

X^2 = 33.353, df = 4, p = 0.000, significance level = 0.005

Source: Field Research, 2013.

4.3.11 Language Used At the Household

Language use at the household is very important for academic performance by a student because formal language use is believed to increase the chances of the student understanding key terminologies used in teaching and examination thus influencing his or her performance positively. Among the sampled respondents' 17.5% used English for communication, 47.5% used Kiswahili, and 35% used Vernacular. The relationship between performance and language used at home shows that there is perfect relationship with a (Chi-square of 62.516, df = 4, p = 0.000). In addition to these relationship, statistics shows that majority of the high performers used English or Kiswahili at home for communication whereas

vernacular is seen to be used by low achievers. This finding confirms what Lockheed, Fuller, and Nyirongo (1989) found in Malawi. It is evident therefore, that language use at the household level plays a significance role in academic performance. (See table 4.11).

Table 4.11: Cross tabulation between students' household language and academic performance in KCPE.

		Language used by the household			Total
		English	Kiswahili	Vernacular	
Grouped KCPE marks	100 – 249	0	0	20	20
	250 -349	0	8	7	15
	350 -500	14	30	1	45
Total		14	38	28	80

$X^2 = 62.516$, df = 4, p = 0.000, significance level = 0.005

Source: Field Research, 2013.

4.3.12 Nature of School Attended by the Student

Primary schools were classified into two categories: Public schools; owned by government and private schools owned privately by a company, an institution, or an individual. Out of the 80 respondents interviewed 62.5% or 50 were in public school and the remaining 37.7% or 30 were in private schools. The findings between the relationship of academic performance and the nature of school attended by the student shows high correlation with a (Chi-square = 37.333, df = 2, p = 0.000). Looking further unto these finding is that majority of the high performing students (30 out of 45) was in private schools whereas the public schools performance shows almost a flat graph in all the grouped KCPE marks. The reason for this high significance could be associated with facilities in private schools besides the amount of money pumped by the households to these schools for them to perform that much. This finding supports Rotich (2003) findings that household wealthy in society can buy expensive and better education for their children leading to enhanced academic performance in an examination. This finding also proves what KNUT chairman said concerning investment levels between public schools and private schools (See table 4.12).

Table 4.12: Cross tabulation between nature of primary school attended by the student and his/her academic performance in KCPE.

		Nature of primary school		Total
		Public	Private	
Grouped KCPE marks	100 - 249	20	0	20
	250 -349	15	0	15
	350 -500	15	30	45
Total		50	30	80

X^2 = 37.333, df = 2, p = 0.000, significance level = 0.005

Source: Field Research, 2013.

4.3.13 Type of Primary School Attended

After classifying primary schools into public and private, further classification was done into two types: day school and boarding schools. Out of the sampled students 63.8% or 51 were in day schools whereas the 36.3% or 29 were in boarding schools. Statistics shows high correlation between performance and the type of school attended by the student (Chi-square = 22.111, df = 2, p = 0.000). The findings also show almost all the students who were in boarding school (26 out of 29) got high grades above 350 marks. This can be explained by the fact that students in boarding school have enough time to revise and are well catered for compared with the day's scholars who have to struggle with travelling to and from school daily and doing other household chores which in turn affects their time for studying leading to low performance in an examination. (See table 4.13)

Table 4.13: Cross tabulation between type of primary school and students' academic performance in KCPE.

		Type of primary school		Total
		Day	Boarding	
Grouped KCPE marks	100 - 249	20	0	20
	250 -349	12	3	15
	350 -500	19	26	45
Total		51	29	80

X^2 = 22.111, df = 2, p = 0.000, significance level = 0.005

Source: Field Research, 2013.

4.3.14 Primary School Location

Investigation was needed to determine the location of the primary school; whether it was in urban or rural areas and whether it affected performance of a student positively or negatively. More than sixty percent of the respondents reported their schools being in urban areas, and the remaining 37.5% studied in rural areas. The relationship between primary school location and students' performance shows very weak relationship with a (Chi-square = 4.053, df = 2, p = 0.132). The findings shows that the majority of those who were in rural areas performed marginally poorly compared with those in urban areas who performed relatively highly; This supports the findings of Eamon, (2005) who found that rural areas lack adequate connections and good schools which enhance students' performance. Even then, it can be said that primary school location has no effect on students' academic performance. However, it can be argued that there are other strong factors affecting student's performance besides location. (See table 4.14).

Table 4.14: Cross tabulation between primary school location and students' performance in KCPE.

		Location of primary school		Total
		Urban	Rural	
Grouped KCPE marks	100 - 249	6	14	20
	250 -349	3	12	15
	350 -500	21	24	45
Total		30	50	80

X^2 = 4.053, df = 2, p = 0.132, significance level = 0.005

Source: Field Research, 2013.

4.3.15 Household Distance from School

The distance of the household from school is very useful because it explains the demographic situation of the households. Sixteen percent of the respondents reported their school to be more than 10 KM from home, 20% fell in the 5 – 10 KM category, while 22.5% lived at a distance of between 2 KM to 5 KM from school, those living less than a KM were 16.3%, and finally those who were living in the school (boarders) were 25%. Analysis of the relationship between the distance travelled to and from school and students' academic performance shows a strong

relationship with a (Chi-square 21.002, df = 8, p = 0.007). This finding could have been influenced by the 25% of those students who were in boarding schools whose value contributed to these findings, however with present day school bus and individual vehicles, students can be brought from far and reach school on time. Still, the distance to and from school has positive effect on students' academic performance in KCPE. (See table 4.15).

Table 4.15: Cross tabulation between approximate distance between household and school and students' academic performance in KCPE.

		Approximate the distance between household and school					Total
		More than 10 km	5 - 10 km	2 - 5 km	Less than 1 km	Not applicable	
Grouped KCPE marks	100 – 249	4	8	7	1	0	20
	250 -349	2	3	4	4	2	15
	350 -500	7	5	7	8	18	45
Total		13	16	18	13	20	80

$X^2 = 21.002$, df = 8, p = 0.007, significance level = 0.005

Source: Field Research, 2013.

4.3.16 Means of Transport To and From School

The means of transport from home to school and vice versa says a lot about the household socio economic status. For this research, 18.8% used a vehicle, 3.8% used motorcycle, 6.3% used bicycle, and the majority (46.3%) students walked to school and back, while the remaining 25% students were boarders living within the schools premises. The statistics show that there is high correlation between students' performance in KCPE and the means of transport to and from school (Chi-square 31.174, df = 8, p = 0.000). Thus, the majority of the high performing students use vehicles (13 out of 15) for transport and majority of the low performing students walk to school (17 out of 37). It is evident therefore that those households with capability to transport their children to school have an upper hand in performance compared to those in boarding. (See table 4.16)

Table 4.16: Cross tabulation between means of transport used daily and students' academic performance in KCPE.

		Means of transport used daily to and from school					Total
		Vehicle	Motorcycle	Bicycle	Walking	Not applicable	
Grouped KCPE marks	100 – 249	0	1	2	17	0	20
	250 -349	2	0	1	10	2	15
	350 -500	13	2	2	10	18	45
Total		15	3	5	37	20	80

X^2 = 31.174, df = 8, p = 0.000, significance level = 0.005

Source: Field Research, 2013.

4.3.17 Household Help

House help are naturally employed to assist in household chores; those households with these employees are seen as wealthy besides their children have limited duties to perform in the house. Out of the 80 students sampled 58.8% reported having a house help employee at home while 41.3% reported not having house help employee at their home and are thus expected to perform several household chores besides going to school. The relationship between household with house help and students' academic performance in KCPE show a Chi square test of (x^2 = 60.010, df = 2, and p = 0.000). This shows that house help has a positive effect on the performance of a student in an examination. Analysis shows that 43 out of 47 students who had house help performed highly with over 350 marks in KCPE. Also to note is that majority (20 out of 33) of those who had no house help performed poorly with below 250 marks. It is evident therefore through this study that house help has an effect on performance thus households should invest in hiring them for positive results of their children in school. (See table 4.17)

Table 4.17: Cross tabulation between household ownership of house help and students' academic performance in KCPE.

		Do household have house help		Total
		Yes	No	
Grouped KCPE marks	100 – 249	0	20	20
	250 -349	4	11	15
	350 -500	43	2	45
Total		47	33	80

$X^2 = 60.010$, df = 2, p = 0.000, significance level = 0.005

Source: Field Research, 2013.

4.4 Summary of the Main Findings on the Effect of Household Background Characteristics on Students' Academic Achievement in KCPE.

The study found household background characteristics having both weak and strong effect on students' academic achievement in KCPE in Baringo County. This mixed finding contradicted the researchers' positive expectations i.e. the researcher found that student's sex, religion, marital status, and household size had weak relationships in influencing academic results positively. While Households type of lighting, source of water, type of fuel used for cooking, toilet facility, language used, nature and type of school attended by the student, means of transport to and from school daily, and household ownership of house help had strong effect in influencing students' academic performance as attested by their Chi square findings of (0.000).

This finding concurs with literature reviewed on the effect of household background characteristics on students' academic achievement. Such literature include the findings of Eamon, 2005; Eamon and Majoribanks (1996); Lockheed, Fuller, and Nyirongo (1989); and Rotich, 2003. Most of these reviewed literature showed household background characteristics influencing academic performance positively which is contrary to this study mixed findings.

It can conclusively be said therefore, that household background characteristics of a student need to be addressed by all stakeholders in education if positive results are to be achieved. However, this study finding should not be used to justify the effect in which household background characteristics has in a student's academic performance because the study was done using limited number of (80) respondents in a single region of Kenya.

CHAPTER FIVE: EFFECT OF HOUSEHOLDS ASSET PORTFOLIOS (CAPITAL) ON STUDENTS' ACADEMIC PERFORMANCE IN K.C.P.E.

5.0 Introduction

Household assets (Capital) are classified into five sections namely: physical, productive, human, social, and natural. These are the main wealth of a household and can be utilised directly or indirectly to meet household daily demands. It is also posed that household wealth determines input and output of social services such as health and education. This study therefore, seeks to determine if these household assets (capital) have an effect on students' performance in KCPE. Tables will be used to show the correlations and the Chi square findings.

5.1 Effect of Physical Capital on Student's Academic Performance in KCPE.

Physical Capital are assets that a household is made up of and those items which are owned. Mostly, these assets are tangible and visible. Most respondent interviewed 91.3% reported to owning a household, while only 8.8% reported to be living in a rental household. Investigating further into the materials used to build the roof, wall, floor, and the windows; majority of the interviewed 63.8% reported their roof being built by iron sheets, Twenty three percent reported that their household roof is made of tiles, and finally 12.5% of the respondents reported their household roof to be grass thatched. Fitfy seven percent of the total sample reported their household wall to be built using stone blocks, 18.8% using timber, and 23.8% using mud. The floor of the households was made of (28.8%) tiles, 41.3% cement, and 30.0% mud. Finally, the materials used for making windows were 58.8% glass and 41.3% timber.

5.1.1 Household Building Materials

A cross tabulation of household building materials and the performance of the students' KCPE marks shows high statistical significance with an overall (P = 0.000) in all the four parts of a house (roof, wall, floor, and window). However, we found that the majority of the households with tiled/iron sheet roof (45 out of 70), stone block (40 out of 46), tiled/cement floor (44 out of 56), and glass window (41 out of

47) scored highly with over 350 marks out of the total 500 marks. Also noted were that the majority of the households who resided in households with other materials besides the stated above, scored poorly with the majority of them scoring 100 – 249 marks i.e. all the 10 students, living in households whose roof were made not of tiles or iron sheet, and 20 out of 34 with households wall not made of stone block scored poorly. The same was seen in material used to make floor and windows. From the analysis in table 5.1, 5.2, 5.3, and 5.4, it can be argued that poor households are more likely to be among those who use other materials for building rather than tiles, iron sheet, stone blocks, cement, and glassed windows. It is evident therefore that the higher the value of your household building material the better the household social status thus the better and higher the performance of the child academically in KCPE. (See tables 5.1, 5.2, 5.3, and 5.4)

Table 5.1: Cross tabulation between household roofing material and Grouped KCPE performance.

		HH roofing material		Total
		Tiles & Iron sheet	Other roofing materials	
Grouped KCPE marks	100 – 249	10	10	20
	250 -349	15	0	15
	350 -500	45	0	45
Total		70	10	80

X^2 = 34.286, df = 2, p = 0.000, significance level = 0.005

Source: Field Research, 2013.

Table 5.2: Cross tabulation between household wall material and Grouped KCPE performance

		Wall material		Total
		Stone block	Other materials	
Grouped KCPE marks	100 – 249	0	20	20
	250 -349	6	9	15
	350 -500	40	5	45
Total		46	34	80

X^2 = 47.082, df = 2, p = 0.000, significance level = 0.005

Source: Field Research, 2013.

Table 5.3: Cross tabulation between household floor material and Grouped KCPE performance

		Floor materials		Total
		Tiles & cement	Other materials	
Grouped KCPE marks	100 – 249	1	19	20
	250 -349	11	4	15
	350 -500	44	1	45
Total		56	24	80

X^2 = 56.852, df = 2, p = 0.000, significance level = 0.005

Source: Field Research, 2013.

Table 5.4: Cross tabulation between household roofing material and Grouped KCPE performance

		Window material		Total
		Glass	Other material	
Grouped KCPE marks	100 – 249	0	20	20
	250 -349	6	9	15
	350 -500	41	4	45
Total		47	33	80

X^2 = 50.107, df = 2, p = 0.000, significance level = 0.005

Source: Field Research, 2013.

5.1.2 Ownership of Consumer Durables by the Household

Of the selected ten household goods; radio, mobile phone, television are the three commonly owned goods. Many of the respondents (98.8%) owned a radio, (57.5%) owned a mobile phone and (66.3%) owned a television. The Table 5.5 shows the full list of household ownership of several items.

Table 5.5: Household Consumer Durables Goods

Durable good	Frequency	Percentage
Radio	79	98.8%
Mobile phone	74	92.5%
Television	53	66.3%
Gas cooker	46	57.5%
Bicycle	44	55%
Vehicle	38	47.5%
Refrigerator	38	47.5%
Computer	33	41.3%
Washing machine	13	16.3%
Motor bike	13	16.3%

Source: Field Research, 2013.

A cross tabulation to evaluate the relationship between household ownership of these items and academic performance in KCPE is shown in the tables (5.6 – 5.15).

5.1.2.1 Vehicle

The analysis shows that students' from households owning a vehicle performed highly with 37 out of 38 scoring above the 350 mark. Consequently, the majority of those students whose households did not own a vehicle performed poorly (20 out of 42) and averagely 14 out of 42. Chi square test suggested that, there was high correlation between household ownership of a vehicle and academic performance in KCPE (Chi square = 49.880, df = 2, p = 0.000). Implied here is that a household with a vehicle can take their children to school on time besides their children not being tired on arriving at school. Secondly, is the fact that this household asset positively reinforces the students' self-esteem thus motivating the student to perform better in exams (possible selves) as attested by Markus and Nurius, (1986). To be noted too is the aspect that in case of shortcomings of school fees, the household can sell the vehicle to pay fees thus the student is assured of progressing academically.

Table 5.6: Cross tabulation between household ownership of a vehicle and Grouped KCPE performance.

		Household ownership of a vehicle		Total
		Yes	No	
Grouped KCPE marks	100 – 249	0	20	20
	250 -349	1	14	15
	350 -500	37	8	45
Total		38	42	80

X^2 = 49.880, df = 2, P = 0.000, Significance level = 0.005

Source: Field Research, 2013.

5.1.2.2 Motor Bike

The finding shows that ownership of a motorbike has no significance on students' performance in KCPE. Results show that, the majority of the students (37 out of 45) who performed highly did not own a motorbike and neither did those who owned a motorbike perform poorly. Chi square test suggests minimum effect (x^2 = 7.174, df = 2, p = 0.028) between ownership of a motorbike and KCPE performance of a student. The likely reason for this is that in Baringo County the culture to embrace ownership of a motorbike is still low due to the topographical nature of the County. Despite the Kenyan government zero rating motorbike importations, very few households own them (13 out of 80). Low ownership could also be due to high poverty level within the County. (See table 5.7).

Table 5.7: Cross tabulation between household ownership of a motor bicycle and Grouped KCPE performance.

		Household ownership of a motor bike		Total
		Yes	No	
Grouped KCPE marks	100 – 249	0	20	20
	250 -349	5	10	15
	350 -500	8	37	45
Total		13	67	80

X^2 = 7.174, df = 2, P = 0.028, Significance level = 0.005

Source: Field Research, 2013.

5.1.2.3 Bicycle

Bicycle ownership is higher than motorbike ownership in the County as reported by the sampled 80 students representing 80 households. Fourthy four households out of eighty own a bicycle; of the forty four students', twenty eight of them scored highly with over 350 marks. Also to be noted is that 17 out of 36 of those students who reported not owning a bicycle also performed highly why? The Spearman's Correlation test show ($x^2 = 2.177$, df = 2, and p = 0.337). This result was higher than the stipulated significance level of 0.005; thus there is no valid relationship between the two variables. The reason could be that the value of a bicycle is low and cannot help in payment of school fees. Also to note is the fact that while a bicycle is both useful in transporting a student to school faster than walking; it is at the same time tiresome to the students who have to cycle to and from home daily. Also, arguably a bicycle ownership by a household may be an indicator of poverty. (See table 5.8)

Table 5.8: Cross tabulation between household ownership of a bicycle and Grouped KCPE performance.

		Household ownership of a bicycle		Total
		Yes	No	
Grouped KCPE marks	100 - 249	9	11	20
	250 -349	7	8	15
	350 -500	28	17	45
Total		44	36	80

$X^2 = 2.177$, df = 2, P = 0.337, Significance level = 0.005

Source: Field Research, 2013.

5.1.2.4 Computer

A cross tabulation of students' performance and household ownership of a computer reveals that almost 100% of the students' with their households owning a computer performed highly with over 350 marks out of the total 500. The results also show some students (13 out of 47) without a computer performing well too. These findings are in harmony with Schmitt and Wadsworth (2006) who found a positive association between household computer ownership and children's academic performance. However, these findings might not mean that ownership of a computer by the household directly influences performance but that the relationship

between ownership of a computer by a household is highly related to high performance. Chi square test results (Chi square value of 38.003, with degree of freedom of 2, and a significance value of 0.000) confirm that ownership of a computer by a household has an effect on students' academic performance in KCPE. The reason could be that computers have programs that help the student in revision. (See table 5.9)

Table 5.9: Cross tabulation between household ownership of a computer and Grouped KCPE performance.

		Household ownership of a computer		Total
		Yes	No	
Grouped KCPE marks	100 – 249	0	20	20
	250 -349	1	14	15
	350 -500	32	13	45
Total		33	47	80

X^2 = 38.003, df = 2, P = 0.000, Significance level = 0.005

Source: Field Research, 2013.

5.1.2.5 Mobile Phone

Mobile phone could be useful for communication between people doing business because it reduces time spent in transaction thereby enhancing productivity and maximizing profits. The relationship between household ownership of a mobile phone as an asset and students' performance in KCPE was investigated. The findings shows that almost all the sampled respondents (92.5%) come from households with a mobile phone and out of the total respondents 55% scored highly with over 350 marks. Chi square test of 12.492, df = 2, p = 0.002 reveals that there is a significant relationship between household ownership of a mobile phone and performance in KCPE. The explanation for this significance could be that mobile phones are used for communication between teachers and parents concerning students' welfare i.e. rather than a student being sent home to collect school fee, phone calls are made to the parents who in turn send money via the same mobile phone; thus the students remains in school studying without interference. (See table 5.10)

Table 5.10: Cross tabulation between household ownership of a mobile phone and Grouped KCPE performance.

		Household ownership of a mobile phone		Total
		Yes	No	
Grouped KCPE marks	100 - 249	15	5	20
	250 -349	14	1	15
	350 -500	45	0	45
Total		74	6	80

X^2 = 12.492, df = 2, P = 0.002, Significance level = 0.005

Source: Field Research, 2013.

5.1.2.6 Television

Analysis between the relationship of household television ownership and students' academic performance reveals high significance. (Chi square = 63.303, df = 2, p = 0.000). The finding shows that 45 out of 53 students' coming from households with television scored highly with above 350 marks. The majority (20 out of 27) of those students' whose household never owned television scored below average (100 – 249 marks). The reason could be that television empowers students' with new knowledge daily through news and programs; some of this information from television is relevant to academic examinations. (See table 5.11)

Table 5.11: Cross tabulation between household ownership of a television and Grouped KCPE performance.

		Household ownership of a television		Total
		Yes	No	
Grouped KCPE marks	100 – 249	0	20	20
	250 -349	8	7	15
	350 -500	45	0	45
Total		53	27	80

X^2 = 63.303, df = 2, P = 0.000, Significance level = 0.005

Source: Field Research, 2013.

5.1.2.7 Radio

Contrary to the findings of the relationship between television and KCPE performance, radio ownership does not affect performance in KCPE. As seen in the table 5.12 above 98.8% of the household owned a radio. The statistical findings shows Chi square = 3.038, df = 2, p = 0.219. This finding shows that there is no statistical significance between KCPE performance and household ownership of a radio. The reason for this could be that radio programs have limited relevant information to a student. Instead it distracts students' concentration thus affecting his or her academic results negatively. (See table 5.12)

Table 5.12: Cross tabulation between household ownership of a radio and Grouped KCPE performance.

		Household ownership of a radio		Total
		Yes	No	
Grouped KCPE marks	100 – 249	19	1	20
	250 -349	15	0	15
	350 -500	45	0	45
Total		79	1	80

X^2 = 3.038, df = 2, P = 0.219, Significance level = 0.005

Source: Field Research, 2013.

5.1.2.8 Washing Machine

The relationship between washing machine ownership and academic performance in KCPE is shown in the table 5.13 above. This analysis shows that the majority of those interviewed (83.8%) did not own a washing machine in their household. Out of the thirteen who owned a washing machine, twelve of them scored highly above 350 marks out of 500. On looking at the relationship statistically, there was very minimal correlation between the two variables (Chi square = 8.358, df = 2, p = 0.015). The reason for this lowly significance level could be that most households did not have electricity. Besides, washing machine is expensive and thus can only be bought by the wealthy households. (See table 5.13)

Table 5.13: Cross tabulation between household ownership of a washing machine and Grouped KCPE performance.

		Household ownership of a washing machine		Total
		Yes	No	
Grouped KCPE marks	100 - 249	1	19	20
	250 -349	0	15	15
	350 -500	12	33	45
Total		13	67	80

X^2 = 8.358, df = 2, P = 0.015, Significance level = 0.005

Source: Field Research, 2013.

5.1.2.9 Gas Cooker

From the analysis, it can be argued that students' from households with a gas cooker perform better in academic performance (42 out of 46) than those (3 out of 34) who do not own a gas cooker. Cross tabulation between household ownership of a gas cooker and academic performance shows Chi square = 56.539, df = 2, p = 0.000. This finding show a perfect relationship and this could be due to the fact that gas cooker quickens the process of cooking thus a student safes time that could be used fetching firewood. Besides he/she is guaranteed of a meal every morning despite weather situation. (See table 5.14)

Table 5.14: Cross tabulation between household ownership of a gas cooker and Grouped KCPE performance.

		Household ownership of a gas cooker		Total
		Yes	No	
Grouped KCPE marks	100 – 249	0	20	20
	250 -349	4	11	15
	350 -500	42	3	45
Total		46	34	80

X^2 = 56.539, df = 2, P = 0.000, Significance level = 0.005

Source: Field Research, 2013.

5.1.2.10 Refrigerator

Refrigerator is useful in preserving food in a household. Households with refrigerator can quickly convert frozen foodstuff into a meal through warming. However, not all households own refrigerators because of its purchasing costs and some refrigerators need electricity for its effective use, which many households don't have. Of the eighty respondents interviewed, 38 reported to owning refrigerator, while 42 do not own. Out of those who own (36 out of 38) performed highly with over 350 marks while those who don't own (20 out of 42) performed poorly with 250 and below marks out of the total 500 marks. Chi square test on the relationship between household ownership of refrigerator and academic performance shows high correlation with a significance level of 0.000, Chi square 44.177, and df = 2. This finding posits that refrigerators effect students' academic performance; thus the need for households to invest on them for better performance. (See table 5.15)

Table 5.15: Cross tabulation between household ownership of a fridge and Grouped KCPE performance.

		Household ownership of a fridge		Total
		Yes	No	
Grouped KCPE marks	100 - 249	0	20	20
	250 -349	2	13	15
	350 -500	36	9	45
Total		38	42	80

X^2 = 44.177, df = 2, P = 0.000, Significance level = 0.005

Source: Field Research, 2013.

5.2 Effect of Productive Capital on Student's Academic Performance in KCPE.

Productive capital connotes household assets used to generate income for the households; these assets include tractor and plough, sewing machine, solar panel, posho-mill, and rental houses. The effects of these assets are cross tabulated against students' academic performance in KCPE.

5.2.1 Tractor and Plough

All the (13 or 16.3%) households reporting to owning tractor also reported to owning a plough. This is simply because a plough cannot independently operate without a

tractor. Out of those students' reporting ownership of a tractor by their households, 11 of them scored highly with 350 and above marks. Also to be noted is that most students' whose households do not own a tractor and a plough also performed well with 34 out of 67 scoring highly. Cross tabulation of the relationship between ownership of a tractor and plough against grouped performance shows no clear significance (Chi square = 6.195, df = 2, and p = 0.045). The reason could be that in Baringo County the main economic activity is not farming due to the Counties hilly terrain. Thus the majority of the households prefer to invest in other productive investment than in farm machinery. (See table 5.16)

Table 5.16: Cross tabulation between household ownership of Tractor and Grouped KCPE performance.

		Household ownership of a tractor		Total
		Yes	No	
Grouped KCPE marks	100 - 249	0	20	20
	250 -349	2	13	15
	350 -500	11	34	45
Total		13	67	80

X^2 = 6.195, df = 2, p = 0.045, significance level = 0.005

Source: Field Research, 2013.

5.2.2 Sewing Machine

Sewing machines can be seen as productive assets but in Baringo County very few (7.5%) households own them. The reason for this could be that most households live in scattered settlements thus the distance covered for a cloth to be mended is far and uneconomical, leading to the majority of the households to use clothe needles for repairs. The relationship between ownership of a sewing machine and academic performance (Chi square = 2.482, df = 2, and p = 0.289) shows no significant relationship. It can therefore be concluded that households with and without sewing machine perform equally in an examination i.e. KCPE. (See table 5.17)

Table 5.17: Cross tabulation between household ownership of Sewing machine and Grouped KCPE performance.

		Household ownership of a sewing machine		Total
		Yes	No	
Grouped KCPE marks	100 - 249	0	20	20
	250 -349	1	14	15
	350 -500	5	40	45
Total		6	74	80

$X^2 = 2.482$, df = 2, p = 0.289, significance level = 0.005

Source: Field Research, 2013.

5.2.3 Solar Panel

Baringo County being arid and semi-arid lands, it was expected that a majority of the residence owned a solar panel for domestic use. However, only 15 out of the sampled 80 students reported their households owning solar panels. The effect of solar panel on academic performance in KCPE was very minimal or none whatsoever (Chi square = 4.622, df = 2, and p = 0.099). Therefore, a household decision to own a solar panel is likely to be very low since it has no influence on academic performance. (See table 5.18)

Table 5.18: Cross tabulation between household ownership of Solar panel and Grouped KCPE performance.

		Household ownership of solar panel		Total
		Yes	No	
Grouped KCPE marks	100 – 249	1	19	20
	250 -349	2	13	15
	350 -500	12	33	45
Total		15	65	80

$X^2 = 4.622$, df = 2, p = 0.099, significance level = 0.005

Source: Field Research, 2013.

5.2.4 Posho Mill

Household ownership of posho mill was expected to influence performance of a student in KCPE because the profit made could be used for academic reasons. However, the findings were contrary showing no significant relationship (Chi square = 2.641, df = 2, and p = 0.267). This finding concurs with Chowa et al. (2010) which found that not all types of assets positively influences children's educational outcomes especially those assets requiring substantial amount of time to maintain. Such assets include posho mill ownership which is so demanding and earns minimal returns especially if the location it is installed in is poorly populated. Also to be noted is that there is high competition from commercial millers packaging maize flour and selling it in shops and markets which the majority of the people access easily. (See table 5.19)

Table 5.19: Cross tabulation between household ownership of posho mill and Grouped KCPE performance.

		Household ownership of posho mill		Total
		Yes	No	
Grouped KCPE marks	100 – 249	1	19	20
	250 -349	1	14	15
	350 -500	8	37	45
Total		10	70	80

X^2 = 2.641, df = 2, p = 0.267, significance level = 0.005

Source: Field Research, 2013.

5.2.5 Household Ownership of Rental Houses Giving Monthly Income

Ownership of rental houses is very useful for household wellbeing because it offers a guaranteed source of money every month which can be channelled to school fee payment or ploughed back to investment for future security. Of the total eighty students' interviewed only 15 of them had rental houses owned by their households. Out of the 15 with rental houses 13 of them performed highly with over 350 marks and the remaining two students scored averagely with over 250 marks. However, almost half (32 out of 65) of the students' coming from households without own rental houses performed highly too. On cross tabulating the relationship between

ownership of rental houses and students' performance the finding shows weak significance ($x^2 = 7.941$, df = 2, p = 0.019). The reason for this finding could be that the majority of Baringo County is not urban thus the likelihood of an investor investing in rental houses is very low leading to the findings in table 5.20

Table 5.20: Cross tabulation between household ownership of rental houses and Grouped KCPE performance.

		Household ownership of rental houses		Total
		Yes	No	
Grouped KCPE marks	100 – 249	0	20	20
	250 -349	2	13	15
	350 -500	13	32	45
Total		15	65	80

$X^2 = 7.941$, df = 2, p = 0.019, significance level = 0.005

Source: Field Research, 2013.

5.2.6 Household Main Source of Income

The respondents interviewed were requested to state the source of income for their household. The largest number of respondents (36.25%) reported their households earning their income through parental employment, 32.25% through household business, 25% through household farming, and finally 6.50% through parental self-employment. Further analysis of the relationship between household main source of income and students' academic performance shows high relationship with ($x^2 = 21.825$, df = 6, p = 0.001). Students from households with more sources of income performed better than students' from households with less sources of income i.e. farming. Further, the bar chart shows that employment and business have a big effect on performance and this could be because of certainty in income to the household which in turn are used within the household for other responsibilities including school fee payment. (See table 5.21 and figure 5.1).

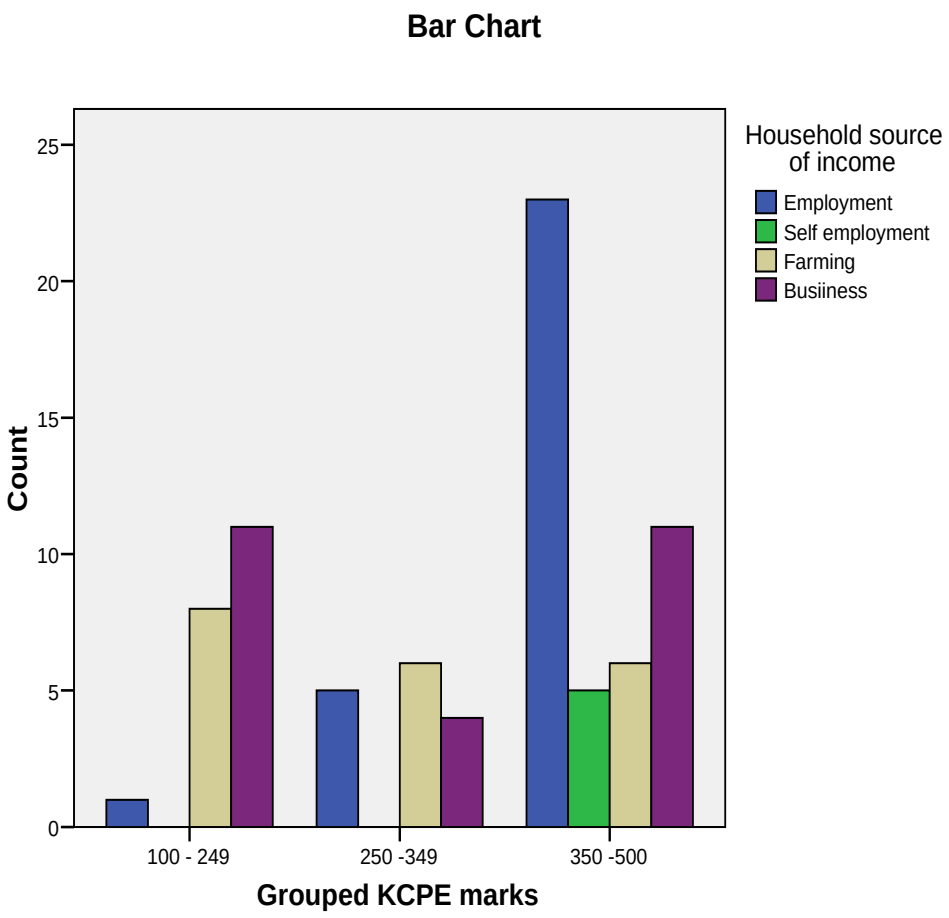
Table 5.21: Cross tabulation between household source of income and Grouped KCPE performance.

		Household source of income				Total
		Employment	Self-employment	Farming	Business	
Grouped KCPE marks	100 – 249	1	0	8	11	20
	250 -349	5	0	6	4	15
	350 -500	23	5	6	11	45
Total		29	5	20	26	80

$X^2 = 21.825$, df = 6, p = 0.001, significance level = 0.005

Source: Field Research, 2013.

Figure 5.1 Effect of Household Source of Income on Academic Performance in K.C.P.E.



Source: Field Research, 2013.

5.3 Effect of Human Capital on Student's Academic Performance in KCPE.

Household education level plays significant role in students' academic development and achievement. The study sought to investigate if household education level and years in schooling has any effect on the performance of a student in national exams. This is because the success of a student in these exams is believed to be influenced by the household. This study will look into academic levels of three household members namely; Father, Mother, and Older child of the household.

5.3.1 Households' Education Level

It is generally expected that parents with higher levels of education are more likely to send their children to school besides seeing them through the education levels. Parents' educational level is therefore a determinant of students' performance in school. It is also said to be a strong indicator of a child's educational opportunities. In addition, those parents with more education are generally said to provide better financial resources for their families. Also, mothers with more education tend to have useful information to child development thus can provide better health and education for their children. Worthy to be noted too is the role older siblings' play in mentorship. Older siblings are useful in students' performance in an exam because they set the performance pace and motivate student candidate to do better for a bright future. Besides all these roles, they also support parents in paying school fee for his brothers/sisters thus reducing the burden of fee payment.

On the highest level of education attained, the study revealed that the highest percentage of fathers 27.3% had completed university, followed by 18.2% who had post graduate qualification. Only 13% had post-secondary education, 10.4% had completed secondary education and another 13% had some secondary education. Both those who had some primary education and completed primary education were equal at 6.5%, and those with no formal education were 13%. With regard to mothers and older sibling level of education refer to the table 5.22.

Table 5.22: Household Educational Level

	Father's Edu. Level		Mother's Edu. Level		Older Sibling Level	
Edu. Level	**Frequency**	**Per cent**	**Frequency**	**Per cent**	**Frequency**	**Per cent**
No formal sch.	Nil	Nil	2	2.6	1	1.7
Some pry sch.	10	13	8	10.3	1	1.7
Complete pry.	5	6.5	8	10.3	1	1.7
Some sec. sch.	5	6.5	4	5.1	11	19
Complete sec.	10	13	11	14.1	19	32.8
Post-secondary	8	10.4	8	10.3	4	6.9
Some university	4	5.2	7	9.0	8	13.8
Complete Uni.	21	27.3	20	25.6	11	19
Post-graduate	14	18.2	10	12.8	2	3.4
Missing	3	3.8	2	2.5	22	27.5
Total	**80**	**100**	**80**	**100**	**80**	**100**

Father: $x^2=44.464$, df =14, p=0.000; Mother: $x^2=57.354$, df =16, p=0.000;
Older sibling: $x^2=22.491$, df =16, p=0.128.

Source: Field data 2013.

When chi-square tests were conducted to establish if there was any relationship between household education levels and students' academic performance in KCPE, the results established a significant relationship between parental education level and students' academic performance (Father's: $x^2=44.464$, df=14, and p=0.000;

Mother's: x^2=57.354, df=16, and p=0.000). The result shows that the higher the academic levels of the parent the better the performance of the students' in KCPE. This finding concurs with Teachman (1987) who pointed out that parents with more education are probably more motivated to provide home resources for their children's education leading to better performance. This study for instance shows that 30 out of 80 students whose fathers had university and postgraduate qualification scored highly with over 350 marks. The same was replicated (27 out of 80) by students with mothers who had university and postgraduate levels. They too scored highly. Also to be noted is that, the high correlation of (p=0.000) between parents level of education and students' academic performance is a clear evidence that parental educational level is useful in influencing students' educational outcomes. These levels can be associated with the household wealth and capability both of which affect a students' performance either positively or negatively.

Despite this clear evidence, older sibling level of education was not highly significant in influencing academic performance of fellow sibling national exams (x^2=22.491, df =16, and p=0.128). These finding could be explained by the fact that fellow sibling can only support a student in revision which can also be obtained elsewhere, but not in providing other basic needs which are essential for students' academic performance. This can be seen in the table 5.23 explaining parental/sibling support in school work.

Table 5.23: Cross tabulation between parents, brother or sister helps with schoolwork and students' academic performance in KCPE.

		Parents, brother or sister help with schoolwork		Total
		Yes	No	
Grouped KCPE marks	100 - 249	11	9	20
	250 -349	12	3	15
	350 -500	43	0	43
Total		66	12	78

X^2=21.539, df =2 p = 0.000, Significance level 0.005

Source: Field Research, 2013.

5.3.2 Effect of Parental Years of Formal Education on Students' Academic Performance in KCPE.

Similar to the effect of parental level of education, the years of formal education household members have, has greater significance in influencing educational performance of a student in KCPE than the level of education. The study found out that there is high correlation between the two (Father's: $x^2=57.038$, df =26, p=0.000; Mother: $x^2=73.043$, df =30, p=0.000; and Older sibling $x^2=33.740$, df =24, p=0.089). These high correlations had an effect on KCPE performance i.e. 33 out of 38 students' with father's who had over 16 years of formal education performed highly with over 350 marks out of 500. Similarly students' with mother's having over 16 years of formal education (31 out of 34) scored highly with over 350 marks. This study entirely accepts the findings of Eamon (2005) and Majoribanks (1996) which found educated mothers who have a high self-esteem have children who get higher test scores because the mothers provide more "cognitive stimulating" and supportive environment at home which in turn promotes positive performance in school.

Nonetheless, the effect of older siblings' years of formal education on students' academic performance in KCPE shows weak relationship with only 8 out of 14 students with above 16 years scoring above 350 marks. The reason for these findings could be the higher the years of education a household member has motivates a student to do better in academics besides the belief that the better educated an individual is the better the employment opportunities he/she has leading to a better household living standards.

5.3.3 Effect of Hiring Tutors at Home and Students' Academic Performance in KCPE.

The effect of households hiring home tutors to better the academic performance of their children is self-evident. Chi square finding shows high significance of (x^2=23.680, df =2, and p = 0.000). To be noted too, is the outstanding performance gap between those students' whose households hired tutors for them and those without. The findings show that 27 out of 30 students with hired home tutors performed highly with over 350 marks out of 500. Whereas students' coming from poor households who could not afford to hire a tutor for their children performed poorly with a large group (20 out of 50) falling in 100 – 249 mark category. These findings shows that households' financial capability influences performance in KCPE and supports the findings of Elliot, Chowa, and Loke, (2011) which found children from lower income households with less education having disproportionately negative educational outcomes. (See table 5.24)

Table 5.24: Cross tabulation between hiring a tutor at home in preparation for KCPE exams and students' academic performance in KCPE.

		Tutors hired at home in preparation for KCPE exams		Total
		Yes	No	
Grouped KCPE marks	100 - 249	0	20	20
	250 -349	3	12	15
	350 -500	27	18	45
Total		30	50	80

X^2 = 23.680, df = 2, p = 0.000, Significance level 0.005

Source: Field Research, 2013.

5.3.4 Effect of Attending Paid Holiday Tuition at Home on Students' Academic Performance in KCPE.

Related to the hiring of home tutors, is the issue of whether attending a paid tuition at home has an effect on students' academic performance in KCPE. The findings show a majority (43 out of 55) of those who attended paid holiday tuition scored

highly with over 350 marks whereas those who did not (19 out of 25) score poorly with below 250 mark. (See table 5.25).

Table 5.25: Cross tabulation between attendance of paid holiday tuition at home and academic performance in KCPE

		Attendance of paid holiday tuition at home		Total
		Yes	No	
Grouped KCPE marks	100 – 249	1	19	20
	250 -349	11	4	15
	350 -500	43	2	45
Total		55	25	80

X^2= 53.029, df =2, p = 0.000, Significance level 0.005

Source: Field Research, 2013.

Chi square findings reveal high significance level of (x^2=53.029, df =2, p=0.000). These findings reveal that wealthy households can influence performance of their students positively through paying holiday tuition, thus bettering their performance. Poor households therefore, have no option but to strive to spend the better part of their resources to compete with wealthy households for better performance through payment of holiday tuition.

5.4 Effect of Social Capital on Student's Academic Performance in KCPE.

Social capital is defined by Coleman (1988b) as a source of household and resources' mediated benefits by non-family networks such as facilitation of children's access to education, transmitted set of values and outlooks. It can also be said to be a source of households' connections that facilitate access to benefits such as jobs, market tips, and loans. The effect of this capital on students' academic performance is what this study is investigating.

5.4.1 Household Location

Household location explains the circumstances under which the household operates from. This study finding show that 37.5% of the households reside in the urban areas while the majority of (62.5%) recide in the rural locales. Of those living in urban

centres (27 out of 30) scored highly with over 350 marks while in the rural areas the majority (19 out of 50) scored below average (100 – 249) and the remaining (13 out of 50) scored averagely, and lastly 18 out of 50 scored highly as those in urban areas.

On cross tabulating the relationship between household location and students' academic performance in KCPE; the finding reveals high correlation with a Chi-square of (x^2=22.471, df =2, and p=0.000). These results show that indeed household location affects students' academic performance. This finding can be explained by the fact that student's from urban areas are exposed to several social settings which are useful for academic performance i.e. mode of communication is formal. (See table 5.26).

Table 5.26: Cross tabulation between household location and students' academic performance in KCPE.

		Location of the household		Total
		Urban centre	Rural areas	
Grouped KCPE marks	100 – 249	1	19	20
	250 -349	2	13	15
	350 -500	27	18	45
Total		30	50	80

X^2 = 22.471, df = 2, p = 0.000, Significance level 0.005

Source: Field Research, 2013.

5.4.2 Household Attendance of Place of Worship Weekly

Church, mosque and other places of worship offers household spiritual nourishment which benefits the individual and the household to have social cohesion thus seeing life with hope. Besides it is said to make an individual to intrinsically motivate himself to achieving better results in whatever goal one is pursuing.

The study findings reveal that all the respondent households attend places of worship at least every week (75%) or sometimes (25%). None reported not attending church, mosque or any other place of worship. However, Chi square tests reveal that there is absolutely no relationship between attendance of place of worship and students' academic performance in KCPE (X^2=1.689, df = 2, p = 0.430). The reason could be simply be that spiritual matters are things of the soul rather than assets

which can be converted to fill a resource gap in the education system. (See table 5.27).

Table 5.27: Cross tabulation between household attendance of church, mosque or place of worship every week and students' academic performance in KCPE.

		Household attendance of church, mosque or place of worship every week		Total
		Yes	Sometimes	
Grouped KCPE marks	100 - 249	13	7	20
	250 -349	11	4	15
	350 -500	36	9	45
Total		60	20	80

X^2=1.689, df = 2, p = 0.430, Significance level 0.005

Source: Field Research, 2013.

5.4.3 Household Membership of Community Group or Sport

Household membership of any group, sports or community activities plays a significant role in growth and development of students' member in that community because it enhances unity and collective responsibility amongst members. This is expected to motivate a student to perform better in the hope that the community will see to it that he/she progresses in education through efforts such as fund-raising activities in the case of lack of school fees.

The findings reveal that two thirds (67.5%) of the households are members of a community group while the remaining one third (32.5%) are not members of any community group. A look at the relationship between household membership of a group and students' academic performance in KCPE reveals no relationship (Chi square of 4.128, df =2, and p=0.127). These finding reveals very weak relationship which can be attributed to government of Kenya burning fundraising (*Harambee*) thus leaving each individual to carry the responsibility of his own household. (See table 5.28).

Table 5.28: Cross tabulation between household membership of any group, sports or any community (*chama)*/merry go round and students' academic performance in KCPE.

		Parents and household members of any group, sports or any community (*chama*)/merry go round		Total
		Yes	No	
Grouped KCPE marks	100 – 249	10	10	20
	250 -349	10	5	15
	350 -500	34	11	45
Total		54	26	80

X^2=4.128, df = 2, p = 0.127, Significance level 0.005

Source: Field Research, 2013.

5.4.4 Parental Occupation and Students' Academic Performance in KCPE.

Literature shows that an individual's occupation is related to the amount of income one earns and this determines household wellbeing which in turn influences education of children (GoK, Central Bureau of Statistics, 2003). This study found that 29.7% of fathers worked for government followed by businessmen and farmers (24.5%), while 42.3% of mothers worked as farmers followed by 19.2% government servants and businesswomen 17.9%.

Further analysis shows that the majority of students' whose parents are government servants and businessmen/women scored highly with over 350 marks. While those whose parents are farmers scored poorly below 250 mark out of 500. This could be because government servants and business men can access school fees loans easily from lending firms compared to farmers who have to part with land title deed to access loans. The relationship between parental occupation and students' performance in KCPE shows that fathers' relationship is weak (x2=28.296, df =14, p = 0.013) compared to mothers' strong relationship of (x2=42.049, df =10, p = 0.000). From this analysis, students' from households with certain occupations are more likely to perform better than others. Besides, mothers' occupation is highly significant compared to fathers' and this can be explained by the fact that mothers

play a significant social role in the daily growth and development of a students' academic performance. (See table 5.29 and 5.30).

Table 5.29: Cross tabulation between fathers' occupation and students' academic performance in KCPE.

		Father's occupation							
		Govt Servant	P/sector officer	Security	Medical	Business	Farmer	Lawyer	Total
Grouped KCPE marks	100 - 249	0	0	2	1	4	9	0	16
	250 -349	5	2	0	0	3	4	0	14
	350 -500	17	6	0	2	11	5	2	44
Total		22	8	2	3	18	18	2	74

X^2= 28.296, df = 14, p = 0.013, Significance level = 0.005

Source: Field Research, 2013.

Table 5.30: Cross tabulation between mothers' occupation and students' academic performance in KCPE.

		Mothers occupation						Total
		Gov servant	P/sector officer	Medical	Business	Farmer	N.G.O officer	
Grouped KCPE marks	100 - 249	0	0	0	1	17	0	18
	250 -349	1	1	0	3	10	0	
	350 -500	14	5	4	10	6	6	15
Total		15	6	4	14	33	6	45 78

X^2=42.049, df = 10, p = 0.000, Significance level 0.005

Source: Field Research, 2013.

5.4.5 Students' Desired Occupation and Academic Performance in KCPE

A students' desired occupation is said to motivate the student to work extra hard in order to achieve his/her desired career. In this study, 40% of the students' interviewed desired to be medical doctors, followed by 23.75% desiring to work for government, then 12.5% desired to be engineers, and other desired professions got below 10% each. This shows that the highly desired occupation is medical doctor because of the status and remunerations it goes with. This finding concurs with Markus and Nurius, (1986) findings which concluded that desired occupation

functions as incentive for behaviour by providing images of the future-self in desired end-states.

Cross tabulating to find if there is any relationship between students' desired occupation and performance in KCPE. Shows weak correlation (x^2=16.045, df =12, p = 0.189). This finding means that a student can desire but if other household variable are not constant, a student will not achieve his/her desired occupation. (See table 5.31).

Table 5.31: Cross tabulation between future career desired by the respondent and academic performance in KCPE.

		Future career desired by the respondent							Total
		Gov servant	P/sector officer	Medical	Business	N.G.O officer	Engineer	Lawyer	
Grouped KCPE marks	100 - 249	7	0	9	1	2	0	1	20
	250 -349	6	1	4	1	0	1	2	15
	350 -500	6	4	19	2	1	9	4	45
Total		19	5	32	4	3	10	7	80

X^2=16.045, df = 12, p = 0.189, Significance level 0.005

Source: Field Research, 2013.

5.5 Effect of Natural Capital on Student's Academic Performance in KCPE.

5.5.1 Effect of Land Ownership on Students' Academic Performance in KCPE

Land is one of the highly valued and prestigious productive assets that contribute to household well-being. In Kenya, the majority of the land is inherited and only very little pieces of land are sold mostly in 'plot' form. In this study a huge majority (96.3%) of the respondents reported their households owning land and only 3.8% reported their households owning no land thus residing in rental homes since they were born. Of those who own land majority (81.25%) have less than 10 acres of land while only 18.75% own more than 10 acres of land. Further 53.2% of those who own land inherited it, while 46.8% bought their own land. The effect of land ownership is shown in table 5.32

Table 5.32: Cross tabulation between household ownership of land (Inherited or bought) and students' academic performance in KCPE.

		Household land: Inherited or bought		Total
		Inherited land	Bought land	
Grouped KCPE marks	100 - 249	18	1	19
	250 -349	9	6	15
	350 -500	14	29	43
Total		41	36	77

X^2=20.806, df = 2, p = 0.000, Significance level 0.005

Source: Field Research, 2013.

Chi square findings show that there is strong relationship between land ownership whether bought or inherited land and academic performance of a students' in KCPE (x^2 = 20.806, df = 2, p = 0.000). Also observed is that the majority (29 out of 36) of those students' coming from households with bought land performed highly with over 350 marks while the vice versa was observed from students' coming from households with inherited lands. The explanation for this disparity could be that households with bought lands can sell part of it at the time of school fee crisis because they own land title deeds besides they can also deposit the same title deed to secure funds from financial institutions which is different from those who own inherited land which is still under communal trust.

5.5.2 Effects of Household Ownership of Crops on Students' Academic Performance in KCPE.

A huge majority (91.1%) of the respondents interviewed admitted their households grow crops, while only (8.9%) do not. The study also found that 61.1% households growing crops in Baringo County grow maize and beans, followed with less than 10% each which grow millet and sorghum, wheat, vegetables, bananas, mixed fruits, cassavas, and coffee. (See table 5.33).

The relationship between households growing crops and students' performance in KCPE shows a weak relationship with a Chi square value of (x^2 = 23.436, df = 14, p = 0.054). Despite the majority of students from rural areas complaining that household

farming activities occupied their study time leading to poor performance. This findings concurs with (Admassie, 2000 and Cockburn and Dostie, 2007) findings which showed that permanent crops are associated with negative educational outcome. Despite these findings, this study finding shows that a student can still perform well despite being involved in farming activities. Also to be noted is that certain crops i.e. vegetables, coffee, bananas, and wheat are associated with high performance, whereas millet, sorghum, and cassavas are associated with poor performance. The reason for this finding could be that market value of certain crops are high besides the fact that certain crops like cassavas are culturally associated with poverty.

Table 5.33: Cross tabulation between the type of crops grown by the household and students' academic performance in KCPE.

		Type of crops grown by the household								Total
		Maize and beans	Millet and sorghum	Vegetables	Coffee	Bananas	Mixed fruits	Cassavas	Wheat	
Grouped KCPE marks	100 - 249	10	5	1	0	0	0	2	0	18
	250 -349	10	1	1	0	0	1	1	1	15
	350 -500	24	0	3	2	3	2	0	5	39
Total		44	6	5	2	3	3	3	6	72

$X^2 = 23.436$, df = 14, p = 0.054, Significance level = 0.005

Source: Field Research, 2013.

5.5.3 Effect of Household Ownership of Livestock on Students' Academic Performance in KCPE.

The majority of respondents (78.2%) kept livestock and the remaining 20.5% did not. The number of livestock owned ranged between one and eight with a mean of about two and a standard deviation of about one. The finding reveals that almost each house keeps chicken and none rears camels. Table 5.34 shows the relationship between livestock ownership and academic performance of a student in KCPE.

From this analysis, the relationship is not significant ($X^2 = 3.837$, df = 4, p = 0.428,) and this was attested by a majority of the students' who reported that their

performance were negatively influenced by their parents asking them to miss school on certain days so that they can take care of livestock. This finding supports what Chowa et al. (2010) found that assets that require substantial amount of time to maintain such as livestock are associated with negative educational outcomes. It can therefore be concluded that ownership of livestock does not boost students' academic performance.

Table 5.34: Cross tabulation between household livestock ownership and students' academic performance in KCPE.

		Household livestock ownership			Total
		Yes	No	Missing	
Grouped KCPE marks	100 - 249	17	2	0	19
	250 -349	13	2	0	15
	350 -500	31	12	1	44
Total		61	16	1	78

$X^2 = 3.837$, df = 4, p = 0.428, Significance level 0.005

Source: Field Research, 2013.

5.5.4 Effect of Students' Engaging in Productive Work on Academic Performance in KCPE.

Nearly a majority (47.5%) of the respondents interviewed admitted engaging in productive work at the year of doing KCPE. A majority (52.5%) on the other hand did not participate in any nature of work either because they were in boarding school or their households had households' workers i.e. houseboys or house girls. Also observed amongst those who engaged in productive work is that just over half (51.3%) engaged in households chores, with 25.6% engaged in herding livestock, while 12.8% participated in taking care of younger siblings at home, and finally 10.3% got engaged in farming.

Cross tabulation to find the effect of a students' engagement in household duties and his/her performance in KCPE shows high correlation (X^2=49.524, df=2, p=0.000). This finding reveals that if a student engages in productive work it directly influences his/her academic performance negatively. Thus a high number (39 out of 42) of students who did not engage in any household work performed highly with

350 marks while 20 out of 38 of those who engaged in productive work scored poorly in their KCPE exams scoring 250 and below marks. This therefore is justified by the responses obtained from the interviewees that associated their performance with household support or hindrances leading to their KCPE score. (See table 5.35).

Table 5.35: Cross tabulation between engagement of productive work at the year of K.C.P.E. and academic performance of a student.

		Engagement of productive work at the year of K.C.P.E.		Total
		Yes	No	
Grouped KCPE marks	100 - 249	20	0	20
	250 -349	12	3	15
	350 -500	6	39	45
Total		38	42	80

$X^2 = 49.524$, df = 2, p = 0.000, Significance level 0.005

Source: Field Research, 2013.

5.6 Summary of the Main Findings on the Effect of Household Asset Portfolio (Capital) on Students' Academic Performance in KCPE.

Household asset portfolio (physical, productive, human and natural capital) has mixed effects it has on students' academic performance in KCPE. Physical capital had the most effect on students' academic performance with 91.3% of the interviewees admitted to owning their own houses while the remaining (8.8%) reporting to living in rental houses. Household building materials were found to have high correlation of (p=0.000) to academic performance of a student in KCPE. While consumer durables had mixed findings with ownership of durables such as computer, vehicle, television, gas cooker, and refrigerator showing perfect relationship with Chi square value of (0.000). On the other hand, durables such as washing machine, bicycle, motorbike, mobile phones, and radio had weak relationship thus could be said not to affect students' performance positively.

Productive capital ownership was expected to influence students' performance positively. But the finding proved the opposite with capital like ownership of tractor and plough, sewing machine, solar panel, posho mill, and rental houses showing very weak correlation with students' academic performance in KCPE. However, household main source of income proved to have greater effect on students' performance with Chi square significance level of 0.001. Human capital on the other hand, had the highest positive effect on students' academic performance. Parental level of education and years of formal education showed strong relationship with significance level of 0.000. However, older sibling level of education has no positive effect in students' academic performance.

Natural capital of all the capital investigated proved to have greater effect on students' academic performance contrary to the researcher's expectation. The majority of the respondents reported to owning land. But land use for both crops and livestock domestication posed a negative challenge to students' performance due to time and energy used in managing them. This weak finding between natural capital ownership and students' academic performance leads to the conclusion that natural capital is an hindrance to positive results in national exams i.e. KCPE.

CHAPTER SIX: SUMMARY OF THE FINDINGS, CONLUSIONS AND POLICY RECOMMENDATIONS

6.0 Introduction

This chapter consists of the study findings in summary, conclusions, conclusion around the hypothesis, general conclusion, and finally policy implications and further research in that order. The study main aim was to investigate the effect of household characteristics and household asset portfolio on students' academic performance KCPE in Baringo County of Kenya. The research was motivated by the researchers curiosity to understand if what other literature from outside Kenya says about the relationship between household wealthy and academic performance in an examination. Baringo County was chosen due to the fact that it is classified as a poor County in ASAL of Kenya but its overall national performance in KCPE reveals that it is better performing than others.

The study objectives were: to determine the effects of household characteristics asset portfolio on student academic achievement in Kenya Certificate of Primary Education in Baringo County i.e to investigate if household background characteristics of form one students' influences his/her academic achievement in KCPE; and to find out how households asset portfolios (capitals) affects educational achievement of a student in KCPE. Eighty students who sat for their KCPE in 2012 were sampled through systematic random sampling technique and the findings were analysed to achieve the set objectives besides answering the study hypothesis.

6.1 Summary of the Findings

6.1.1 Students' Academic Performance

The study found that the majority of the sampled students' (68.7%) scored above the mean mark of (323.15 out of 500) this could be attributed to the effect of household background characteristics and asset-portfolios (capital). After grouping students' into high, average and low achievers in national exams (KCPE); more than half scored highly with over 350 marks. A quarter of the remaining students' scored

below average and only 18.8% of the students performed averagely. The overall County mean grade was far higher than the national mean mark implying that students from Baringo County performed highly despite the region being classified as ASALs.

6.1.2 Household Characteristics and Academic Performance in KCPE

The findings of the effects of household background characteristics on students' academic performance in KCPE shows mixed correlation with majority of the characteristics showing high correlation with a Chi-square significance of between (0.000 – 0.016). These characteristics include: students' sex, household marital status, head of the household, lighting type, source of water, type of fuel used for cooking, language use at the household, ownership of house help, and finally all school related factors i.e. type, nature, distance, and means of transport to and from school daily proved to influence students' academic performance in KCPE positively. On the other hand students' age, religion, household size, school location and distance showed low correlation in influencing academic performance of a student in KCPE. It can conclusively be said that household background characteristics influences students' academic performance despite the small number of indicators proving the opposite.

6.1.3 Household Assets Portfolio

Like household background characteristics; household asset portfolios (capital) do also affect students' academic performance positively or negatively. For instance: under physical capital; household building materials is significantly related to students' academic performance with (0.000) significance level. On the other hand some consumer durables such as ownership of a vehicle, computer, mobile phone, television, gas cooker, and refrigerator affect academic performance positively with a significance level of (0.000). While ownership of durables such as motorbike, bicycle, radio, and washing machine do not fully affect students' performance in an examination i.e. KCPE.

Household ownership of productive capital such as tractor and plough, sewing machine, solar panel, posho mill and rental houses are proved to affects students' academic performance negatively therefore no clear correlation. But high correlation of (0.000) significance is seen in the relationship between parental level of education and students' level of academic performance. Hence, human capital findings can therefore be said to be useful in predicting students' performance in national examinations.

The effect of social capital and natural capital are almost the same. Under social capital, household location and parental occupation shows high correlation with (0.000) significance level. But household membership of community group or sport, and attendance of church by the household shows very weak significance level of about (0.127 - 0.430) respectively. The findings also show that natural capital such as land ownership highly influences academic performance but crop domestication and livestock rearing findings shows negative effect on students' academic performance. Also included in the negative effect are students' engagements in productive work at the household. This finding could be because natural capital maintenance is time and energy consuming thus affecting students' performance in an academic performance.

6.2 Conclusions

6.2.1 Conclusion Around the Hypotheses

This study was guided by six hypotheses. First, it had hypothesised that household background characteristic has positive effects on students' academic achievement in KCPE. The finding confirmed that household background characteristics have both positive and negative effects on students' academic performance in KCPE. This finding concurs with empirical literature on achievement which consistently shows that household background is important in predicting children's academic performance (Coleman et al, 1966; Achola, 1995; and Nkinyangi, 1981). And that this relationship is somewhat mixed with both positive and negative effects Gakuru (1982).

Secondly, the study had hypothesised that physical capital of a household has positive effects on a students' academic performance in KCPE. The finding supported the hypothesis with almost 100 percent of the household ownership of physical assets affecting students' performance positively. However, to be noted is that the magnitude of the effects varies i.e. students' coming from household owning a computer had better performance than students' coming from households owning television. The reason could be the same with the finding of a research showing positive association between household computer ownership and children's academic performance (Schmitt and Wadsworth, 2006).

Thirdly, the study had hypothesised that productive capital of a household has positive effect on a students' academic performance in KCPE. Contrary to expectations, productive capital of a household did not influence students' academic performance in KCPE. This finding contradicted Sen, (1981) beliefs that even small number (or amount) of assets can positively influence academic outcomes in an examination. Also contradicting are the observation of Rotich (2003) that households with wealthy in society can 'buy' expensive and better education for their children which in turn enhance their achievement levels in an examination. The study can conclusively report that household ownership of productive capital hinders students' academic performance contrary to the hypothesis that household ownership of productive capital promotes high performance due to the belief that productive capital generates money which can be used to meet students' academic demands.

The study also hypothesised that students' from households with high human capital perform higher and better in KCPE than students' from households with low human capital. The finding confirmed this hypothesis with students' whose parents had high education levels performing better than students' whose parents have lower educational levels. This finding confirms most findings from studies on parental education and student's academic performance. Such studies include but not limited to; Teachman (1987) who pointed out that parents with more education

and income were probably more motivated to provide home resources for their children's education than those who do not educational levels.

Household social capital was also hypothesised to affect students' academic performance negatively. However, the findings showed mixed reactions with both positive and negative effects to academic performance of a student in KCPE. Such findings in support of positive effect to students' performance include; Coleman (1990, 1998), and (Hossler, Schmit, and Vesper, 1999; Reynolds and Pemberton, 2001; Valadez, 1998). And those studies supporting negative effects to students' performance include; Chowa et al. (2010).

Lastly, the study hypothesised that students' from households with high natural capital perform poorly than students with low natural capital. The researcher belief was that natural assets management was hard and demanding thus could hinder students' academic performance but the findings contradicted that belief with majority of those owning natural capital performing highly. However, the finding also revealed that majority of those students' involved in productive work i.e. going to the farm and herding livestock performed poorly in academic performance. This finding is in agreement with Admassie, (2002) who found out that 'assets that require substantial amounts of time to maintain such as a large number of livestock or permanent crops are associated with negative education outcomes such as low school attendance rates and performance, because time taken in performing these roles hinders time dedicated for studies.

6.2.2 General Conclusion

Academic achievement is an educational goal that ensures that every child does well in school both in cognitive and non-cognitive skills. Children's success in school, to a large extent, determines their success as adults—where they will go to college, what professions they will be engaged in, and how much they will be paid. Increasingly researchers are reaching conclusion that it is not educational attainment, but rather what students actually know that is important for the economic growth of nations (Hanushek and Kimko 2000).

This study finds that household wealth (measured as household asset portfolio) has an effect on students' academic achievement. This study further presents evidence of the importance of the influence of family background characteristics on students' academic performance. Policies need to target children from poor households to provide the important resources that are missing in their home environment. These policies may include both long- and short-term interventions. Long-term interventions or policies may include opportunities to build wealth for poor families to enable these families to provide the necessary resources to respond to their children's educational needs. In the short-term the government will do well to expand the current cash transfers program for the elderly that gives direct cash to extremely poor elderly individuals to help meet basic needs that enhance livelihood sustainability. While bursary fund has made good progress in providing tuition-free basic education for the poor, there are still other school-related costs that parents have to bear. Households that cannot make ends meet may be unable to afford these school-related expenses, thereby depriving children of important resources for positive educational experience. Targeted long-term plans should be put in place to assist such households to meet their children's school needs. This would go a long way to helping primary school students' have better educational experience and outcomes.

It should be noted again, at this juncture, that the only way by which students' can meaningfully contribute to national development, nation building and technological advancement now and in the future is by doing well in their academics. Thus, whatever hinders good academic performance in Kenya should be identified and looked into so that the gains of teaching would be fully realized. Further national research needs to be done on the effect of household assets on students' academic performance at both basic and tertiary level of education.

This study researched on the effect of household background characteristics and asset portfolio on students' academic performance in KCPE. The finding shows that there is high likelihood of a relationship between these two independent variables

i.e. positive relationship is expected between household size and any asset item selected from the portfolios. It is worthy that this relationship is looked at in future.

6.3 Policy Recommendations, Implication for Development Studies and Further Studies

Although Kenya has introduced free education since 2003 for primary and secondary schools, poor households still struggle with additional costs of sending children to these free schools which include transportation, text books, and uniforms (UNESCO, 2005). This study found gaps in the effect a household assets portfolio has on students' academic performance in KCPE. The study therefore proposes the following policy recommendations.

6.3.1 Policy Recommendation

This study recommends the following:

(1) Asset and cash transfers for very poor families towards educational resource similar to cash transfer policies for the elderly in Kenya should be put in place.

(2) Increase both liquid and illiquid assets for families to increase their economic well-being. This would increase the purchasing power of poor families to address the educational needs of their children. This would also include savings for the families and savings for their children's education.

(3) Adult education should be made free to encourage most of the parents to better their academic qualification. This is because several studies together with this one have found that parental level of education influences students' academic performance.

(4) Government should device a way in which students' from public schools accesses services similar to those of private schools. This is because private schools students have greater advantage against those of public schools who are disadvantaged in the household and at school, leading to majority of them

performing poorly. Such a move would ensure neutrality in doing national exams between students from household with different asset portfolios in society.

6.3.2 Implications for Development Studies and Further Research

The study has made several policy recommendations. But first, it is vital to understand that this is a research done by a student at the Institute for Development Studies thus it should have implications for development in general. It is also worth noting that development studies research should be intertwined to bring out the true relationships between several themes of development on which education is at the centre. Such findings would offer more definitive evidence to inform programs and policies in the development progress.

This study investigated how household background characteristics and asset portfolios (capital) affects students' academic performance in KCPE. The findings and recommendations made from the study will help improve students' academic performance, and make them participate actively in the development process in Baringo County and beyond.

The study dwelt heavily on investigating the effect of household asset portfolio on students' academic performance in KCPE. But it did not specifically determine which assets if owned by the household could influence academic performance positively. Such knowledge would go a long way in providing parents with asset choices to be purchased for their children high academic performance. It is therefore necessary to carry out such research.

The study collected data from students only with the assumption that they were giving out the true reality of their household background characteristics and asset portfolio. Further research at the household level, which includes parents, should be carried out in Baringo County and beyond.

This study was carried out in Baringo County using a small sample of (80) students. The study was limited to students who had sat for KCPE in the year 2012. Therefore

further research should be done using a large sample and a wider range of students in Kenya and abroad.

Further research should be done using clearly defined poverty and wealthy indicators rather than using the researchers own common knowledge. Such findings would go a long way in providing empirical data values for household material ownerships. Such a move would lead to universal standardization of results. In addition, a combined effect of the relationship between household background characteristics and asset portfolios (capital) should be investigated further.

Finally, it is worthy to note that educational research plays a significant role in the development process. For no state can be developed without its citizens advancing academically in terms of invention and renovation.

This study hopes to rouse debate on the effect of assets in the development process in this era of globalization.

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APPENDIX 1

STUDENTS' QUESTIONNAIRE

QUESTIONNAIRE ON THE EFFECT OF HOUSEHOLD ASSSET PORTFOLIO ON STUDENT'S ACADEMIC ACHIEVEMENT IN KENYA CERTIFICATE OF PRIMARY EDUCATION (K.C.P.E): A CASE OF BARINGO COUNTY.

Hello, my name is Victor Kipkemboi Kibet. I am a postgraduate student at the Institute for Development Studies, University of Nairobi. I am conducting a research on **the effect of household asset portfolio on student academic achievement in K.C.P.E: A case study of Baringo County.** This research targets form one student's who sat for KCPE in 2012 and you are among a large group of students selected for this study. The information you will give will be treated in confidence and will only be used for this study and for no other purpose.

Note: Base your answers as at the year of your KCPE.

IDENTIFICATION

Questionnaire Number…… Date of the interview…….

K.C.P.E Index Number of the Respondent ……...

Secondary school Name ……

SECTION ONE:

Background Information:

Q NO.	QUESTION	RESPONSE (Tick at the dot) o	CODE
1	Name of respondent (***Optional***)		
2	**Sex** of respondent	o 1. Male o 2. Female	1 2
3	**Age** in complete years i.e. 9 ,14 or 17		

4	**Religion**/ denomination	o 1. Protestant o 2. Catholic o 3. SDA o 4. Muslim o 5. Other, (*specify*) ……	1 2 3 4
5	**Name** of your primary school		
6	**Nature** of your primary school	o 1. Public o 2. Private	1 2
7	**Type** of your primary school	o 1. Day o 2. Boarding	1 2
8	**Location** of your Primary school	o 1. Urban o 2. Rural	1 2
9	Total KCPE **mark** out of 500		

SECTION TWO:

Household Information

10	What is the **total** number of your household members?	o 1. Male…… o 2. Female…….. Total …….	**1** **2**
11	What is the **marital status** of the head of your household?	o 1. Married…… o 2. Single parent……. o 3. Divorced……. o 4. Separated…… o 5. Other, (*specify)*…..	**1** **2** **3** **4**

12	Who is the **head** of your household?	o 1. Father…….. o 2. Mother…… o 3. Other, (*specify*) ……..……	**1** **2**
13	What **type of lighting** do you use at home?	o 1. Electricity…… o 2. Solar…… o 3. Paraffin…… o 4. Firewood……. o 5. Other, (*specify*)…..	**1** **2** **3** **4**
14	What is the main **source of water** used by your household?	o 1. Piped water…….. o 2. River…… o 3. Well……. o 4. Water tank……. o 5. Other, (*specify*) ……	**1** **2** **3** **4**
15	What **type of fuel** does your household use for cooking?	o 1. Firewood……. o 2. Charcoal…….. o 3. Biogas…….. o 4. Gas…….. o 5. Paraffin…… o 6. Other, (*specify*) …….	**1** **2** **3** **4** **5**
16	What **kind of toilet** facility do your household members usually use?	o 1. No toilet……... o 2. Flush toilet…..…. o 3. Pit latrine……. o 4. Other, (*specify*) ……	**1** **2** **3**

17	What **language** do you communicate with at home?	o o o	1. English…….. 2. Kiswahili…… 3. Vernacular……..	**1** **2** **3**
18	Approximate how **far** your primary school is from home in (KM)?	o o o o	1. More than 10 Km 2. 5-10 Km 3. 2-5 Km 4. Less than 1 Km	**1** **2** **3** **4**
19	What **means of transport** did you use to and from school daily?	o o o o	1. Vehicle…….. 2. Motorcycle……. 3. Bicycle…… 4. Walking…….	**1** **2** **3** **4**
20	Do your household have a **house help**?	o o	1. Yes……. 2. No……..	**1** **2**

SECTION THREE:

Physical Capital

21	**Housing:** What **type** of house does your family stay?	o o o	1. Your own…… 2. Rental…….. 3. Other (*Specify)* …..	**1** **2**
22	What **Material** is used to build?	o o o	1. **Roof:** Tiles Iron sheet Grass 2. **Wall**: Stone blocks Timber Mud 3. **Floor:** Floor tiles	**1a** **1b** **1c** **2a** **2b** **2c** **3a**

		Cement	**3b**
		Mud	**3c**
		o 4. **Windows:** Glass	**4a**
		Timber	**4b**
23	How **many** rooms are there in your main house?		
24	Do you **own** your own room or you share?	o 1. Own……	**1**
		o 2. Share……..	**2**
25	If you share how **many beds** are in your room?		
26	Does your house **have** study room?	o 1. Yes…….	**1**
		o 2. No……..	**2**
27	If yes, how **many** people use the same study room besides you?		
28	Does your house have a **toilet** inside the house?	o 1. Yes……..	**1**
		o 2. No……..	**2**
29	Does your house have a **guarded gate**?	o 1. Yes……	**1**
		o 2. No……..	**2**
30	**Consumer durables:** Which amongst the stated assets does your household **own**? (*Tick all that applies*)	o 1. Vehicle……	**1**
		o 2. Motor bike…..	**2**
		o 3. Bicycle……	**3**
		o 4. Computer……	**4**
		o 5. Mobile Phone…	**5**
		o 6. T.V…….	**6**
		o 7. Radio……..	**7**
		o 8. Washing machine	**8**
		o 9. Gas cooker…….	**9**
		o 10. Fridge……	**10**

		o 11. Other, (*specify*) ……	

SECTION FOUR:

Productive Capital

31	**Productive durables:** Which of the following do your household **own**? (*Tick all that applies*)	o 1. Tractor……..	**1**
		o 2. Plough……...	**2**
		o 3. Sewing machine	**3**
		o 4. Solar panel…….	**4**
		o 5. Posho mill...…	**5**
32	**Transfer/rental income:** Does your household **own** rental houses, Which give in money monthly?	o 1. Yes…….	**1**
		o 2. No……..	**2**
33	What is your household's main **source of income**?		

SECTION FIVE:

Human Capital

34	How **many years** of formal schooling does your father have?		
35	**Parental education:** What is the **highest** level of education your father has completed?	o 1. No formal schooling	**1**
		o 2. Some primary schooling	**2**
		o 3. Primary school completed	**3**
		o 4. Some secondary schooling	**4**
		o 5. Secondary school completed	**5**

		o 6. Post-secondary schooling other than university o 7. Some university o 8. University completed 9. Post-graduate	**6** **7** **8** **9**
36	How **many years** of formal schooling does your mother have?		
37	**Highes**t level of your mother?	o 1. No formal schooling o 2. Some primary schooling o 3. Primary school completed o 4. Some secondary schooling o 5. Secondary school completed o 6. Post-secondary schooling other than university o 7. Some university o 8. University completed o 9. Post-graduate	**1** **2** **3** **4** **5** **6** **7** **8** **9**
38	How **many years** of formal schooling do your older brother or sister has?		
39	State **level** of education of your older brother or sister residing with you at home at the year of your KCPE?	o 1. No formal schooling o 2. Some primary schooling o 3. Primary school	**1** **2**

		completed o 4. Some secondary schooling o 5. Secondary school completed o 6. Post-secondary schooling other than university o 7. Some university o 8. University completed 9. Post-graduate	**3** **4** **5** **6** **7** **8** **9**
40	What **level** of education do you desire to reach?	o 1. Secondary……. o 2. University.…… o 3. Post-graduate….	**1** **2** **3**
41	Did your parents or brother/sister **help** you in your school work?	o 1. Yes…… o 2. No…….	**1** **2**
42	Were there **tutors** hired for you at home in your preparation for KCPE exams?	o 1. Yes……. o 2. No……	**1** **2**
43	Did you attend **paid** holiday tuition at home?	o 1. Yes…….. o 2. No……	**1** **2**

SECTION SIX:

Social Capital

44	Where is your household **located**?	o 1. Urban centre o 2. Rural areas	**1** **2**
45	Does your household **attend** church, mosque or place of worship every week?	o 1. Yes……. o 2. No…….. o 3. Sometimes…….	**1** **2** **3**

46	Are your parents and household **members of any** group, sports, or community (*Chama or merry go round*)?	o 1. Yes……. o 2. No……..	**1** **2**
47	What is the main **occupation** of your father?	o 1. Government servant o 2. Teacher o 3. Security officer o 4. Medical officer o 5. Businessman o 6. Farmer o 7. NGO/Parastatal o 8. Other, (*specify*) ……..	**1** **2** **3** **4** **5** **6** **7** **8**
48	What is the main **occupation** of your mother?	o 1. Government servant o 2. Teacher o 3. Security officer o 4. Medical officer o 5. Businessman o 6. Farmer o 7. NGO/Parastatal o 8. Other, (*specify*) …….	**1** **2** **3** **4** **5** **6** **7** **8**
49	What is the main **occupation of your Guardian** at your year of KCPE?	o 1. Government servant o 2. Teacher o 3. Security officer o 4. Medical officer o 5. Businessman o 6. Farmer o 7. NGO/Parastatal	**1** **2** **3** **4** **5** **6** **7**

		o 8. Other, (*specify*) ……..	**8**
50	What career do you **want to pursue** in future?	o 1. Government servant o 2. Teacher o 3. Security officer o 4. Medical officer o 5. Businessman o 6. Farmer o 7. NGO/Parastatal o 8. Other, (*specify*) ……..	**1** **2** **3** **4** **5** **6** **7** **8**

SECTION SEVEN:

Natural Capital

51	**Productive:** Does your household **own** Land?	o 1. Yes…….. o 2. No……	**1** **2**
52	If yes, **state** if it is inherited land or bought land.	o 1. Inherited land o 2. Bought land	**1** **2**
53	Does your household grow any **crops**?	o 1. Yes…….. o 2. No……	**1** **2**
54	If yes, what **type** of crops?	o 1. Maize and beans o 3. Millet and sorghum o 4. Vegetables o 5. Coffee o 6. Bananas	**1** **2** **3** **4** **5**

		o 7. Mixed fruits o 8. Cassavas o 9. Other (*specify*) ……	**6** **7** **8**
55	Does your household have **livestock**?	o 1. Yes…….. o 2. No……	**1** **2**
56	If yes, **state** the type and number? i.e. cows-3, sheep-30 e.t.c	o 1. Cows…… o 2. Goats…… o 3. Sheep…….. o 4. Camels…… o 5. Chicken……. o 6. Other, (*specify*) ……..	**1** **2** **3** **4** **5** **6**
57	Did you **engage in any productive work** when you were a candidate? i.e. Farming, herding, or other household chores.	o 1. Yes…….. o 2. No……	**1** **2**
58	If yes, **specify** the nature of work.	o 1. Farming o 2. Herding livestock o 3. Taking care of children o 4. Other household chores …….	**1** **2** **3** **4**

59. Do you think your household assets might have had an effect on your KCPE performance? (***Explain***) Begin with (**Yes**) or (**No**)……

……..

……..

END

THANK YOU FOR YOUR PARTICIPATION