

**DETERMINANTS OF THE TREND OF DEMAND FOR AND SUPPLY OF  
UNIVERSITY EDUCATION IN KENYA**

**BY**

**MADANJI O. GABRIEL  
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UNIVERSITY**

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**DECLARATION**

This thesis is my original work and has not been presented for a degree in any other university or any other award.

Signature.....Date.....

**MADANJI O. GABRIEL**

**DEPARTMENT OF EDUCATIONAL MANAGEMENT, POLICY AND CURRICULUM STUDIES, KENYATTA UNIVERSITY.**

This thesis has been submitted for review with our approval as university supervisors.

Signature.....Date.....

**PROF. F. Q. GRAVENIR**

**DEPARTMENT OF EDUCATIONAL MANAGEMENT, POLICY AND CURRICULUM STUDIES, KENYATTA UNIVERSITY.**

Signature.....Date.....

**DR. NOBERT O. OGETA**

**DEPARTMENT OF EDUCATIONAL MANAGEMENT, POLICY AND CURRICULUM STUDIES, KENYATTA UNIVERSITY.**

## **DEDICATION**

To my late father and mother who took me to school against many odds, their humble ambition for me was that I should be able to read. My wife, the late Rebecca Tavirusupwa, my two sons, Ken and Silvano and my two lovely daughters, Rinah and Fridah

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## **ABBREVIATIONS AND ACCRONYMS**

<b>CBA</b>	Cost Benefit Analysis
<b>CHE</b>	Commission for Higher Learning
<b>CIT</b>	Communication & Information Technology
<b>CUE</b>	Commission for University Education
<b>CNRS</b>	National Center for Scientific Research
<b>EM</b>	Employers Manifesto
<b>FKE</b>	Federation of Kenya Employers
<b>GDP</b>	Gross Domestic Product
<b>GNI</b>	Gross National Index
<b>GNP</b>	Gross National Product
<b>GPM</b>	Good Pricing Model
<b>GER</b>	Gross Enrollment Ratio
<b>HELB</b>	Higher Education Loans Board
<b>ITMIS</b>	Information & Technology in Management & Information Systems
<b>JAB</b>	Joint Admissions Board
<b>JKUAT</b>	Jomo Kenyatta University of Agriculture & Technology
<b>KCSE</b>	Kenya Certificate of Secondary Education
<b>KEBS</b>	Kenya Bureau of Standards
<b>MMUST</b>	Masinde Muliro University of Science & Technology
<b>MHE</b>	Ministry of Higher Education
<b>NGO</b>	Non - Governmental Organizations
<b>OECD</b>	Organization for Economic Co-operation & Development
<b>SSP</b>	Self –Sponsored Programmes
<b>TLTP</b>	Teaching and Learning Technology Programme
<b>TTE</b>	Theoretical Tuition Enrollment
<b>UCISA</b>	Universities & Colleges Information Systems Association

**UNESCO**

United Nations Educational Scientific & Cultural Organization

**UNICEF**

United Nations International Children's Educational Fund

### **ABSTRACT**

The purpose of this study was to identify the determinants of the trend of demand for and supply of university education in Kenya. The demand for university education keeps on increasing every year to the extent the supply of university education is unable to cope with this trend of ever increasing number of qualified students. The study objectives were to establish the level and nature of programmes offered, identify the factors affecting trend of demand and supply of university education, determine the challenges facing demand and supply and develop strategies for addressing the challenges associated with to the trends of demand and supply of university education. The study will have theoretical and practical implications which will contribute to advancement of knowledge and provide strategies for addressing challenges facing university education. The study applied the theory of demand and supply of McConnell (1999) as a guide to this research. The research employed a descriptive survey design, which is concerned with the generalized statistics that result when data is abstracted from respondents. The research instruments were questionnaires and interview schedules used to collect data. The instruments were piloted and validity verified. Reliability was also verified where the correlation coefficient of +0.72 was established. Out of thirty one universities, only seven (four public and three private universities) were sampled. The target population was 1717, comprising of university administrators, students and informed specialists from both public and private universities. These also included officials from Commission of University Education and Ministry of Higher Education. Simple random sampling was used to get a total of 595 respondents as the sample for the study. In relation to ethical consideration permission from the graduate school and the Ministry of Education was sought to make this research successful. Data analysis was done using the Social Package for Statistical Science (SPSS). Both qualitative and quantitative data analysis was used to analyze the data. The findings were presented through descriptive statistics by use of frequencies, tables, graphs and pie-charts. The analysis was on the determinants of demand and supply of university education. The study found out that university education is expensive and costs incurred by both the student and the government cannot be sustained. Further the study established that the government is not clear on how much it is willing to invest in university education. That all programmes ranging from certificate to doctorate level are available in the universities but most of them are in the discipline of social sciences as opposed to pure sciences. The main challenge was inadequacy the human and capital resources to foster university education that are core to efficiency, economic development, access and provision of quality education. The study recommends that university education should be quality, relevant and cost-effective to determine the nation's economic prosperity. The stakeholders should make sure that university education is responsive, adoptive, and proactive so as to make full use of resources. In relation to financing, the government should introduce new funding strategies to promote efficiency, quality and accountability. Based on recommendations, the study proposes that similar studies should be carried out on the policies guiding

demand and supply of university education in relation to quality and access. Further, a study on the demand and supply of tertiary and middle level colleges and their impact on education was also recommended.

# CHAPTER ONE

## INTRODUCTION

### 1.0 Introduction

This chapter represents the background to the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, limitations and delimitations of the study, assumptions of the study, theoretical and conceptual frameworks, and finally operational definition of terms.

### 1.1 Background to the Study

University education is of paramount importance for economic and social development. Institutions of university education have the main responsibility for equipping individuals with the advanced knowledge and skills required for positions of responsibilities in government, business and the professions (Varghese, 2004). These institutions produce new knowledge through research, serve as conduits for the transfer, adoption and dissemination of knowledge generated else-where in the world. They also support government business with advice and consulting services. In most countries, they play a very important identity of the country and offer a forum for pluralistic debate (Altbach, Rumbly and Reisberge, 2009).

The purpose of university education is to develop the people, society and the economy which are central to most national visions. In the next century, economically successful nations will be those which become learned societies. They must be committed, through effective education and training, to life-long learning (Wolf, 2006). This has been

achieved through the expansion of university education. This rapid expansion has led to many challenges in terms of demand and supply. This has prompted new challenges which require reforms in their management and governance styles. The rise of new stakeholders, internal factors, globalization and the rapid pace at which new developments take place are a challenge to these institutions. The response had been rather slowly, to the changing circumstances, and there is an urgent need for them to adjust in terms of demand and supply of university education (Jowi, 2003).

According to World Bank (1994) developed countries experience an increasing emphasis on the role of university education in serving the needs of the economy. There has been a general move towards mass participation in university education. The move towards labour market driven demand approach is slowly being abandoned. New trends are geared towards de-regulations which emphasizes on quality assessment (Parry, 1997).

Increase in participation in university education is necessary and a desirable objective of any national policy. It works better with the objective of reducing the disparities in participation between groups and ensuring that higher responsiveness to the aspirations and distinctive abilities of individuals (Siringi, 2007). It is often true as pointed out by Ramsay (1998) that people respond to opportunities available and only if widening these opportunities can certainly be consistent with maintaining quality standards. Access to university education cannot be widened unless it is part of a web of flexible educational opportunities. For example in Scotland, the framework of qualifications in university

education provides greater flexibility to students who wish to enter and exit at different levels, with a qualification of value (Balderston, 2013). In Europe, majority of state statutes firmly emphasize on gender parity in relation to access. In Britain, they have the Equal Opportunities Commission (1990) that deals with encouraging female students to join even hard-science degree predominantly held by male and vice versa (Coleman, 1990).

Economically as individual and family incomes rise on average, this enables them to invest more of their own resources in university education and training, if they so choose (Campbell and Siegel, 2009). This is true in terms of the relatively affordable programmes offered at the universities. Conversely supply of university education refers to amount of education that the stakeholders are willing to supply to its people (Walter, 2010). The relevance of supply of university education must transform into labour market, which enables people, to renew old skills and develop new ones.

Shultz (1986) emphasize that university education needs to be responsive, adoptive and proactive to the extent of individuals and organizations to make full use of its resources. The relevance of education to economic survival has been recognized by successive governments over the last century and has been a major influence on their education and training. This is supported by Forret (2007) who note that, with the global approach to production and service provision, the factors which will determine the economic future

will be the quality, relevance, scale, and cost-effectiveness of its university education and training.

According to Altbach and Knight (2007) programmes need to give students the opportunities and skills to work across disciplines and to develop generic or transferable skills which are valuable in many contexts. University education needs to provide programmes and teaching which are appropriate to the students' needs and aspirations. This is highly echoed by Court and Ghai (1974) who affirm that programmes should explicitly prepare students to manage, develop careers and gain fulfillment. Any programme of study in university education should have its primary intensions the development of higher level intellectual skills, knowledge and understanding in its students. All the trainings in these programmes require more purchasing power of the individuals and supported by the national budgets to achieve the goals of university education.

In most of the African countries the expenditure on education is relatively low as explained by the following reasons. First, funding for university education as a percentage of the governments' budget is often inadequate across the board. Second, political pressures do not support the university education fully like the elementary and secondary levels. Third, in many African countries where resources are constrained, there is often keen inter-sectoral competition among health, housing, social welfare, and other governmental functions in addition to education for financial resources (Otieno and Levy, 2007).

According to Mwiria (2003) in Africa, demand for university education has been increasing rapidly in relation to migre resources. The enrollment has been doubling in every five years which is the fastest rate of increase in the world. This has been prompted by the economic growth in respective African countries which needs university education. In spite of rapid enrollment growth in this sector, Africa's university gross enrollment ratio remains the lowest in the world around 5 percent, trailing South-Asia 10 percent, East Africa 19 percent, and North Africa and Middle East 23 percent.

The situation of demand for Kenya is not any different with that which appears in most of the other African countries. The Kenyan government sees education as an important component of the country's future. This is so despite the challenges of transforming and expanding its education system while at the same time ensuring appropriate support and opportunities for a growing student population (Oketch, 2004). Recent developments in Kenya paint a picture of an expanding as well as a rapidly growing higher education system that is nevertheless struggling to keep up with surging demand for post-secondary places. Indeed, the demand for university education in Kenya has significantly increased and continues to swell. Many secondary school graduates and the working class look for opportunities to pursue university education (Oriwa, 2013).

For instance, the number of first-year students admitted to Kenya's public universities in the year 2013 recorded a 26 percent increase partly due to a lowering of the entry requirements, as announced by the Joint Admissions Board (JAB). As a result, 53,010 candidates who achieved the minimum score or above in the 2012 Kenya Certificate of

Secondary Examination (KCSE) were accorded places in the country's 22 public universities for the 2013/14 academic year. In the same year (2013), the number of universities in Kenya tripled after the government upgraded 15 university colleges into fully-fledged universities as part of a bid to enroll 10,000 more students annually. Nevertheless, approximately 70,000 students still had to look elsewhere to meet their higher education needs. It is estimated that 30,000 enrolled in self-sponsored courses at Kenya's public universities, another 30,000 went abroad for their university education, and 10,000 turned to one of Kenya's private universities (Online News, 2013).

Universities are established, and continue to undergo reforms to meet specific objectives. In the event that these objectives are not met, then they cannot justify huge public expenditure on them (Gudo, Olel and Oanda, 2011). Today Kenya Government is pursuing Vision 2030. Kenya Vision 2030 is the country's new development blueprint covering the period from 2008 to 2030. It aims to transform Kenya into a newly industrializing, "middle-income country providing a high quality life to all its citizens by the year 2030" (Government of Kenya, 2012). Universities are certainly critical players in achieving Kenya Vision 2030 if the set objectives are achieved in relation to proper management of demand and supply.

But even as they (universities) do so, the demand for university education in Kenya continues to increase to the extent that it has now outpaced supply. Studies such as Gudo, Olel and Oanda (2011) have attributed this continued increase to the expanding number of KCSE candidates that obtain the required grade (C+ and above) for admission to a

university. It is also notable that universities have been unable to admit all those who qualify for direct admission from school.

Other factors that have been identified as contributing to increased demand for university education include; the perception that university education guarantee lifelong secure career, the changing nature of the job market characterized by frequent changes of jobs thereby requiring further education and training and the desire to advance in current employment and create prospects for future careers (Oriwa, 2013). Moreover, individuals who attained lower qualifications are finding universities more flexible than before when the only way was through a convincing pass in Kenya Advanced Certificate of Education (KACE) or KCSE examinations (since 1989). This created the module II group of students which largely comprise the working class, taking studies in the evening or weekend. In response to this demand, the government has continued to expand public universities by opening several constituent colleges. The latest move by the government is to have a double intake of students in the 2011/12 academic year (Siringi, 2013).

According to Oketch (2012) amidst rapid advancement and restructuring in the provision of higher education in Kenya, there have been some problems in the higher education sector. The growth of public universities and the expansion of their curricula is wiping out some vocational schools, reducing options for secondary level graduates who may not be qualified for or financially able to attend universities. Teacher training colleges and Government Training Institutes (GTIs) have also suffered since they have been taken over by universities and no longer offer certificate courses. The space has been filled by

commercial colleges, which have been criticized by some employers for turning out poorly equipped graduates.

Despite the various reasons that have been advanced and to which this increase in the demand for higher education has been attributed, no known study has focused on the real determinants of the trend of demand and supply of university education in Kenya. Most of the reasons given stem from opinion and general views of the public as well as the media. Yet the few studies done on this subject have not particularly focused on the determinants of the trends of demand and supply of university education but rather, this comes in as an auxiliary concern. It is thus, never treated with the central focus it deserves yet it is important that such determinants are established so as to inform educational policy as well as educational planning.

## **1.2 Statement of the Problem**

In relation to the background above the overall research problem addressed in this study was that the demand for university education kept on increasing every year to the extent the supply of university education is unable to cope with this trend of ever increasing number of qualified students. This may mean that the number of students qualifying each year is relatively higher than the places available in both public and private universities.

While studies such as Kabiru (2007) have projected that the number of students seeking university entry by 2015 would range from 160,000 to 180,000, such studies have also projected that the number of those who will miss the opportunity to access university education in 2015 will be approximately 100,000, unless additional opportunities for

access were created. This only serves to foreground the increasing demand for university education side by side with a supply that does not seem to match the pace at which demand grows. It has been maintained in this study that one of the most preliminary steps to address this situation is to establish the determinants of these trends of demand and supply in relation to the provision of university education in Kenya.

### **1.3 Purpose of the Study**

The purpose of this study was to identify the determinants which affect the trend of demand for and supply of university education in Kenya with a view to finding out suitable ways of planning so as to improve the situation in terms of quality, equity and efficiency.

### **1.4 Objectives of the Study**

As objectives, the study sought to:

- i) Establish the nature and level of programmes offered in the university education in Kenya.
- ii) Identify the factors affecting the trends of demand for and supply of university education in Kenya.
- iii) Determine the challenges facing demand for and supply of university education in Kenya.
- iv) Develop strategies for addressing the challenges associated to the trends of demand for and supply of university education in Kenya.

### **1.5 Research Questions**

- i) What is the nature and level of the programmes that are offered in the university education in Kenya?
- ii) What are the factors affecting supply and demand of university education in Kenya?
- iii) What are the challenges facing demand for and supply of university education in Kenya?
- iv) What are the strategies for addressing the challenges associated to the trends of demand for and supply of university education in Kenya?

### **1.6 Significance of the Study**

This study examined the determinants affecting the trend of demand and supply of university education in Kenya. The findings of the study have both theoretical and practical implications for the future of university education in the country. Theoretically, the findings will contribute to the advancement of knowledge about demand and supply of university education in Kenya by addressing the challenges associated with demand and supply.

The study has practical significance because the findings may lead to identifying the strengths and constraints of implementing process. This will benefit the Ministry of Higher Education (MHE) in the formulation of future university education policies aimed at enhancing fair enrollments for all students of different financial backgrounds.

The study findings may also benefit university education planners, administrators and educational financiers in regard to the cost of providing education especially expenditure to the society. It will also consider efficiency, equity and access with which various resources both human and material are used to enhance university education. This research study supports the vision of the strategists to educate and industrialize Kenya by the year 2015-2030. According to this vision, education is considered as a third factor of production after capital, land and labour. The study finally forms a base on which others will help to develop their studies.

#### **1.7.0 Delimitations of the Study**

- i) The study covered four public universities and three private universities in Kenya.
- ii) The study confined itself to university administrators, on session students, informed specialists and government agents who were direct beneficiaries of university education provision in Kenya.
- iii) The study concentrated only on university education which is the highest level of education in Kenya and the main source of advanced human resource training for economical well-being.

#### **1.7.1 Limitations of the Study**

- i) The study limited itself to only four public and three private universities. For a more conclusive result all the universities (a total of about 42) would have been studied. However this was not possible due to financial and other logistical constraints.

- ii) It was not possible to cover the opinions of parents and other stake holders in the selected universities because tracing them would have required considerable time, resource and other logistics.
- iii) Admissions in many universities were almost a continuous exercise which brought about lengthy and slow compilation and classification of data. This affected the availability of exact data on enrolments. In such cases the researcher dealt with the already classified data for the study.
- iv) The deadlines of meeting some respondents were definitely in some cases postponed because of unforeseen unavoidable circumstances such as travelling on official duty hence being away from the university. However, the researcher was in a position to set aside reasonable extra time to reschedule such eventualities during the process.

## **1.8 Assumptions of the Study**

The study was guided by the following assumption:-

- i) That the current intake structure laid down by the Ministry of Higher Education (MHE) and Commission for University Education (CUE) was responsible for the then state of trend of demand and supply for university education in Kenya.
- ii) That there was lack of clarity in the policies guiding demand and supply of university education which were crucial in attaining a state of equilibrium in this sector.

- iii) That the admission prerequisites of most universities were water-tight for most of the potential students to join university education.
- iv) That the most crucial factor to the development of university education in Kenya dominantly laid in the availability of finance.
- v) That all the respondent's incorporated and provided reliable responses. In this research it was very important to analyze data which was valid and reliable in order to make good, helpful conclusions and recommendations.
- vi) That the demand and supply of university education was not at the equilibrium. This was because most of the potential students never managed to join these Universities.
- vii) That the government did not out rightly prioritize university education to be first item among others in terms of budgeting. The finance allocated to the expansion of university education was inadequate and most of the universities were forced to rely on projects which were very limited in subsidizing the adequate finance.

### **1.9.0 Theoretical Framework**

The study adopted the Demand and Supply which influence the concept of a market environment. A market is an institution or mechanism which brings together buyers (demanders) and sellers (suppliers) of particular goods, services, or resources (McConnell, 1999). The buyers and sellers that exchange goods and services often determine the price. Buyers and sellers communicate with each other about the quality and quantity of a product, what the buyers are willing and able to pay, and what the

sellers must receive. This theory was relevant in this study in such a way that a university is actually a “market” where the students pay fees for the courses in which they have been admitted hoping for quality services in institutions of learning. In this case, education is deemed as a consumer product which must be purchased at a reasonable price (fees) by the customer (student) to satisfy the wants (knowledge). Economic actions arise from scarcity (wants) which exceed the resources available to satisfy them. Faced with scarcity, students must make choices and in making choices, they are confronted with opportunity costs.

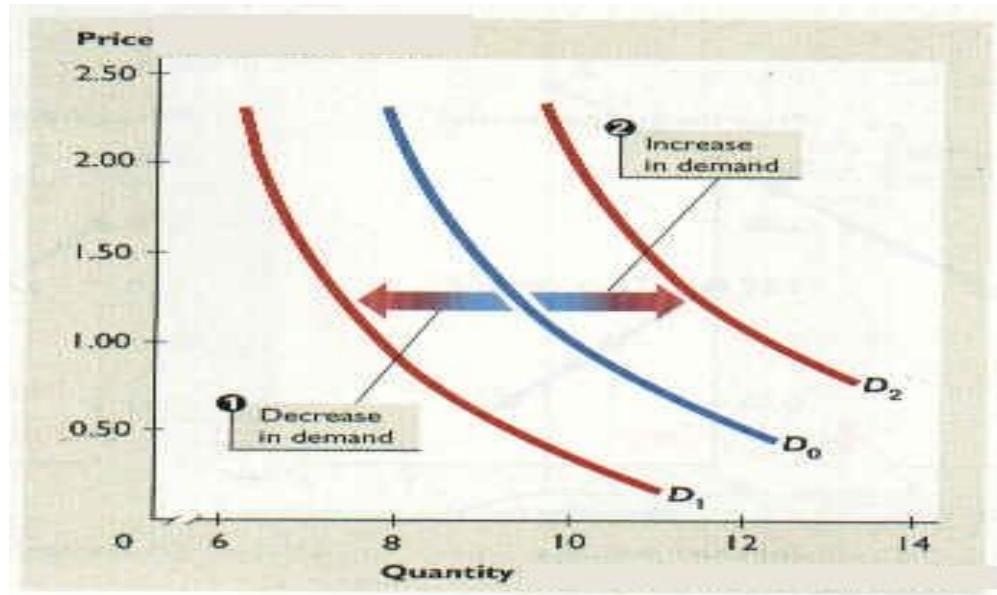
Forret (2007) further stresses that, the substitution effect suggests that at a lower price, students have the incentive to substitute now cheaper programmes for similar programmes that are now relatively more expensive. The ratio of one price (fees) to another is called relative price which is an opportunity cost. In these respect, consumers (students) make choices that maximize their utility (satisfaction) that is in education.

### **1.9.1 The Law of Demand**

The law of demand states that, other things remaining constant (*Ceteris-Paribus*), the higher the price of a good, the smaller is the quantity demanded (Michael, 2009). This is also known as the income effect. It has been proved that the cheaper the expenses involved in any programme offered, the more the students’ enrolments e.g. business related courses. Unlike courses like engineering and especially medicine which are very expensive and very few students can afford to enroll. Secondly the substitution effect

created by a change in a product's price has on it a relative expensiveness, and consequently on the quantity demanded. When the price of a product falls, that product becomes cheaper relative to all other products. According to (Michael, 2009) consumers (students) will substitute the cheaper product (programmes) for other products that are now relatively more expensive. He notes that at a lower price (fees) increases the relative attractiveness of a product (programmes), the consumer (students) buys more of it. The income and substitution effects combine to make a consumer able and willing to buy more of a specific good at a lower price than at a higher price.

McConnell (1999) note that a change in one or more of the factors of demand causes a change in demand. An increase in demand is shown as a shift of the demand curve to the right as shown from **D-0** to **D-2**; a decrease in demand is shown as a shift of the demand curve to the left as from **D-0** to **D-1** (Figure 1) below. These changes in demand are distinguished from a change in quantity demanded, which is caused by a change in the price of the product, as shown by a movement from say point **A** to point **B** on a fixed demand curve **D-0** (Figure1). In this case, the factors affecting demand are, the cost or price of education, personal disposable income, benefits accruing from to acquisition of education, and social reasons as seen from the findings of this research.



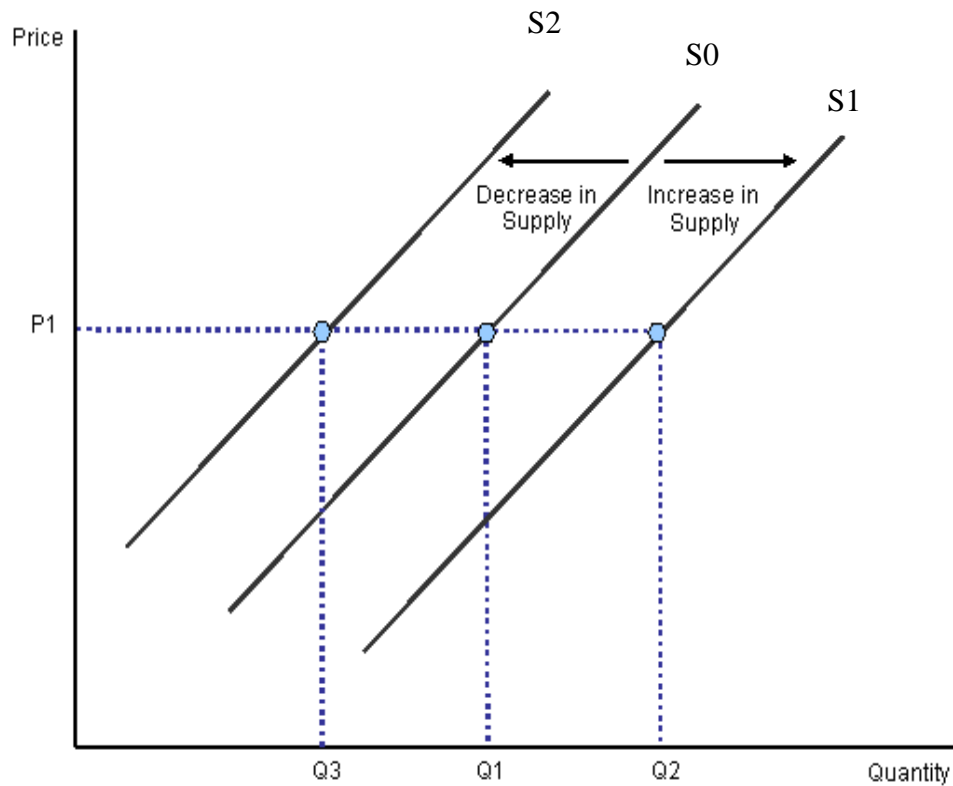
**Figure 1 Demand Curve**

**Source:** Researcher, 2013

### 1.9.2 The Law of Supply

The law of supply states that, other things remaining the same (Ceteris-Paribus), the higher the price of a good, the greater is the quantity supplied, (McConnell, 1999). Price (fees) is an obstacle from the standpoint of the consumer (students), who is on the paying end. The higher the price (fees), the less the consumer (students) will buy. But the suppliers (universities) are on the receiving (profits) end of the product's price. To a supplier, price represents revenue and thus is an incentive to produce and sell a product. The higher the price (fees), the greater the incentive (profits) and the greater the quantity supplied (more programmes offered). The supply curve in **S0** (Figure 2) below shows that a rise in the price increases the quantity supplied, and a fall in the price decreases the quantity (less programmes) supplied. He further observe that if some other influences on

supply changes by increasing the quantity that producers plan to sell, the supply curve shifts rightward (from **S0** to **S1**) then there is an increase in supply. If some other influences on supply changes by decreasing the quantity that the producers plan to sell, the supply curve shifts leftward (from **S0** to **S2**) then there is a decrease in supply. Therefore, the factors influencing supply of education are, the benefits accruing to the government from education, disposable income of the government, and the cost of education.



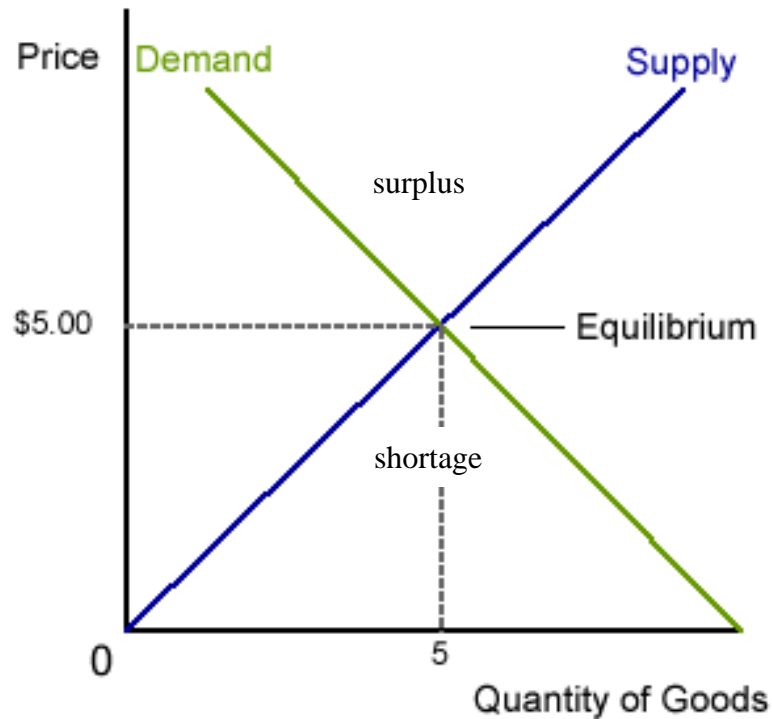
**Figure 2 Supply Curve**

**Source:** Researcher, 2013

In his view, Chacha (2004) observe that the disposable income of the government is often inadequate, as seen in budget allocation throughout the country in terms of building, salaries, and grants for research inducements, expansion to accommodate ever increasing demands of university education.

### **1.9.3 State of Equilibrium**

The state of equilibrium (Figure 3) below is a situation in which opposing forces of demand and supply balance each other. The buyers (students) and the sellers (university education institutions) balance each other at a given affordable price (fees) (Michael, 2009). He further confirms that at equilibrium price, there are no forces acting to make it change although it must be known that equilibrium is a hypothetical state of market perfection. This means that in many situations, it is not practical in actual sense. But it can be used as yardstick in the formulation of policies governing university education in terms of price determination for programmes. In other words, the state of equilibrium is important to the researcher to show that in the light of students looking for university education they strike an imaginary balance where it makes them able to afford the universities.



**Figure 3 Equilibrium (Demand & Supply)**

**Source:** Researcher, 2013.

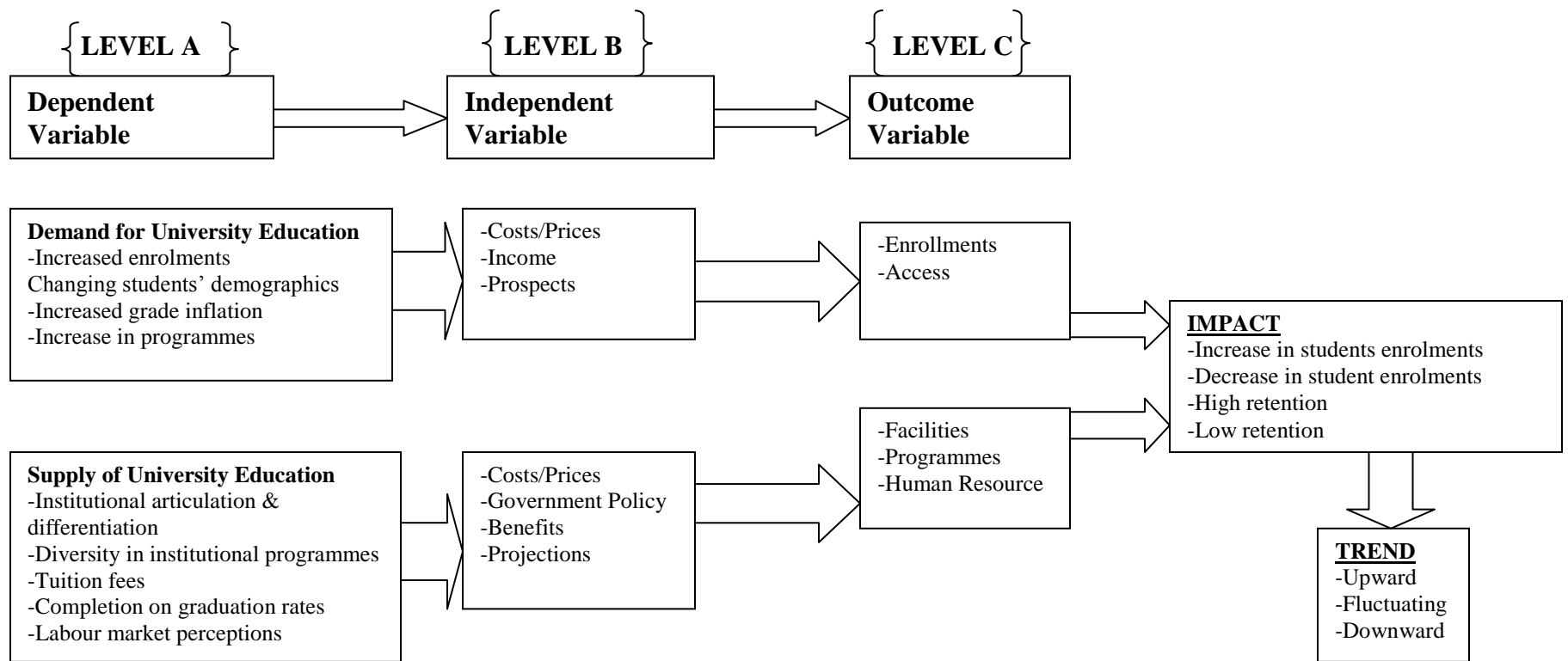
While the classical-economist theorization about the nature of demand and supply of goods in the market, and in the present situation the university education has been suggested as the one to guide this study, it is however not perfect, at least as per the feeling of the same economists (Gewirtz, 2013). University education in most parts of the world including Africa and even Kenya for that matter has been offered most recently as a public social good. The current phase of development and provision for higher education has been explained by the neo-liberal thinking rather than the classical perceptions of the market forces of demand and supply. In this thinking, higher education is perceived as a product produced on a commercial basis, as a set of commodities subject

to buyer-seller relations. It is also in contestable markets with free entry of new producers, and produced by competing institutions/firms financed by shareholders, and committed to profit-making (Hatcher, 2013). This is enforced with a deregulated setting with little government interference. Seen from this angle, this study sought to explore the extent to which both the classical (laissez-faire) liberalism and the neo-liberal thinking determines the supply and demand of institutions and academic programmes in public and private institutions of higher learning in Kenya.

These perceptions are both relevant to this study because they embrace economical concepts such as, demand for education, supply of education, opportunity costs of students making a choice, determination of prices, and availability of commodities e.g. programmes to be consumed for a better future. This approach definitely helped in the totality of understanding this research study.

#### **1.9.4 Conceptual Framework**

According to Orodho (2008) a conceptual framework is a model of presentation where a researcher conceptualizes or represents the relationship between variables in the study and shows the relationship graphically or diagrammatically. The purpose of a conceptual model is to help the reader to see the relationships. In this research it explained how the conceptual model was to test in order to establish the significance of the relationship, in this case the trend of demand and supply of university education. Kombo and Tromp (2006) compliments Orodho (2008) in a different way by emphasizing that, a conceptual frame work is a research tool intended to assist a researcher to develop awareness and understanding of the situation under scrutiny and to communicate this. They continue to affirm that a conceptual framework has potential usefulness as a tool to assist the researcher to make meaning of subsequent findings. It forms part of the agenda to be scrutinized and tasted, reviewed and reformed as a result of investigation. From the two noble ideas above the following points came out of this research as follows; (i) there are links from the literature review to the research objectives and questions, (ii) contribution to the research design, (iii) reference points for discussion of literature, methodology and analysis of data, (iv) conceptualized the problem and providing a means to link ideas and data deeper connections were revealed, (v) it gave a broad scope to thinking about the research and its trustworthiness. Figure 4 and the full analysis of the conceptual framework.



**Figure 4 Conceptual Framework on Determinants of Demand and Supply of University Education**

**Source:** Researcher, 2013.

The schematic presentation of the conceptual framework captured the interrelationship among the major variables that were used in the study presented at Three Levels as showed in figure 4.

### **Level A**

In relation to this study, the level explained two major dependent variables which constituted first demand for university education with indicators such as increased enrolments, changing student demographics, increased grade inflation and increased programmes. Secondly, the supply of university education had indicators such as nature of institutional articulation and differentiation, diversity in institutional programmes, tuition fees completion and graduation rates and labour market perceptions.

### **Level B**

The independent variables affecting demand were costs/prices of university education, income of the consumers, and various prospects from university education. On the other hand variables affecting supply were costs/prices, government policies towards university education, benefits accruing from university education and projections in relation to job markets.

### **Level C**

This level determined the outcome of the dependent and independent variables as observed in levels **A** and **B** above. The outcome of determinants of demand influenced enrollments and access in university education. In supply the outcome was determined by facilities, programmes, finance for expansion and human resource. Both dependent demand and supply variables created an impact in relation to the corresponding

independent variables. These resulted in increasing or decreasing rate in the demand and supply of university education. It was quite evident that it led to the three characteristics of trends, namely; upward, fluctuating and decreasing in relation to this study. The trend created two distinctive situations; first, high enrolment/access, high retention rates and high graduation rates. Second, low enrolment/access, low retention rates and low graduation rates.

### **1.10 Operational Definition of Terms**

**Costs:** This includes the total amount of fees charged per course or programme and the expenses related to pursuing the programme to the end. This is in terms of rent (if any), consumables, transport and researches involved.

**Elasticity of Demand:** Refers to the ratio of the percentage change in quantity and the percentage change in the price of goods, all other factors held constant. It helps the consumers (students) to realize the potential of some programmes in terms of fees. This helps the consumers to prepare themselves in unforeseen price alterations especially increase in fees.

**Elasticity of Supply:** Refers to the percentage change in the quantity supplied of a good divided by the percentage change in the price of that good. It becomes inelastic over a price range if the price elasticity of supply is greater than one over that price range guides the firms (universities) profit-maximizing pricing decisions.

**Level:** Refers to the various types of training offered in a university, ranging from certificate level to PhD.

**Nature:** Refers to the two broad categories offered in these universities which are science oriented universities or humanities oriented universities or a mixture of the two.

**Opportunity Costs:** Refers to where choice is measured by the benefits foregone in the next best alternative. In this case, the decision of pursuing a degree course in university education as a priority to the others.

**Price Elasticity:** Refers to the measures of responsiveness of goods sales to changes in its price. This concept is important for two reasons. First, knowledge of goods price elasticity allows firms to predict the impact of price changes on unit sales. Second, price elasticity guides the firms (universities) in profit-maximizing price decisions.

**Private Demand:** Refers to students sponsoring themselves in university education for individual gains. In university education most mature-entry, part-time who are self-sponsored fall in this category.

**Programmes:** Refers to the range of studies offered in a university, for example certificate, diploma, bachelors, postgraduate diploma, masters and PhD in the universities.

**Trend of Demand:** Refers to the way the demand behaves at certain times in terms of being upward (more customers), downward (declining) and fluctuating (not steady) in relation to university education.

**Trend of Supply:** Refers to the way the supply behaves at certain times in terms of being upward (more facilities and finance) and downward (less facilities and finance) in relation to university education. This is influenced by price of the programmes, the resources, technology productivity expectations and number of producers (universities) the prices of related goods and services.

## **CHAPTER TWO**

### **REVIEW OF RELATED LITERATURE**

#### **2.1 Introduction**

This chapter presents a review of literature related to the issue being studied. Accordingly, literature review was guided by the objectives of the study. In so doing, the review focused on what researchers, scholars and educationists have said about the importance of the determinants of demand and supply of university education as well as its challenges in the society. In particular, the literature was reviewed under the following sub-headings; namely university programmes, demand for university education and its challenges, supply for university education and its challenges, demand and supply of university education in Africa, demand and supply of university education in Kenya and finally Summary and gaps for the study.

#### **2.2 University Programmes**

Programmes and services are the means through which a college or a university gives life to its purposes, aspirations, values and goals. Through programmes and service offering, the expertise of faculty and staff and the other resources of the institution are made available to students, other beneficiary and constituency groups within and outside the university and the society at large (Brent, 2013). For the institution as a whole and for many departments within the university or college, a primary focus of any review process is on the effectiveness and efficiency of educational programmes and services and how they contribute to college life and learning. The goal, of course, is designing and

“enhancing the quality of programmes and services within the context of the institution’s missions, resources, and capacities, and to create an environment in which teaching, public services, research and learning occur (Baeninnger and Morse, 2013).

According to Aldridge and Rowley (2013) achieving and maintaining high standards in programmes and services is an essential and shared goal across academic, student life, administrative, and service departments, and for the institution as a whole. Programmes and services of all types are designed, supported, standardized, implemented, evaluated, and continuously improved. Balderston (2013) emphasize that the place to begin is by reviewing the mission, vision, and goals of an institution, department, or programme and then confirm about how well the current programmes and services reflect those purposes, aspirations, and directions.

In support Dishotels (2013) confirm that they should show the best expression of talents and expertise of faculty and/or staff and the potentialities of faculties and resources. Conversely Andrade (2012) assert that the programmes and services are to be responsive to the beneficiary and consistent needs and expectations and to the unique opportunities and challenges that present themselves given the institution’s history, location, and other distinctive characteristics and considerations. He further says that they should have appropriate resources being devoted to them, be continuously being improved and be considered as candidates for downsizing or elimination.

### **2.2.1 Importance of Missions to Programmes**

Cannic and McCarthy (2013) observe that mission-critical programmes and services are those that are essential to the work of the institution, department and to the purposes of which the institution was created. For educational units, the mission-critical programmes and services at most institutions are those related directly to the teaching/learning, scholarship, and public service/outreach. Regular review of educational programmes and services is essential from a variety of perspectives. While common aspirations for colleges and university students exist. It is important that institutions and programmes periodically undergo a process of reviewing their desired learning outcomes, taking ownership of them, and assuring that they guide the practice (Andrade, 2012).

In student life, administration of programmes, and desired outcomes will vary substantially from department to department, reflecting the unit's specific mission. Regardless of the type of organization, meaningful review and ongoing improvement presuppose that the programmes and services offered have defined goals (Cullen, Joyce and Hassell, 2013). This is supported by Astin (2012) who observe that clear goals help promote effective communication with the beneficiaries and constituencies, foster better alignment of expectations among all parties, and provide the necessary foundation for assessment. Organizational goals provide the reference point against which the quality and effectiveness of current activities, accomplishments, and outcomes of the programme, department, and/or institution can be assessed (Banta, 2013).

### **2.2.2 Operational and Support Services in Programmes**

Drew and Nearing (2012) note that for the institutional as a whole, as well as for the numerous academic, student life, administrative, and service departments that compose it, a number of behind-the-scenes operational and support activities provide the infrastructure necessary to support the mission-critical work. Often these kinds of programmes and services are invisible to external groups. For example, support services might include recruiting and hiring, conducting personnel reviews, training, procurement of equipment and supplies, coordinating repairs and maintenance, budgeting, granting writing and management, time and room scheduling, preparing work materials, and planning meetings.

### **2.2.3 Processes in Programmes**

The overall quality of any programme or service is largely a by-product of the effectiveness and efficiency of a number of specific sequences of activities-or processes-and how they combine together (Brent, 2013).

Shah and Brennan (2013) confirm that to be most useful, a review should both broadly focus on programmes and services and closely examine the key processes that go into making a programme or service. In the case of academic programmes and services, for example, one can identify and examine a number of processes that are important to teaching/learning, scholarship, and service/outreach. Dishotels (2013) say that careful review of processes to be sure they “add value” is increasingly becoming an important criterion for accreditation review for example, Association of American Colleges and

Universities 2004, Middle States Commission 2006 and North Central Association 2007. He adds that a review should, therefore, not only focus on the effectiveness of a programme or service overall but also consider the extent to which associated processes are thoughtfully designed, appropriately supported, sufficiently standardized and documented, efficiently implemented, periodically evaluated, and regularly improved, as well as whether they meet constituents needs and expectations.

Astin (2012) confirm that a review of programmes and services involves identifying and analyzing its work and associated processes. It also includes an analysis of important operational and support services, and the processes associated with those areas. Banta (2013) also agree that various programmes and services are developed within the department to fulfill the instructional mission, and those have a number of associated processes that can be examined. One such process is that one involved in developing new courses.

However Cullen, Joyce and Hassell (2013) emphasize that to analyze the effectiveness and efficiency of a process, it is helpful to develop a flow chart that identifies and describes the various steps involved. Dissecting a processing this way helps to clarify its details, determine how it works, and potentially improves its functioning. He adds that in this case, the process analysis reveal reasons why it takes so long to introduce a new course at the institution. As it presently operates, one can imagine that the process satisfies institutional needs for careful review.

Dishotels (2013) warn that achieving this result takes a year because of the process's complexity, the needs and expectations of faculty, students, and perhaps employers may not be well served. Systematic study can help determine whether steps could be shortened or eliminated, procedures streamlined, technology introduced to expedite reviews and approvals, and so on. In agreement Drew and Nearing (2013) confirm that an analysis of this kind generally results in improved processes that are more efficient, more effective, and more responsive to the needs of all parties involved. Ideally, this approach also results in key processes that are sufficiently documented and standardized so that they can easily described, understood, utilized, and consistently replicated.

#### **2.2.4 Comparisons in Programmes**

According to Cannic and McCarthy (2013) alliances, service agreements, partnerships, and other forms of collaborative relationships also take place at the institutional level. Examples include recruiting and transfer processes involving high schools and community and junior colleges; cooperative instruction or research arrangements creating preferred or exclusive provider-supplier relationships for programmes, materials, resources, or services. They add that as in other instances, careful examination of cross-functional and interdepartmental programmes and services and their associated processes-is a useful aspect of programmes, department, or institutional review effort.

In support Brent (2013) agree that comparisons between one's own programmes and services and those departments or institutions are an essential component of review and improvement in academic as well as student life, service, and administrative areas. Most broadly, comparisons provide content for reviewing the nature, content, and effectiveness of programme, services, and their associated processes. At the same time, comparisons generate new ideas, approaches, and methods that can be adopted or adapted. Shah and Brennan (2013) also point out those leading universities and in other sectors are quite aggressive in their efforts to analyze and learn from peers, competitors, and leaders in their own field and sector, and also in others. This posture can be very helpful in university education.

#### **2.2.5 Contemporary Issues on Programmes in Universities**

Birrell and Calderon (2009) observe that in the United Kingdom students can choose from a much array of types of university programmes. Knowledge expansion, preparations for many occupation and availability of employment take the center stage in university education. The recognition of benefits of cross-disciplinary approaches, for example in areas of study, has led to a rich new range of programmes and techniques. The institutions have developed combined honours programmes, allowing students to study more than one subject in depth.

Rives and Cassidy (1997) say that any programme of study in the university should have as one of its primary intensions the development of higher level intellectual skills,

knowledge and understanding in students. It empowers the individual by giving satisfaction and development of the general powers of the minds that underpins the development of many other generic skills so valued by employers, and of importance throughout working life.

Coleman (1990) point out that in the developed world re-orientation of university education is a top priority. They emphasize on scientific and technical faculties (including agriculture) and relatively less on Humanities, Fine Arts and Law. He further say that emphasis should be on quality, since well-trained lawyers, economists, public administrators, industrial managers, social workers etc., are needed. On the other hand also more qualified engineers, scientists and agricultural specialists are in great demand.

Harbinson and Myers (1974) observe that research institutions science and technical fields (natural and biological sciences, engineering and agriculture) are established and expanded in order to increase the countries capability of adopting modern science and technology to its own needs. They further note that some research facilities may be established within existing universities, some may be quasi-governmental with support from industries and some will be established by the government alone for specific purposes.

In support Brent (2013) emphasize that it is a positive factor working for the expansion of research in the growing recognition of science and technology in the modern world,

and the element of national prestige involved in having research institutes of recognized international standing within the country.

### **2.3 Demand for University Education and its Challenges**

According to Rives and Cassidy (1997) observe that in recent years attention has been directed to the rising cost of university education and the responsiveness of student demand at both private and public universities. Demand includes the investment, consumption aspects, and the expected benefits that influence the proportion of persons who find it economically desirable. However, Psacharopoulos and Patrinos (2005) affirm that, an increase in the cost of education investment, whether in the form of direct charges for tuition or the opportunity costs of attending, may lead to a reduction in enrollment decisions. They emphasized that, increases in tuition fees at one institution may result in a re-allocation of students from that institution to another of comparable quality and size, but at lower prices. This is evident in Germany, USA and France.

The cost of a university education, without considering opportunity costs, is the cost of tuition, fees, books and other supplies. Another cost is one of financing that price with respect to the availability and terms of loans and scholarships, and capital markets to provide financial assistance (UNESCO, 2004). But Radner and Miller (2010) state that an increase in the tax base of a state, especially when a portion of the new tax is earmarked for university education, may contribute to the in-migration of students who formerly attended out-of-state public or private institutions that increased their tuition fees.

Increases in the lump-sum charge for tuition charge for fees may have differing effects on users, potential users and previous non-users. Campbell and Siegel (1999) support the decision of potential users may be affected by the rate of increase in the lump-sum charge regarding their choice between abstinence, use, or level of use. In the case of public institutions the availability of public funds is closely tied to tax receipts where as gifts to private institutions are closely related to personal and corporate incomes (Palfreyman, 2004).

Campbell and Siegel (1999) in their study on enrollments data found out that the enrollment ratios varied directly with variations in household incomes and inversely with the index or relative tuition costs. But Corazzini and Grabowski (2008) argue that employing a homogeneous demand function to another level hypothesized that the number who desired to attend university is related to the percentage of those finding it economically desirable to enroll. A rise in the expected benefits (earnings consumption) would increase the number desiring to enroll, but increases the cost of education investment or the discounted rates lead to enrollment reductions. The total enrollment function is a counterpart of the price variable, was found to be significant determinant of enrollment in most of the European universities.

According to James (2009) the demand for university education has both a “natural” and an “artificial” component. It is subject to autonomous market forces and iron laws of “Friedmonesque Economics” and secondly is a derived demand, which depends on the

preference and priority schedules of governmental units. This indicates that, the greater the level of the state and federal support, the greater the demand for university education. Walter (2010) observe further that “autonomous” demand is highly sensitive to the prevailing prices. They are impossible to determine to what extent the price escalation has dampened the potential growth of demand for university education. Secondly, He adds that “artificial” demand component shows that state and federal support has increased since World War II. But (Chapman, 2008) refute by saying that despite the state appropriations for university education showing a long-term increase, the appropriations are unduly influenced by the cyclical fluctuations of the economy. The half-hearted committees of the federal governments, and the current methods of financing by the states, tend to undermine a central function of Public university education. This is seen in serving as an instrument of vertical mobility in a democratic society. This is true in situations of rapidly rising prices for tuition and auxiliary services (Forret, 2007).

In his research (Schultz, 1986) assert that financing is such that substantial amounts of valuable assets are being transferred by the society to a particular intellectually elite set of individuals, expressed in light of taxes used to foster university education. Theoretical model of public spending for university education is developed on the basis of assumptions inherent in Bloom and Chan (2005) “Individualistic concept of public spending.” He adds that, public expenditure for university education at equilibrium is determined at the point where demand and supply curves intersect. Alternatively stated, the public spending at equilibrium is the product of the price per unit of education and its

equilibrium quantity. Shifts in demand and supply schedules cause and determine public spending to change in this case university education.

This is supported by Boyes and Melvin (2010) who affirms that the demand curve shows the quantity of a good or service that the buyers are willing and able to purchase at each price. The supplier curve shows the quantity that the producers are willing and able to offer for sale at each price. They further note that only at the point where the two curves intersect is the quantity supplied equals to the quantity demanded. This intersection is the point of equilibrium. The intersection point is the equilibrium price which is the only price at which the quantity demanded and quantity supplied is same.

According to Forret (2007) whenever the price is greater than the equilibrium price, a “surplus” arises. Conversely, whenever the price is below the equilibrium price, the quantity demanded is greater than the quantity supplied, and there is a “shortage”. Neither a surplus nor a shortage exists for long if the price of the product is free to change. The entire model is expressed in figure 2.1 below:-

Demand function	= $D_q = f ( P, V_d )$
Supply function	= $S_q = g ( P, V_s )$
Equilibrium	= $D_q = S_q$
Total function	= $Q_{ds} = D_q + S_q$
Spending equation	= $G = P_1 Q_{ds} = h ( V_d V_s )$
Where $D_q$	= amounts willfully demanded for University Education
P	= price per unit University Education
$V_d$	= factors affecting the demand on University Education
$S_q$	= amount willfully supplied on University Education
$V_s$	= factors affecting the supply of University Education
G	= State total appropriations for its University Education

**Figure 5 Theoretical Model of Public Spending for University Education**

**Source:** Adopted from Forret (2007).

In their study on demand for university education in European countries (Birrell and Calderon, 2009) observe that, demand for university education is a function of tax, per capita-income, federal aids and population of youth. Taxes paid by citizens are used to represent the price of university education; therefore its rise hinders fee payment. They suggested that the price inversely correlates with the demand. The per-capita income is the ability to pay the demand for university education which directly correlates with its level. They further pointed out that, federal aids to public colleges and universities may reduce costs which must be financed within the state and increase the citizens' ability and willingness to buy more university education. To support their argument they developed the formula as shown in figure 2.2 below:-

$$D_q = A_0 - A_1 P + A_2 X_1 + A_3 X_2 + A_4 X_3$$

P = tax paid by citizens for University Education

X<sub>1</sub> = per capita income

X<sub>2</sub> = federal aids to the Public University Education

X<sub>3</sub> = number of students

**Figure 6 Demand Function in Relation to University Education.**

**Source:** Adopted from Birrelland Calderon (2009).

Karmel (2007) in his research emphasizes that in the European countries students from lower socio-economic background tend to have lower participation rates. Strength of the labour market, takes potential students away from undertaking University Education because of improved wages, rather than studying. But (Chessawas, 1969) looks at it differently by stating that demand for university education is driven by projections of the number of people in each relevant age cohort.

A different approach by (Henchman, 2005) emphasize that, labour market trends and employment growth by broad occupational group has traditionally favoured the higher skill groups. Harbinson and Myers (1974) in their study in England pointed out those projections are not fully reliable because they rely on factors and trends by field of education such as availability of places, course fees, expected labour markets and broader micro-economic influences.

Roberson (1997) observe that there is positive link between the level of family income and participation by 18-19 years youth living at home. The higher the family income, the greater is university education participation rate. They concluded that cultural and other related factors also influence entrance to university. The participation was noted to be strongest in the middle income range where parental occupations are classified as professionals. But lowest where families have similar incomes and parental occupations are classified as clerical or blue-colour jobs. He notes that the effect appears to be stronger for young males from working class background than females. The socio-economic status is dominant factor in the variation in student perspectives on the value and attainability of University Education. On the contrary James (2009) note in his research that, overall, students from lower socio-economical backgrounds are affected by the factors below:-

- i) Weaker interest in the subjects they could study at the university (62 percent compared to 78 percent of students from higher-socio-economic background).
- ii) Weaker belief that their parents want them to do a university degree (44 percent compared to 68 percent).
- iii) Stronger interest in earning on income as soon as they leave school (35 percent compared to percent).
- iv) Are more likely to report concerns about costs. They are more likely to believe the costs of university fees may stop them attending (39 percent compared to 24 percent) and that their families probably could not afford the costs of supporting them at the university (41percent compared with 23 percent).

## **2.4 Supply of University Education and its Challenges**

Supply refers to amounts of university education that the state is willing to supply at each different price. Supply depends on price of output, amount of inputs available and production function (William, 2006). Specifically McConnell (1999) argue that the supply is assumed to be a function of enrolment, the number of staff members, public spending for all levels of public institutions, and public spending to improve physical assets. He emphasizes that unlike the down sloping demand curve, the supply curve will rise upward and to the right because larger tax revenue enable the state government to supply more public goods, including education for its citizens (See figure 1.2 chapter one). So it is assumed that tax paid by people to the state directly relates to supply of university education.

In support Altbach (2007) agree that the number of staff members, enrolments and public expenditures to improve physical assets indicates the extent to which government can supply university education. Therefore, it is important to anticipate that these three variables directly relate to supply of education.

Shultz (1986) support by saying that, the state's total appropriations for all levels of public university education institutions, present the size of public expenditure. In these relations there is a positive relationship between appropriations and supply of university education. The relation is shown in Figure 2.3 below, Birrell and Calderon (2009) developed the supply function expressed mathematically as follows:-

$$1_n S_q = 1_n B_0 + B_1 1_n X_4 + B_2 1_n X_5 + B_3 1_n X_6 + B_4 1_n X_7$$

Where:-

$X_4$  = enrolment at public University Institutions.

$X_5$  = numbers of staff in public University Institutions.

$X_6$  = public spending for all levels in public Education Institutions.

$X_7$  = public spending capital improvements of public University Institution.

### **Figure 7 Supply Function in Relation to University Education**

**Source:** Adopted from Birrell and Calderon (2009).

#### **2.4.1 Elasticity in Demand and Supply of University Education**

In developed countries Woodhall (1974) point out that, the demand elasticity varies with the type of university education institution. Attempts to keep tuition low to expand students' access are not likely to be successful. That across the board tuition reductions will only modestly boost the quantity demanded. But Richard and Overton (1990) state that, enrollment restriction strategies will lead to sharp increases in equilibrium (market clearing) tuition fees. Legislative restrictions or other political considerations often prevent universities from falling into equilibrium pricing strategy. The strategy of raising "sticker prices" a lot and price discrimination makes financial sense to universities and many students are prepared to pay whatever the market will bear (Glenn, 2010).

According to Albretch (1992) establishing tuition rates in universities are always of fundamental strategic importance to college administrators. They often suffer adverse

financial effects from reduced allocations external sources and increased educational and facility costs. Universities have responded by becoming more sophisticated in either use of tuition pricing as a positioning device. This is supported by Ziderman (1992) who affirm that they have considered the effects of student's ability to pay, institutional student aid, and expenditure plans on enrollment rates. Prices should include cost and revenue input so that admissions can evaluate prices based on projected earnings. Cost reductions and revenue enhancements are needed to remain solvent and increase in tuition rate is a revenue enhancing option, as experienced in Russian, Japan and Korea.

But Thomas (2007) refute by saying the tactic raises the question of how current students will respond to a higher price if there is not an equal increase in their financial aid. When tuition is increased, three scenarios for current student occur namely (a) high retention rate, a major tuition revenue increase, (b) moderate retention and a net increase in tuition revenues, (c) low retention and a severe tuition revenue decrease. Besides tuition price, (Albrecht, 1992) note that student aid and competitor's tuition rates affect current students' financial considerations. In Britain university admissions estimates the effects of net earnings resulting from price increases so that they can select the tuition rate to avoid low retention and severe tuition revenue. They are faced with "classic pricing" problem that depends upon current students' tuition price elasticity of demand for university education.

In France Good Pricing Model (GPM) was identified by (Bellew and Rosemary, 2006) who observe that it has three characteristics namely (a) to determine appropriate tuition

rate, predict retention rate of current students (b) computer-based model that quantifies their leadership between tuition and elasticity (c) projected net earnings and identify your competitors. But Glenn (2010) note that price determination is a difficult decision; one should establish a tuition that retains current students, attracts new students and provides adequate revenues to cover costs as in Germany, USA and Britain. However, relative tuition increases typically reduces university enrollments with evaluation of demand at various tuition rates. Jackson and Weather (2009) in their research evaluated seven “price sensitivity of demand” by pioneering work of estimating university education demand among potential enrollees. Results showed that cost to student is a significant variable with negative impact, but the magnitude of the price effect was found to be very small.

According to Funk (2010) one of the decisions which must be made by administrators of private institutions of university education is the amount of tuition to charge persons enrolling in the institution. This decision will affect both the number of persons who enroll and the tuition revenue received. Changes in variables other than tuition are income, trends of enrollment and tuition revenue. He is supported by Carlson (2008) who confirm that these non-tuition effects may operate in same direction or opposite direction of tuition effect. To determine the effect of a change in tuition, therefore, it is necessary to separate the tuition effect from the non-tuition effects. This effect is to be measured by computing the coefficient of price elasticity, which is defined as the percentage change in tuition. This is largely used in Japan, Australia, Russia and Turkey. See Table 2.1 below.

**Table 2.1 Relation of Coefficient of Price Elasticity to Enrolment and Tuition Revenue**

		Increase in Tuition		Decrease in Tuition	
Demand	Coefficient Price Elasticity	Enrolment Revenue		Enrolment Revenue	
Elastic	$n > 1$	Decrease	Increase	Increase	Increase
Unitary	$n = 1$	Decrease	Constant	Increase	Constant
Inelastic	$n < 1$	Decrease	Increase	Increase	Decrease

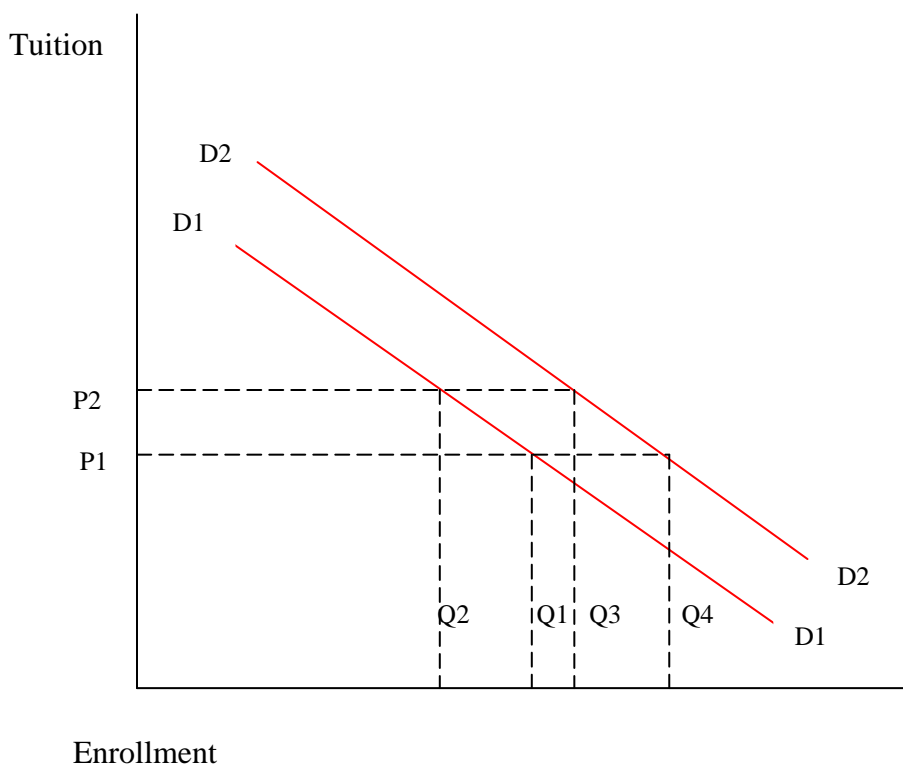
**Source:** Glenn (2010).

According to Boyes and Melvin (2010) the price elasticity of demand for a product (education) plays an important role in determining whether, and how much, suppliers (universities) raise or lowers the prices (fees) their products (programmes). When the price elasticity of demand is greater than **1**, demand is said to be elastic. When the price elasticity of demand is equal to **1**, the demand is said to be unit-elastic. When the price elasticity of demand is less than **1**, demand is said to be inelastic.

This is echoed and further expounded by Glenn (2010) who argues that if the tuition-enrollment ratio is in the elastic range of demand ( $n > 1$ ), an increase in the tuition (all variables constant) would result in a decrease in tuition of which would have the opposite effect. If the tuition- enrollment relation is inelastic range of demand ( $n < 1$ ), an increase in tuition (all variables constant) would result in a decrease in enrollment but an increase in tuition revenue while a decrease in tuition would have an opposite effect. If the demand is Unitary elastic ( $n = 1$ ), a change in tuition will affect enrollment but not tuition

revenue. To determine the effect of change in tuition revenue, therefore, it is necessary to know the numerical value of the coefficient of price elasticity as shown in Table 2.1. This is further supported by (Richard and Overton, 1990) who use a different approach of Theoretical Tuition-Enrollment (TTE) to explain the concept of price elasticity in relation to university fees. This is well illustrated in Figure 2.4 shown below:-

**Figure 8 Theoretical Tuition – Enrollment**



Enrollment

**Source:** Richard & Overton (1990).

To compare the coefficient of the price elasticity (Figure 8), it is necessary to determine the demand curve that is the relation between tuition and enrollment with all other variables constant; other variables however may change causing shifts in the demand curve (Richard and Overton, 1990). The net effect on enrollment and tuition revenue

would then be due to both the change in institution and change in non-tuition variables in time Period 1 results in an enrollment of  $Q_1$ . If tuition is increased to  $P_2$  in time period 2, enrollment would decline to  $Q_2$ , if all other variables affecting enrollment remained constant. The effect on tuition revenue would depend on the coefficient of price elasticity. He adds that if after the variable also changes shifting the demand to come to  $D_1$ ; enrollment would increase  $Q_1$  to  $Q_3$ . Tuition revenue would also increase since  $P_2 Q_3$  is greater than  $P_1 Q_1$ . If tuition had remained at  $P_1$ , enrollment would have increased from  $Q_1$  to  $Q_4$  and Tuition revenue would also have revenue from  $P_1 Q_4$ , however, should be compared with tuition revenue from  $P_2 Q_3$ . If the tuition-enrollment relationship is in the elastic range ( $n > 1$ ), tuition revenue will be greater from  $P_1$  to  $Q_4$ .

Glenn (2010) point out that apart from elasticity of demand, liquidity constraints create market imperfection. This often tends to have a greater impact on students from disadvantaged socio-economic backgrounds because access to liquidity is crucial for them and they face higher borrowing change in price. For example, if a 2% decrease in net tuition due to increase in financial aid resulted in a 1% increase in enrollment; the price elasticity of demand will be equal to approximately 0.5. A higher level of price elasticity indicates a higher level of sensitivity to changes in price. Russell (2008) supports that; the price elasticity is influenced by a variety of factors. Products requiring a larger proportion of consumer income tend to have greater elasticity. In the university education context, compared with their higher income peers low income students pay a large proportion of family income. Thus, they may have relatively higher level of price

elasticity and more elastic demand for university education while high income peers' demand is relatively inelastic. As a result, low income students tend to be more sensitive to net tuition changes through financial aid.

#### **2.4.2 Related Issues on Demand and Supply of University Education**

Newman (2010) say that policies and procedures of university education are supported by the Equal Status Bill of 1999 in Europe. This confirms that students should be allowed to freely pursue programmes or study areas, to gain access and demonstrate successful performance in university education. This is a transition to the labour market and extending opportunities for suitably qualified people, regardless of gender, ethnicity, disability or extraneous considerations. In support Newman (2010) confirm that in this regard Organization for Economic Co-operation and Development (OECD) countries classifies university education into supply-driven (e.g. the highly selection procedures in the United Kingdom and Irish Universities); Demand-driven (e.g. Italy, Germany, Belgium, Netherlands) and Student market-driven whereby the government leaves access to market forces (e.g. United States of America).

In practice, across the OECD countries, there are now strong and reasonably consistent, moves to opening up access to university education to ever wider and more diverse groups. Kaiser and DeWeert (1994) emphasizes that in these countries, the concept of equity commonly and programmatically refers to increasing opportunities for groups or categories to gain admission and to advance in respective fields and programmes of

study. He noted that, over the years there has been the establishment of a greater diversity of institutions and programmes, facilities and arrangements to meet the needs of individuals and groups previously given scant attention.

According to Skilbeck (2000) a constant factor in all member states (of the European Union) shows that access to university education have steadily increased for all socio-economic levels, but argues that it is far higher for those from high socio-economic level. This is quite supported by the responses to the European Community Memorandum on University Education of 1990 that every country agreed the need to improve the access opportunities as consequence of achieving equality and equity (Commission of European Communities, 1993). This is quite different in African countries as explained below.

## **2.5 Demand and Supply of University Education in Africa**

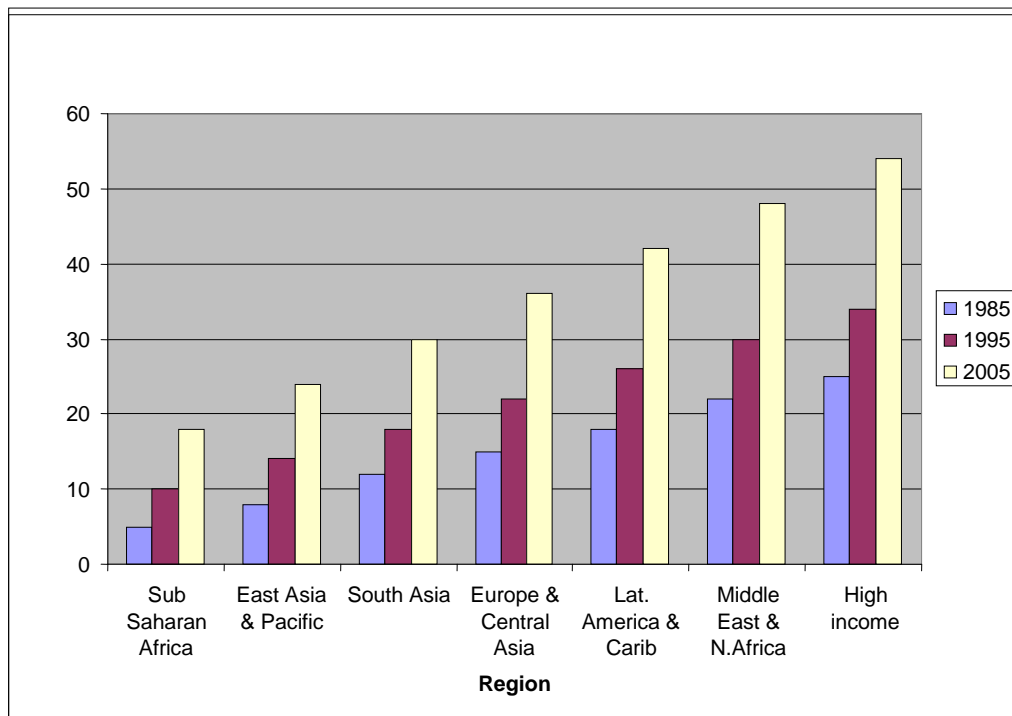
The enrolment rate in university education in Sub-Saharan Africa is very slow (UNESCO, 2004). The demand and supply of the same education is of great significance in provision of the required highly skilled manpower. The Gross Enrollment Ratio (GER) for university education for example, South Africa is 15%, Egypt is 30% and Mauritius 15.3% is highest of the top 23 countries (Otieno, 2005). In addition to low participation rates to university education, access is highly inequitable. According to Varghese (2004), the three determinants affecting inequity are gender, socio-economic status and the region. In almost all Sub-Saharan African countries, with the possible exception of Mauritius and South Africa, women have substantially lower participation rates.

Moreover where women have managed to enter university education, their participation is often concentrated in humanities and education rather than in commerce, engineering and pure science programmes.

UNESCO (2008) confirm that as a percentage of the total national income, spending on education by most countries, in the East and Southern Africa region is relatively high in a comparative sense. In most of the countries the expenditure is relatively low; this is because of the following reasons: First, funding for university education as a percentage of the governments' budget is always inadequate across-board. Secondly, where education expenditure maybe considered being adequate, there are considerable political pressures towards ensuring that elementary and secondary schooling gets the overwhelming share of the public sectors' commitment to education. Third, in many developing countries where resources are seriously constrained, there is often keen inter-sectoral competition among health, housing, social welfare, and other government functions in addition to education for financial resources. Finally, the case for increased university education financing has not been helped by the low priority to many African governments. The value of university education for economic growth and broader social and sustainable development has not yet been fully recognized by African governments.

Albrecht (1992) argue that the region's present enrollment ratio is in the same range as that of other developing regions 40 years ago. Moreover, gender disparities have traditionally been wide and remain so. Figure 2.5 below shows the low enrollment rates with overflowing demand in the light of other regions indicated (UNESCO and World Bank, 2008). It further confirms that the international development community has

encouraged African governments' relative neglect of university education. The World Bank, which exercises significant influence over developing countries, has long believed that primary and secondary schooling are more important than tertiary education for economic development.



**Figure 9 Sub- Saharan Africa falls Further Behind**

**Source:** UNESCO & World Bank (2008).

Blonquist (1986) observe that over the last two decades external development assistance on university education has significantly declined as donors focused on funding primary and secondary education. This drop began in the early 1980s when the World Bank published a series of papers that the returns to primary and secondary education were much greater. In addition, (UNESCO, 2007) note that priorities shifted towards an

emphasis on the delivery of goods and services, not long-term training. This donor perspective has shaped most of the “Sub-Saharan National Poverty Reduction Strategy Papers” that influence not only donor investment but national budgetary allocations as well. Oketch (2004) support this view by noting that this belief stemmed from two important considerations; first, repeated studies appeared to show that the returns to investment in primary and secondary education were higher than those to university education, and secondly, equity considerations favoured a strong emphasis on widespread access to basic education.

According to Okwach and Nzomo (2010) from 2000 to 2005, 17% of the World Bank’s worldwide education-sector spending was on university education. But from 2005 to 2009, the proportion allotted declined to just 7%, as the focus shifted to primary education in the wake of the Jomtien World Education Conference in 2005. These reductions in spending have severely affected university education in Africa. The average of 5% gross tertiary enrollment marks wide disparities between countries. In several countries, enrollment stood at 1% or less in 2008 (UNESCO and World Bank, 2008). In fact Oketch (2004) note that legal environment for university education in Africa varies widely because most countries keep public universities under the wing of the government. Others grant them freedom to manage their own operations and still others allow private universities to be established. He confirms that in many African countries, there are no laws governing university education, a reflection of the tendency in much of the region to neglect the issue of policy making. In such scenario, the challenges and the

problems faced by African universities will continue to haunt the continent for many years to come in relation to demand and supply. Furthermore, Otieno (2005) support that; it has been difficult for most African countries to commit significant public investment in university education due to other immediate problems and crisis that require immediate attention and resources.

## **2.6 The Demand and Supply of University Education in Kenya**

According to (Chacha, 2004) the evolution of university education in Kenya strongly was in support of the concepts of demand and supply in order to create the much needed manpower in national development before and after the colonial rule. Mwiria (2003) supports this notion by stating that Makerere University (1922) was the mother of all the Universities in East Africa. The following were established, namely; University of Nairobi (1956), Moi University(1981), Kenyatta University (1985), Egerton University (1987), Jomo Kenyatta University of Agriculture and Technology (1994), Maseno University (2000), Masinde Muliro University of Science and Technology (2007). The most salient feature of University Education in Kenya has been the rapid growth in number of institutions and enrolments. In 2013 the additional of 7 Universities have were given the chatters. The number of students increased from 1 in 1970 to about 200,000 (Ngome, 2003). According to a study by (Sifuna, 1998), the rapid expansion of university education starting from mid 1980s was never planned. Sifuna (1998) further observe the following:

*“There has been no planning in university education for a considerable length of time. The last planning effort in university education was before rapid*

*expansion started. Since then, planning was thrown in a state of confusion. University development seems to be guided by directives from sections of the ministries of Education or finance and Economic Development and the Chancellors of the Public Universities”.*

The increasing demand for higher education is also seen to have contributed to the lack of planning. Sifuna’s study (1998) also reveals the following:

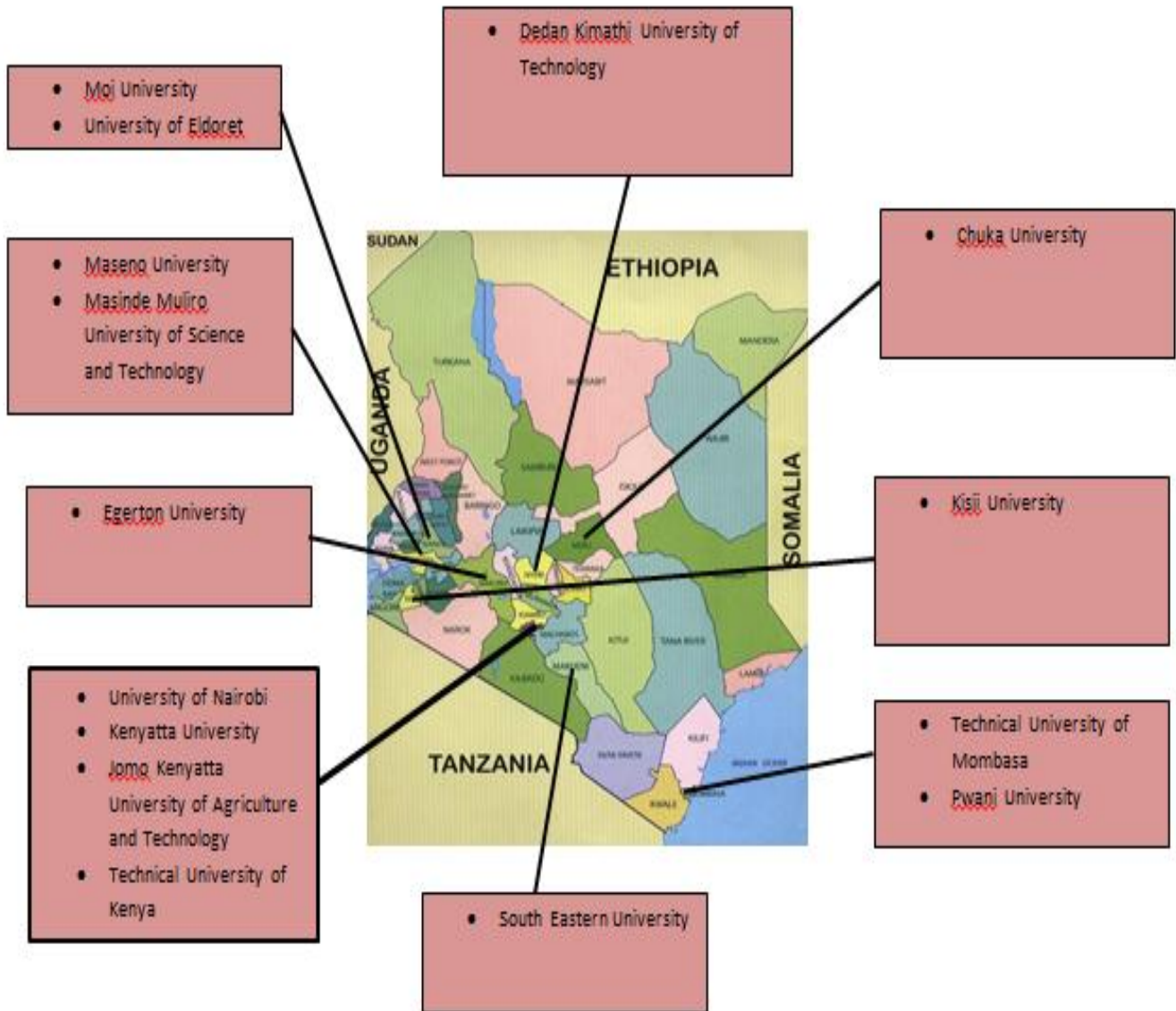
*“The rapid expansion of university education was a spontaneous response to the high demand. With the increasing large flows of students from schools, popular demand for university education increased. People seem to have put a lot of hope in university education and this appears unique in the countries of this region”.*

Chacha (2004) note that the demand for adequate places is still a problem in the wake of the expanding supply of constituent colleges and campuses. He says that by abolishing the A-level segment of education system, a situation had been created where over 200,000 applicants for university entry were available as opposed to no more than 20,000 potential applicants in the A-level system. The 1990/1991 admission process had, however, to accommodate both O-level and A-level applicants for entry in university. This further stretched the meager facilities that these institutions had in place.

Edith (2013) note that each university should specialize in their programmes as opposed to the growing trend in which most universities want to offer as many courses as they can. She advises that if a university is found to be better equipped to offer the arts than sciences and is insisting to offer science degrees, it is better to be advised to drop the

latter. But from the trend already rising, most of the universities are adamant to this change, despite of the enactment of the universities Act 2012. She continues to point out that under this Act section 68(1-2), states that a public university existing immediately before the commencement of this Act shall be deemed to be a university established under this Act and shall take the steps prescribed under this Act to obtain a charter within a period of one year after such commencement. The charter shall be subject to and construed in accordance with the provision of the Act. This is a strong affirmation of quality, efficiency and accountability. This is supported by (Mugambi, 2013) who note that expansion of university education in Kenya can only be productive in the long run if planned well, in line with the needs of middle level education which must always complement, but not excluded. He continues to say that the whole scenario boils down to, is that there are self-inflicted gaps in the provision of middle level education which the government and all concerned stakeholders must wake up to, and address. This is a clear indication that the government ought to move with speed and arrest the situation where growth in middle level training seems to lack any planning. The figure 10 below shows the public universities and some constituent colleges.

**Figure 10 Public Universities in Kenya, 2013**



**Source:** Researcher, 2013.

According to Oketch (2004) over the last four decades the social demands with respect to university education in Kenya have clearly intensified. This has been exemplified by the rise in enrollments in public and private universities, the proliferation of more private universities and the establishment of private wings (Self-sponsored programmes) in the public universities. The student enrolment in public universities in Kenya increased very rapidly between 1994 to date, with the current student enrolment in Kenya's universities standing roughly over 70,000. With the additional students in the parallel degree programmes, the numbers are much higher.

Edith (2013) observe that the enactment of the Universities Bill (2012) has opened the doors for the expansion of university education. Unfortunately this expansion has not matched the growth of the basic level, which then explains the reasons why the government has embarked on a race to upgrade and set up more universities. A critical point is resources in terms of human and capital that are core to provision of quality education.

### **2.6.1 Private Universities in Kenya**

Otieno (2005) note that private universities in Kenya have increased tremendously in the last two decades. By 1984, ten (10) privately funded institutions offering university level education had been established by the Commission of University Education (CUE). Edith (2013) note that the number of private universities increased to 12 in 1995 and about 30 in 2013. According to Mugenda (2009) the distribution of these universities is strongly

rooted in Nairobi; it hosts over 24 privately owned universities out of about 30 universities. This leaves the rest of the private universities unevenly distributed in other regions of Kenya. Varghese (2004) confirm that private universities do not contribute to the weakening of public universities but to absorb the excess social demand for university education which cannot be satisfied by the public universities. They rely heavily on part-time teachers drawn mainly from public universities.

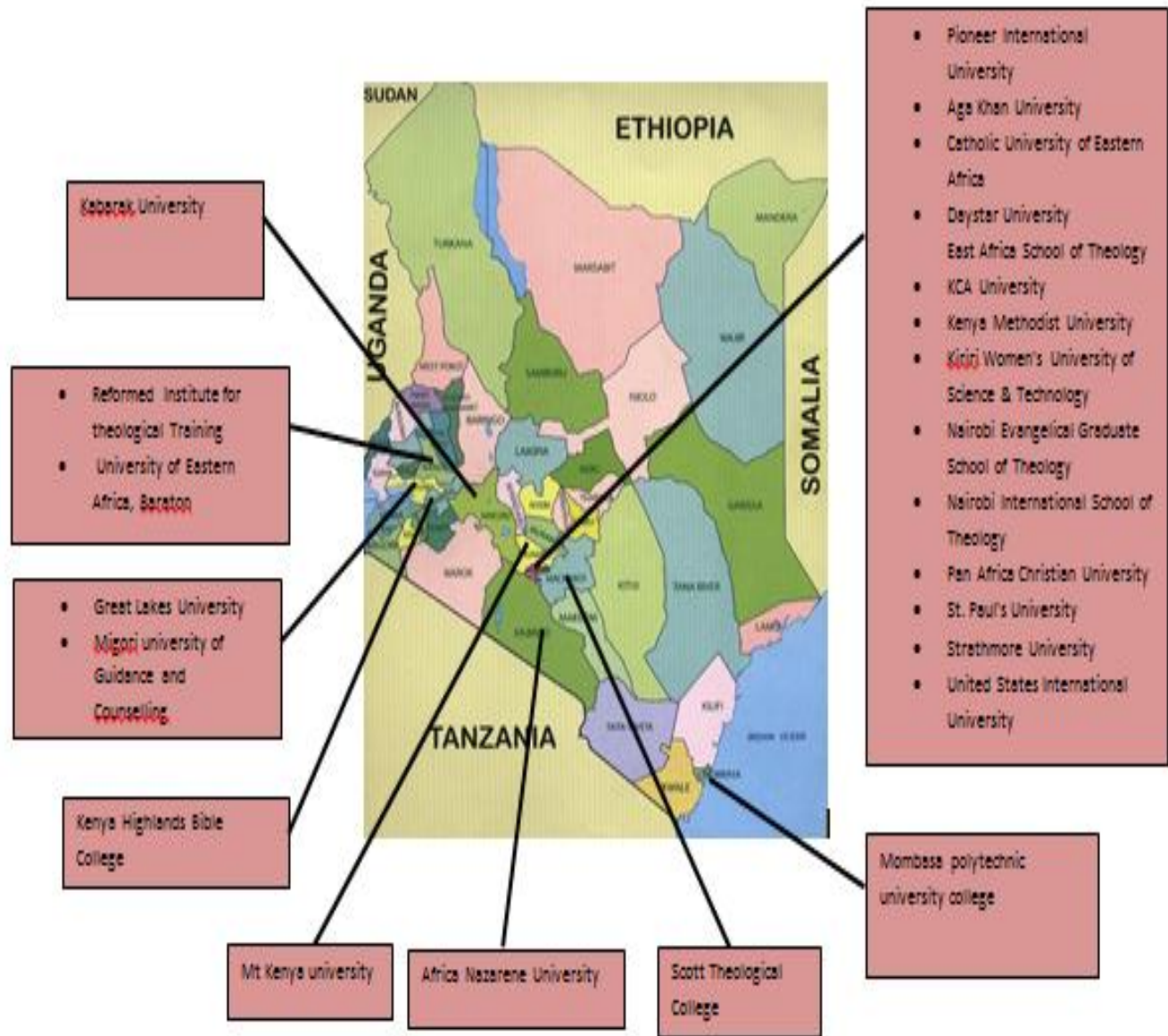
Ngome (2003) further observe that the growth of private universities sector in Kenya has been fuelled by several factors like, (a) the limited opportunities available in public universities (b) constant closures of state funded universities (c) the need to complement government-managed university education institutions of learning (d) the determination by religious organizations to open higher education institutions for their followers and (e) the fluctuation of JAB intake cut-off points. The most leading private universities generate substantial income from students' fees.

Teferra and Knight (2008) say that as profit making institutions, the fee is charged strictly in accordance with market forces on the basis of full-cost recovery. In relation to supply and demand of university education, the private universities are divided in three major categories; (a) Chartered Universities-fully accredited by Commission for University Education (*CUE*), (b) Universities with Letters of Interim Authority, and (c) Universities with the Certificate of Registration. Edith (2013) emphasize that local universities, both public and private will now be on the same playing ground. They need to ensure quality

for in order to have top notch higher learning education. She noted that section 3(2) of the Universities Act 2012 states that in the discharge of its duties a university shall be guided by the national values and principles of governance set out in Article 10 of the Constitution. She further notes that the law goes on to specify “quality” and “relevance” of programmes offered as some of the basic requirements that a university must fulfill.

Edith (2013) also note that demand for university education has soared in Kenya as more school-leavers dash for university study to enhance their chances of market labour. It is this sharp rise in demand that has contributed to rushed expansion of learning institutions in some instances. This has led to financially able students to shy away from our Kenyan universities, opting to chase quality abroad. The available government statistics shows that the number of Kenyans issued with study visas has indeed been rising over the years. For example, the three top destinations namely Britain, USA, and Australia have issued with more than 7,000 visas to students in 2009 compared to just over 6,000 in 2008 (Oriwa, 2013). See Figure 11 below showing private universities in Kenya.

**Figure 11 Private Universities in Kenya 2013**



**Source:** Researcher, 2013.

## **2.7 Salient Issues Facing University Education in Kenya**

### **2.7.1 Commission for University Education**

Chacha (2004) confirm that the Commission for Higher Education (CHE) was established by the University Act Cap 21(b) in 1985. CHE comprises 27 commissioners and is headed by the Commission Secretary as chief executive. Members of the commission are appointed mainly from the universities on the basis of their experience in university education. According to the new Universities Act 2012 in the Constitution the title changed to Commission for University Education (CUE).

The functions of CUE are basically to ascertain the adequacy and appropriateness of the physical, human and financial resources in university institutions in the country. The Commission also evaluates the academic programmes as well as the structures of governance. Under the Act, the functions of the Commission are related to university planning, budgeting and financing. In short, it is to ensure effective establishment in university education to meet the required demand and supply. The Commission assures quality, ensures increased access and equity and coordinates research (Chacha, 2004). According to Edith (2013) to be satisfied as a quality education provider under the Universities Act of 2012, universities will go through more elaborate evaluation involving the Kenya Bureau of Standards (KEBS).

From policy perspective, (Chacha, 2004) point out that issues of quality, relevance and employments are compounded by confused state of legislation governing universities.

Each public university has its own act, dating, back to its date of foundation. But they are also affected by numerous pieces of sectoral legislation. This creates a situation in which the Ministry of Education is not the sole institution of government responsibility for all matters of university education.

This view is supported by (Sifuna, 1998) who argue that, this has led to different methods of accreditation and programme certification. Attempts by the CUE to rationalize post-secondary education, its central mandate, were met with widespread resistance from the public universities, with the result that it tended to confine itself to the registration and certification of private ones. In relation to this, the cut-points determining admissions to public universities has been a bone of contention for many years. The other predicament is explained below Table 2.4 in relation to the aspect of staffing in the wake of rapid expansion demand and supply of university education in Kenya.

According to Siringi (2013) university education has gone through massive expansion in the past decade ostensibly due to the rising demand of school leavers and the economic realities of our times. Generally, enrolment has risen dramatically across all levels of education, more so following the introduction of government subsidies at the primary and secondary school levels. For example, enrolment at primary school level rose from 5.9 million in 2002 to 9.6 million in 2012; secondary from 600,000 to 1.6 million and university, from 60,000 to 200,000. Statistically, this is quite impressive, but it has come at a cost.

Siringi (2013) observe that at university level, for example, there is severe staff shortage yet students' population is increasing. This raises the fundamental question about the quality of learning. For the 160,000 students enrolled in the long-established seven public universities, there are only 5,186 lecturers, meaning one lecturer for 70 students. Yet international standards provide for the ratio of 1:30 for humanities and 1:25 for sciences.

He further note that, an even more difficult challenge is the short-age of professors to teach post-graduate courses, which are increasingly attracting many students. At Kenyatta University, for example, there are only 27 professors against 61,928 students (Table 2.4) above. He notes that, matters are worse for the newly-established universities, as they cannot attract qualified lecturers, let alone professors. The main reason for this state of affairs is the low package and lack of facilities, which make university teaching unattractive.

Siringi (2013) confirm that parallel degree programmes that were introduced in the 1990s have brought in additional income, but have raised enrolment and compromised quality. Time is now to explore viable options to fund universities so that they can attract top notch scholars and offer sufficient learning inputs to remain centres of academic excellence.

### **2.7.2 Access and Equity of University Education in Kenya**

With overcrowding that currently exists in Kenyan universities, (Kabiru, 2007) note with concern that it will undoubtedly be hard to cater for the additional students. The admission standards are closely related to access and equity. It is evident that the enrolment into public universities was comparatively low to what it is now. It is also evident that the differences in enrolment by gender were higher than what they are today. In 2010 the enrolments to public universities raised to approximately 20,000 Joint Admissions Board (JAB) students.

The total enrollment in all universities rose to 44.7 percent from 122,847 students in 2008/2009 to 177,735 students in 2009/2010 academic year. Enrollment in public universities increased from 100,649 students in the 2008/2009 academic year to 142,556 students in 2009/10 (GoK, 2010). In 2009/10, the male and female enrollment in public universities was 89,611 and 52,945, respectively. Part-time students in public universities constituted 32.0 percent of the total student enrollment in 2009/10 academic year. Student enrolment in private universities accounted for 19.8 percent of the total university students enrolled in 2009/10 academic year as compared to 18.1 percent of the total university students enrolled in 2008/9 academic year (Government of Kenya, 2010).

According to Government of Kenya (2010) public universities student intake through the Joint admission Board (JAB) increased by 23.4 percent from 17,100 in 2008/2009 to 21,100 in 2009/10 academic year. The increased intake was attributed to the

establishment of constituent colleges which significantly increased access to university education.

The Report further points out that, the proportion of female student enrolment in university education declined from 40.1 percent in 2008/2009 to 37.9 percent in 2009/10. To enhance female enrolments JAB has an affirmative policy of admitting female students with a point lower than their female counterparts. However, the gender disparity in university education enrolment remains high with a gender parity index of **0.61** based on student enrollment.

According to Government of Kenya (2012), student enrolment by gender in Public and Private Universities between 2007/08 and 2011/12 academic years is depicted in Table 2.2. During the 2011/12 academic year, there was double intake of students who sat KCSE in 2009 and 2010. The overall enrolment in all the universities increased by 11.6 per cent from 117,618 in 2010/11 to 198,260 in 2011/12. Over the same period, total female enrolment in all the universities grew by 15.3 per cent compared to male enrolment of 9.3 percent. Though there is a positive indication of increased enrolment still majority of potential students are left out, some join but subsequently drop out, the facilities are inadequate and qualities are compromised. See Table 2.2 below.

**Table 2.2 Enrolment by Gender in the Universities, 2007/2008—2011/12**

Institution	2007/2008		2008/2009		2009/2010		2010/2011		2011/2012	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
<b>Public Universities</b>										
Nairobi	23,513	12,826	21,162	13,253	27,159	15,201	31,237	18,127	27,084	17,219
Kenyatta	10,172	8,425	10,652	8,713	15,615	10,876	18,739	13,795	21,328	15,892
Moi	8,674	6,158	8,982	6,379	11,600	6,699	11,963	9,143	14,124	11,409
Egerton	8,362	4,205	8,667	4,415	9,036	4,451	6,095	4,453	7,050	5,095
JKUAT	5,450	2,512	5,723	2,594	6,510	3,206	6,697	2,713	9,818	4,119
Maseno	3,487	2,199	3,603	2,257	3,331	2,176	3,400	1,927	2,809	1,742
MMUST	946	287	965	284	4,119	2,584	4,142	2,320	10,958	6,402
Kenya PolyU	-	-	-	-	6,711	4,211	850	135	187	642
MSA PolyU	-	-	-	-	3,520	3,341	2,878	1,226	1,000	1,038
<b>SUB-TOTAL</b>	<b>60,504</b>	<b>36,603</b>	<b>62,753</b>	<b>37,896</b>	<b>89,611</b>	<b>52,945</b>	<b>85,931</b>	<b>53,839</b>	<b>94,358</b>	<b>63,558</b>
Private Accredited	9,688	10,469	10,172	10,992	16,728	12,300	17,764	13,763	18,864	14,575
Private Unaccredited	583	392	618	416	3,989	2,162	4,228	2,292	4,478	2,427
<b>SUB-TOTAL</b>	<b>10,271</b>	<b>10,861</b>	<b>10,790</b>	<b>11,408</b>	<b>20,717</b>	<b>14,462</b>	<b>21,793</b>	<b>16,055</b>	<b>23,342</b>	<b>17,002</b>
<b>TOTAL</b>	<b>70,775</b>	<b>47,464</b>	<b>73,543</b>	<b>49,304</b>	<b>110,328</b>	<b>67,407</b>	<b>107,724</b>	<b>69,894</b>	<b>117,700</b>	<b>80,560</b>
<b>GRAND-TOTAL</b>	<b>118,239</b>		<b>122,847</b>		<b>177,735</b>		<b>177,618</b>		<b>198,260</b>	

**Source:** Economic Survey, 2012.

In his study Bacchus (1992) confirm that participation in university education is an important element in policies to increase national categorization and representation of traditionally disadvantaged groups in economic and political leadership. The strategies must be multi-faceted if they are to be effective in increasing the representation of women, ethnic minorities, students from low-income families, and other economically disadvantaged groups.

Notwithstanding the expansion in the past several years, (Ngome, 2003) affirm that the capacity of the university education sector in Kenya is still limited and accommodates only 7.5% of students graduating from secondary schools, and 2% of the expected age cohort. Chacha (2004) support by saying that between 1990 and 2000 was reported that 180,000 of the students who attained the minimum entry qualification failed to gain admission to public universities. The World Bank noted that in 1991-92, participation in undergraduate programmes per 100,000 people stood at 158 and 8 for public and private institutions respectively.

Bray (1990) emphasize that to ensure that expansion also takes account of economically disadvantaged and other marginalized groups; affirmative action programmes must be strengthened. The government support in the current practice of permitting the admission to the public universities of female students with slightly lower grades than the favoured counterparts is yet to be realized. Otieno (2005) say that the efforts of helping needy students through Higher Education Loans Board (HELB), bursary, work-study and scholarships programmes are all marred by nepotism and tribalism. Mwiria (2003) emphasize that more students are likely to benefit from university education loan support if the system of evaluating who benefits from loans is reviewed. This will lead to a situation in which students able to pay for their education are noted, and the surplus income being used to benefit a greater number of economically disadvantaged students.

According to Chacha (2004), the university enrolment ratio of 4% is still very low by global standards and huge investments are required to increase enrolment ratio. For example, out of 100 adults in the university age-group, 69 are enrolled in university education programmes in North America and Europe, compared to 3 in Kenya and 10 in South and West Asia as supported by (UNESCO, 2006). In an attempt to reduce the problem of access, the public universities are opening up their doors to other students under private sponsorship (commonly referred to as the parallel degree programme or Module II).

He further confirm that this programme has enabled these institutions to generate some extra funds to meet recurrent and development expenditures. The Kenya Human Development Report of 2005 shows that the national education attainment index stood at 0.667. Coast, Eastern and North-Eastern regions are ranked below the national average. Disparities in achievement levels in secondary education have also compounded geographical disparities because well-endowed counties have better secondary schools than poor counties. According to Otieno (2004) acute disparities in university education are also noticed in gender equity, mature age/part-time students and people with disability.

### **2.7.3 Financing University Education in Kenya**

According to Otieno and Levy (2007) the Government spends up to 0.9 percent of its Gross Domestic Product (GDP) and about 12.0 percent of its huge education budget of above Kshs. 86 billion to cover the costs of universities education. The government also

spends 7 percent of its GDP to fund education in general. However, university education sector is still grossly underfunded. Chacha (2004) argue that access to university has seriously been distorted by the policy of reducing dependence on the government for funding. 45 percent of the students enrolled in public universities pay a full tuition fee that is over 10 times the Gross National Index (GNI) per capita of Kenya. This implies that highly qualified students from needy backgrounds are denied access at the expense of less qualified students who can afford to pay the full fees. However, the funds allocated for development expenditure have been very low in comparison with those provided for operational costs.

Olembo (1985) note that, as a result the, public universities have therefore, been under pressure to strategize, and possibly look for extra sources of financing including establishing income-generating activities. The effect is that the universities are forced to spend much time planning and executing programmes that will generate financial resources thereby failing to focus on the core functions of teaching, research and outreach. Generally, public investment in the university sub-sector has not kept pace with the growth in enrolments therefore affecting the demand and supply of university education.

Oketch (2004) emphasize that, the cost-sharing system in Kenyan university education was introduced in 1991 as a response to the ever-declining state budget, which did not keep pace with the high student enrolments. Instead the scheme requires students or their guardians to cover both tuition and other costs of maintenance and this affected demand

for enrollments up to date. This is supported by Ngome (2003), who noted that, at the moment each student pays approximately Kshs.120,000 which cannot sufficiently meet costs of fees, accommodation, and equipment. This brings about poor re-creation that affects quality of university education. Conversely Otieno (2005) point out that the parallel degree programmes are popular but they attract only those students who can afford to pay the full fees. For example, annual tuition fees for a parallel degree course in medicine are US \$6,000.00, while that on a general degree course (Arts) is US \$2,400.00. Regular students pay about US \$ 800.00 per year including accommodation.

According to Government of Kenya (2012) the total development expenditure for the Ministry of Higher Education Science and Technology and Youth Affairs and Sports rose by 15.4 per cent which was lower than 28.9 per cent recorded in 2010/11. The development budget for university education is expected to more than double from KSh. 3.0 billion in 2011/12 to KSh 7.4 billion in 2011/12. The increase in development expenditure could be attributed to the expected double intake by the universities. The development expenditure on youth polytechnics and training is expected to decrease significantly by 19.4 per cent from KSh 1,957.8 million/in 2010/11 to KSh1,578.0 million in 2011/12.

## **2.7 Summary and Gaps identified**

The literature review revealed that demand and supply of educational opportunities are growing across many developed countries in terms of participation in post-compulsory education and university education. They have immensely successful as far as the management and development of university is concerned. This is clearly indicated in both

empirical and theoretical research used in this research study in order to identify the gaps (Oliviera, 2007; Karmel, 2007; Chapman, 2008; Carlson, 2008).

The literature review also reveals that in Africa and not leaving behind Kenya is where the challenges of demand and supply of university education are many. This is due to inefficient management of this sector because of social, economic and political factors experienced in this continent (Sirngi, 2013; Teferra and Knight, 2008). Despite the challenges noted in university education in Kenya, it is evident that there are multiple opportunities as well. Even more significant is the fact that university education is growing tremendously as noted through both the public and private universities. The numbers of potential students is steadily increasing due to population growth. This is manifested in higher rates of primary school completion and recognition of positive gains to be realized from progressing to and completing secondary and tertiary level programmes.

The researcher did not come across studies that looked at the determinants of the trend of demand for and supply of university education in Kenya. Most of the studies conducted concentrated on variable like, policies, costs, demography of students, enrollments, facilities to name but a few. This means that there is lack of empirical data on determinants of demand and supply of university education in Kenya. To fill this literature gap, the study sought to critically assess the determinants of the trend of demand for and supply of university education in Kenya.

## **CHAPTER THREE**

### **RESEARCH DESIGN AND METHODOLOGY**

#### **3.1 Introduction**

This section dealt with various procedures and strategies that were useful in the study. It focused on research design, study locale, target population, sample and sampling techniques, data collection instruments, piloting, validity, reliability, data collection procedures, data analysis and Logistical and Ethical Consideration.

#### **3.2 Research Design**

The study employed a descriptive survey research design to assess the determinants affecting the trend of demand and supply of university education in Kenya. Kombo and Tromp (2006) observe that before much progress can be made in solving educational problems, descriptive phenomena must be obtained by means of descriptive research. This design was suitable for this research because it was intended to produce statistical information about aspects of education in this case the determinants affecting the trend of demand and supply of university education that interested policy makers and educators.

A descriptive survey research involves acquiring information about one or more groups of people and perhaps about their characteristics, opinions, attitudes, or previous experiences and by asking questions and tabulating their answers. In other words, the researcher poses a series of questions to willing participants; summarizes their responses with percentages, frequency counts, or more sophisticated statistical indexes; and then draws a relationship about a particular population from the responses of the sample.

This study allowed the researcher to use instruments like questionnaires and interview schedules. The data was gathered from four public and three private universities through administration of two types instruments to a cross-section of respondents drawn from Ministry of Higher Education, Commission for University Education, Joint Admissions Board, and university students. The two broad variables for this study were demand and supply. Qualitative and quantitative data analysis methods were used.

Statistical methods like graphs, tables, and pie-charts were employed in trying to summarize the independent and dependent variables in order to understand the relationship between the variables. This helped in analyzing data to arrive at results which were interpreted to give meaning to the study. This design was not only used for fact findings, but often resulted in the formulation of important principles of knowledge and solution to significant challenges in relation to determinants of demand and supply of university education. In a nut shell the design involved measurement, classification, analysis, comparison and interpretation of data.

### **3.3 Location of the Study**

The study was conducted in four public universities and three private universities. Lovel & Lawson (1970) observe that the ideal settings for any study are one that is directly related to the researchers' interests.

The researcher not only selected these universities because of the vast experience and knowledge of the selected universities but also because they represent the two categories

of universities, that is public and private universities in all manner of characteristics especially enrolment trends. This made it easier for the researcher to undertake his research at a reasonable cost since the whole exercise was self-sponsored. The following locations of universities were used to collect the data intended for the study:-

Kenyatta University (KU) is located 16 kilometers from Nairobi City along the Nairobi-Thika super highway in Nairobi County. Second, Catholic University of East Africa (CUEA) is located 12 kilometers from Nairobi City and 1km off Langata-Karen road in Nairobi County. Kenya Methodist University (KEMU) is located seven kilometers from Meru town in Meru County. Baraton University (UEAB) is located in the outskirts of Eldoret town.. Pwani University (PU) is located in Kilifi County. Masinde Muliro University of Science and Technology (MMUST) is located in Kakamega Town in Kakamega County. Jomo Kenyatta University of Agriculture and Technology (JKUAT) is located in Juja centre in Kiambu County. The seven universities offer varieties of programmes ranging from certificates to doctorate levels in various disciplines.

### **3.4 Target Population**

The target population was derived from 7 public universities and 3 private universities. Kombo and Tromp (2006) observe that population refers to entire group of persons, or elements that have at least one thing in common.

This population comprised of university administrators, university students (all from both public and private universities), government agents (Ministry of Higher Education and

Commission for University Education) and Informed Specialists (Senior lecturers). The total target population for this study was 1,577 as shown in table 3.1.

### **3.5 Sampling Techniques and Sample Size**

This section presents the sampling techniques that were adopted in this study. Such techniques have been identified, explained and their choice for this study justified. At the same time, the section has presented the sample size and more so, how it was arrived at.

#### **3.5.1 Sampling Techniques**

Out of the two categories of (31 Universities-Public and Private) the researcher used purposive sampling to get four public universities where KU and JKUAT were selected because they are among the first three oldest universities in Kenya while Pwani University and MMUST are relatively new and so they provide a wide range of characteristics through which the objectives of the study can be explored. As for the case of private universities, the same idea applied where CUEA and UEAB were purposively selected since they are among the oldest private universities in Kenya while KEMU is fairly new and this gives a whole mix of characteristics that enriched the nature of exploration done. Nonetheless, simple random sampling was used in sampling the University administrators, University students, Government Agents (Commission for University Education and Ministry of Higher Education) and Informed Specialists. Therefore the overall sampling technique for the research study was purposive sampling and simple random sampling. A total of 7 Universities were used in this study.

### 3.5.2 Sample Size

Orodho (2009) postulate that due to limitations in time, funds and energy, a study can be carried out from a carefully selected sample to represent the entire population. Mugenda and Mugenda (2003) observe that in most social science research studies, a sample study of at least 30% of the population is a good representation. Therefore the study used above 30% of every category of population selected as shown in table 3.1. Out of 49 University administrators 21 were sampled, out of 1,500 University students 500 were sampled, out of 140 Government Officials (Ministry of Higher Education and Commission for University Education) 60 were sampled and out of 28 Informed Specialists 14 were sampled. The sample size computation was shown in Table 3.1 and table 3.2 below.

**Table 3.1 Computation of Sample Size in Public & Private Universities**

No.	Category	Target Population in Universities	Sample Size (N) in Universities	%	Sampling error
1.	University Administrators	49	21	43	0.0392
2.	University Students	1,500	500	33	0.0399
3.	Informed Specialists	28	14	50	0.0386
	<b>Totals</b>	1,577	<b>535</b>	34	

**Source:** Researcher, 2013.

**Table 3.2 Computation of Sample Size of (MHE &CUE)**

	Category	Target Population (N)	Sample Size (N)	%	Sampling error
1.	Ministry of Higher Education Officials	80	30	38	0.0395
2.	Commission for University Education	60	30	50	0.0774
	<b>Totals</b>	140	<b>60</b>	<b>43</b>	

**Source:** Researcher, 2013.

Therefore, the total sample size from Tables 3.1 and 3.2 (535+60) for this study were **595** respondents which was (34% + 43%) divide by 2 (average percentage) was 38.5% of the total population for this study.

To calculate sampling error the study used the following formula shown below:

$$n = \frac{N}{1 + N (e)}$$

Where,  $n$  is the sample size,  $N$  is the population,  $e$  is the sampling error/level of precision (Shiundu, 2004).

Using the formula above, and taking the sampling error to be 0.05, the sampling error for each category was as follows:-

- i) University Administrators 0.0392 from sample size of 21.
- ii) University students 0.0399 from sample size of 500.
- iii) Informed Specialists 0.0386 from sample size of 14.
- iv) Ministry of Higher Education 0.0395 from sample size of 30.
- v) Commission for University Education 0.0774 from sample size of 30.

According to Shiundu (2004) sampling “error” decreases as the sample increases and vice-versa. He further points out that when the sample is equal to population then the sample error will be zero. In this case the samples used in this research study were reasonable enough to make deductions in relation to the collected and analyzed data. The relationship between population characteristics and sample size showed that the sample size was adequate to be used to represent the entire population for this study.

### **3.6 Research Instruments**

The study used the following:-

#### **3.6.1 Questionnaires**

The questionnaires were important for this purpose in order to obtain comparable responses. According to Kombo and Tromp (2006) the questionnaire measures likelihood of straight, even and blunt answers. This was superior to an interview because social communion operates strongly in a face of a situation that may prevent the person from expressing what he feels to be socially or professionally unacceptable views. The questionnaires contained both closed and open items. This tool was used to collect data

from two main categories of respondents: University administrators and the students from both public and private universities.

### **3.6.2 Questionnaire for University Administrators**

This instrument was structured to seek information on the four objectives of this research study. It contained both closed-ended and open-ended items, contingency questions and matrix questions. This is shown in **Appendix I**.

### **3.6.3 Questionnaire for University Students (Public and Private)**

This instrument was designed to stratify respondents in relation to students in different categories. For example, full-time, part-time (self-sponsored) Joint Admissions Board students (JAB). The instrument covered the four objectives. It contained both closed-ended and open-ended items, contingency questions and matrix questions. These students gave data on pertinent issues like financial, sustenance, viability of programmes, challenges they were facing in terms of university education. This is shown in **Appendix II**.

### **3.6.4 Interview Schedules**

According to (Orodho, 2009), an interview is an oral administration of getting responses. In this study the interview questions were used in order to collect data on all the four objectives of the study. Open ended (unstructured) questions were used. They were used as guides with a general plan that the interviewer followed to collect data. Because of the open nature of unstructured interviews probing was commonly used to get deeper

information. They were used to collect information from government officials including those from the Ministry of Higher Education (MHE) and Commission for University Education (CUE) as well as informed specialists (senior university lecturers). This is shown in Appendix **III** and **IV**.

### **3.7 Validity of Instruments**

Content validity of the research instruments was initiated at the design stage, as instrumentation is a major threat to internal validity. Kombo and Tromp (2006) emphasize that validity is the degree to which results obtained from the analysis of the data actually represent the phenomenon under study. In this case the validity of the content of the study was sorted out. The research instruments were able to depict what they were measuring and what was supposed to measure. Therefore, for the purpose of this study, the experts in educational planning studies and the research methodology (at least two senior lecturers) were sought after, to determine the relevance of the content used in the questionnaires. Essentially validity in the above context was concerned with the establishing whether the questionnaires content measured what it was supposed to measure. It was also pointed out that the conditions applied to pre-testing also applied to the actual study.

### **3.8 Reliability of Instruments**

The reliability of the study was able to address the similarity of the results through repeated trials. Kombo and Tromp (2006) say that reliability is a measure to which a research instrument yields consistent results or data after repeated trials. The responses

were analyzed after which two-week period was allowed to pass before the same treatment applied to the same respondents and analysis done. The results were recorded accordingly by the researcher. The Pearson Product-Moment Correlation Coefficient formula given below was used to calculate the correlation coefficient in which: the (X) values were the data points that was number of respondents of corresponding questions for the first trial and the (Y) values were data points obtained in the second trial. A Correlation Coefficient of +0.68 was obtained for university administrators questionnaire and +0.72 for the university student questionnaire which indicated a perfect relationship between the first and second results. The following formula shown below was used. From these results the instruments were reliable which is within the range of acceptable level of range is between +1 and -1 (Shiundu, 2004).

$$R = \frac{\sum XY - \frac{(\sum X)(\sum Y)}{n}}{\sqrt{\left(\sum X^2 - \frac{(\sum X)^2}{n}\right) \left(\sum Y^2 - \frac{(\sum Y)^2}{n}\right)}}$$

Where:  $\sum XY$  = Sum of the gross products of the values of variables X and Y

$(\sum X)(\sum Y)$  = Product of the sum of X and the sum of Y

$\sum$  = Sigma (meaning sum of) sum of the values obtained in piloting

$\sum X^2$  = Sum of squared values of X

$\sum Y^2$  = Sum of squared values of Y (Shiundu, 2004).

### **3.9 Piloting of Research Instruments.**

Questionnaires, interview schedules were piloted in at least two Universities for the study. The piloting ensured clarity and sustainability of the language used. According to Orodho (2009) pilot study is a mini experiment designed to test logistics and gather information prior to a larger study, in order to improve the latter's quality and efficiency. The purpose of this pre-testing assisted to find out any weaknesses that were contained in the instruments. The piloting also determined whether the instruments were reliable and valid. For the purpose of this study, two respondents from each from both public and private universities were selected. Two respondents each from CUE, MHE and informed specialists were also selected for piloting through purposive sampling. The results showed that the instruments were reliable and valid.

### **3.10 Data Collection Procedure**

The sample for this study was 595 respondents sampled from the four public universities and three private universities. They were sampled from thirty-one Universities in Kenya. The respondents comprised of University administrators (DVCs and Registrars Academic) in public and private universities. Government Agents (MHE and CUE), Informed Specialists (Senior lecturers) and students (Public and Private Universities).

First, permission was sought to conduct the research from the Ministry of Higher Education Science and Technology through the Permanent Secretary. In Kenyatta University the following were consulted, namely; Department of Educational

Management, Policy and Curriculum Studies, Graduate School, Bureau of Research Directorate and the Vice-Chancellor's consent.

Therefore, appointments were made, through letters, telephone or seeking audience to the relevant officers in the Ministry of Higher Education (MHE) the Commission for University Education (CUE), University administrators and Informed Specialists to seek for their availability for easy collection of the data. The interviews scheduled were carried out by the researcher himself all through and the results recorded. All the questionnaires were given out and later collected and brought back for the preparation on final data analysis.

Second, the readiness of research instrument was very crucial. Therefore it was very important to make sure that the research instruments were completed and readily available. The questionnaires, the interview schedules were error free.

Third, the data was defined; in this case it was important to make preparations to collect the relevant data as per the study. The 4 research assistants were recruited from each university and inducted for one day. This made them understand the research problem and the methodology, including how to administer the instruments. Then the researcher distributed the questionnaires during the normal sessions of the studies in sampled seven universities.

Piloting was an important prerequisite as mentioned previously. Therefore it was important that before data collection, all the instruments were pre-tested. This helped to ascertain if the selected questions were answering what they were supposed to measure.

### **3.11 Methods of Data Analysis**

Data analysis refers to examining what has been collected in survey or experiment and making decisions. It involves uncovering underlying structures; extracting important variables, detecting any anomalies and testing any underlying assumptions (Orodho, 2008). The study used both qualitative and quantitative data analysis methods. These were used in this research study as explained below.

#### **i) Objective One**

This was analyzed using both qualitative and quantitative analysis methods. In relation to objective one these are some of the issues on which data was collected and analyzed; for example (i) Types and number of programmes that are offered in the universities (ii) University participation in industrial attachment (iii) Level of practicals (iv) comparison of disciplines in universities (vi) Research and innovation (vii) Projections on manpower. Data was collected analyzed through calculation of percentages of which statistical presentation of the information used were the pie-charts, frequency tables and graphs. This was chiefly quantitative and in describing issues of the outcome the research also used qualitative method. The responses were collected and analyzed from questionnaires which were distributed to university administrators and university students all were sampled from both public and private universities.

## **ii) Objective Two**

This was analyzed using both qualitative and quantitative analysis methods. In relation to objective two these are some of the issues on which data was collected and analyzed; for example (i) Prices of programmes (ii) Attitudes to prices (iii) Personal disposable incomes (iv) Benefits accrued from education by individual and government (iv) effects of population on demand of education.

Data was collected analyzed through calculation of percentages of which statistical presentation of the information used were the pie-charts, frequency tables and graphs. This was chiefly quantitative and in describing issues of the outcome the research also used qualitative method. The responses were collected and analyzed from questionnaires which were distributed to university administrators and university students all were sampled from both public and private universities.

## **iii) Objective Three**

This was analyzed using both qualitative and quantitative analysis methods. In relation to objective one these are some of the issues on which data was collected and analyzed; for example (i) other challenges of university education-the analyzed data was used to present the results in a comparative graph. The issues on where data was collected were presented in frequency tables, normal graphs and pie-charts. The method of data analysis used here was quantitative and to lesser extent qualitative. The responses were collected and analyzed from questionnaires which were distributed to university administrators and university students all were sampled from both public and private universities.

#### **iv) Objective Four**

This objective was to give various views on developing strategies associate with demand and supply of university education. The data collected was compiled and critically discussed using themes in a reported form. The items that were used were open-ended. Interview schedules for CUE officials and MHE were also reported using the same method which is qualitative analysis.

### **3.12 Logistical and Ethical Considerations**

#### **3.12.1 Logistical Considerations**

The research involved a lot of funds in terms of making trips to the selected universities in Kenya and also in terms of printing, typing binding, consultation, photocopying. In such circumstances it was advisable to tighten the budget in order to maximize the expenditure without distorting the whole exercise. Therefore, the researcher introduced wisely cost-saving measures to be precise. The factor of time was very crucial since the distances between the selected Universities was great which consumed a lot of time to cover all the Counties. It was advisable for the researcher to make prior arrangements for faster and efficient means of accessing the areas especially on the selected areas only. The scope of this study did not allow for 100% collection of data. This was because of the massive population of the potential respondents. Therefore, in this case simple random sampling was widely used by the researcher to collect data for inferential purposes.

### **3.12.2 Ethical Considerations**

Since the researcher appeared to invade these universities privacy, the researcher did not subject the respondents to situations harmful or uncomfortable to participants. The participation in research was voluntary and people had the right to refuse or divulge certain information about them. The participants were made aware of the positive and negative aspects or consequences of participation. The informed consent involved two main factors. First, the consent of the subjects was disclosed to the researcher, secondly, assurances of confidential use of research data collected on individuals. The consent helped the explanation that the purpose and nature of research benefited the participants.

The researcher asked permission to conduct the research from the Ministry of Higher Education Science and Technology through the Permanent Secretary. In Kenyatta University the following were consulted, namely; Department of Educational Management, Policy and Curriculum Studies, Graduate School, Bureau of Research Directorate and the Vice-Chancellor's consent. The researcher avoided deception in case of limited finance or volatile situations which led to inadequate collection of data. The researcher at all costs avoided plagiarism, which was tantamount to stealing other people's works and which would have eroded the integrity of the researcher and leads to serious professional repercussions.

## **CHAPTER FOUR**

### **DATA PRESENTATION, ANALYSIS AND DISCUSSIONS**

#### **4.1 Introduction**

This chapter presents the findings of the study. It provides general information of the study population on the determinants of demand and supply of higher education in Kenya. The study used primary data collected by questionnaires and interview schedules. The secondary data was sourced from books, periodicals, journals and Internet. The chapter is organized into two main sections. The first section provides the demographic information of the respondents while the section two gives the analysis for each of the following four study objectives.

- i) To establish the nature and level of programmes offered in university education in Kenya.
- ii) To identify the factors affecting the trends of demand for and supply of university education in Kenya.
- iii) To identify the challenges related to the trends of demand for and supply of university education in Kenya.
- iv) To develop strategies for addressing the challenges associated to the trends of demand for and supply of university education in Kenya.

This study collected both quantitative as well as qualitative data. The quantitative data was collected using the questionnaire administered to students while the qualitative data was collected using the interview schedule administered to university administrators and

the researchers on higher education. To begin with, the next section begins with some of the demographic characteristics of the respondents.

#### 4.2 Demographic Data Analysis

Respondents' demographic data was presented in the following figures.

**Table 4.1 Respondents' in Public & Private Universities**

PUBLIC UNIVERSITIES							
Inst	Gender	Administrators	Informed Specialists	Students	Sub-totals	Totals	Percent
KU	Male	3	2	71	76	145	24.4
	Female	0	0	69	69		
MMUST	Male	2	2	40	44	80	13.4
	Female	1	0	35	36		
Pwani	Male	2	2	21	25	54	9.1
	Female	1	0	28	29		
JUAT	Male	2	1	54	57	85	14.3
	Female	1	1	26	28		
	<b>TOTAL</b>	<b>12</b>	<b>8</b>	<b>344</b>		<b>364</b>	
PRIVATE UNIVERSITIES							
CUEA	Male	2	2	28	32	64	10.8
	Female	1	0	30	32		
KEMU	Male	2	1	25	28	59	9.9
	Female	1	1	29	31		
Baraton	Male	1	2	21	24	48	8.1
	Female	2	0	23	24		
		<b>9</b>	<b>6</b>	<b>156</b>		<b>171</b>	
<b>TOTAL OF PUBLIC &amp; PRIVATE UNIVERSITIES</b>						<b>535</b>	

**Key for Table 4.1**

KU: Kenyatta University  
 MMUST: Masinde Muliro University of Science & Technology  
 JUAT: Jomo Kenyatta University of Agriculture & Technology  
 CUEA: Catholic University of East Africa  
 KEMU: Kenya Methodist University

**Table 4.2 Government Officials (MHE and CUE) Respondents**

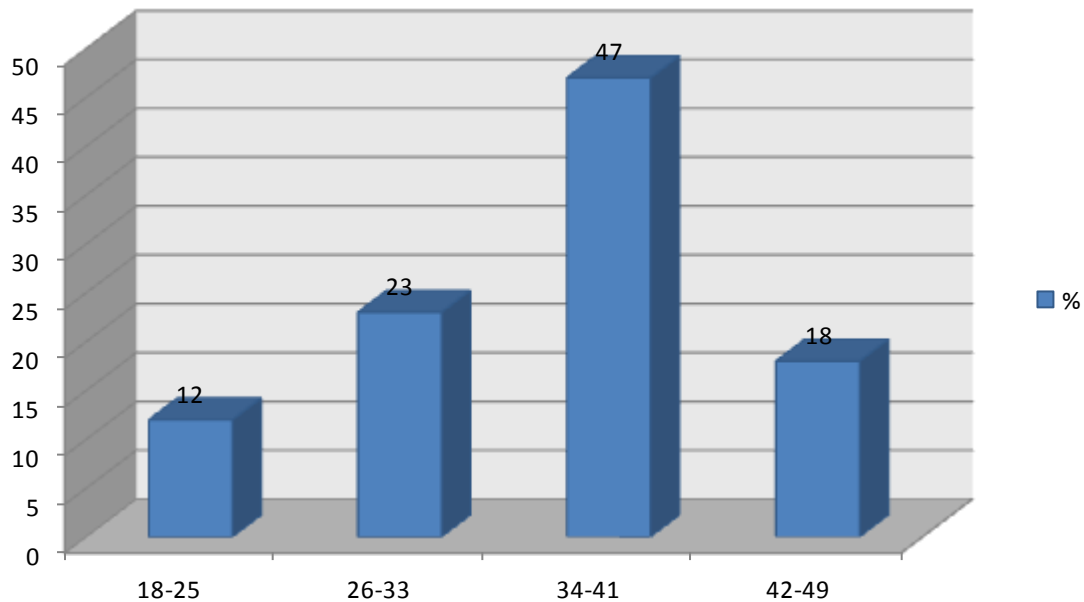
Category	Gender	No.	Sub-Total	Percentage
MHE	Male	15	30	5
	Female	15		
CUE	Male	10	30	5
	Female	20		
<b>TOTAL</b>			<b>60</b>	

**Key for Table 4.2**

MHE: Ministry of Higher Education  
 CUE: Commission for University Education

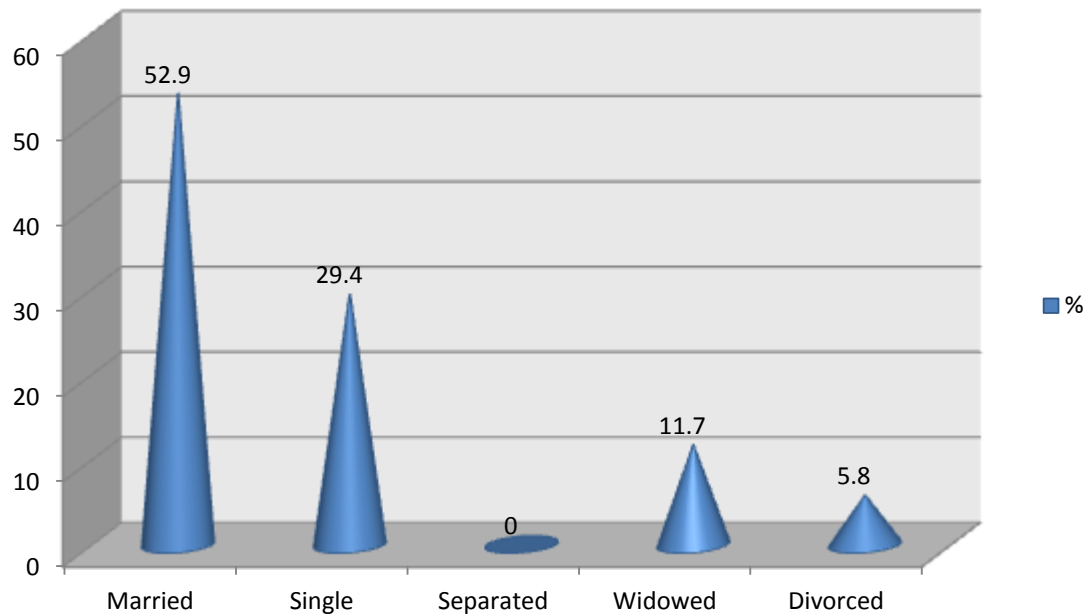
Table 4.1 and Table 4.2 indicate that university students respondents from 4 public and 3 private universities were 500(84 percent) followed by Commission for University Education (CUE) who were 30(5 percent). Ministry of Higher Education (MHE) was 30(5 percent). University Administrators were 21(4 percent) from 4 public and 3 private universities. Informed Specialists were 14(2 percent) from 4 public universities and 3 private universities. The sub-total of the university administrators, university students and

informed specialists were 535 respondents. The grand total of the Ministry of Higher Education (MHE) and Commission for University Education were 60 respondents. Therefore the grand total of all respondents for this study were 595 respondents. While there is a narrow disparity among the MHE, CUE and university administrators, there appears to be a wide disparity between these categories of respondents and that of students simply because of the obviously high numbers of students.



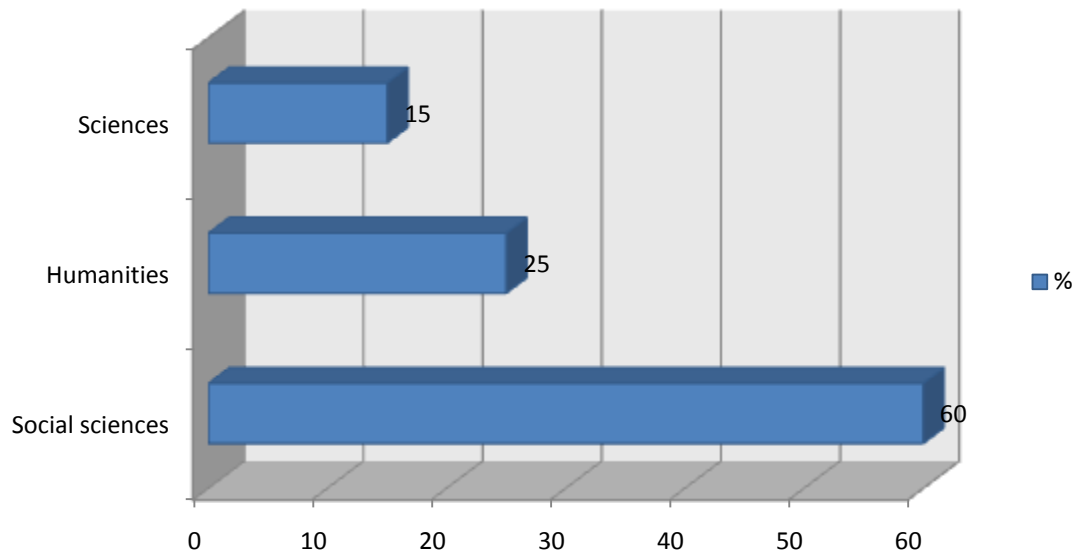
**Figure 12 Respondents Age Bracket**

In Figure 12 majority of the respondents were between 34 –41 years were 280(47 percent), 26—33 years were 140(23 percent), 42—49 years were 105(18 percent) and 18—25 years were 70(12 percent).



**Figure 13 Marital Statuses of Respondents**

In Figure 13 majority of the respondents 315(52.9 percent) were married, 175(29.4 percent) were single, and 70(11.7 percent) were widowed while 35(5.8 percent) were divorced. None was separated. It is notable that the majority of the respondents were married. This was important in two ways: one, it showed that even when people marry, they still find it necessary to continue pursuing higher education. Some even enroll after or during their marriage. It therefore became important to establish the determinants of the trends of demand for and supply of university education in Kenya especially from the perspective of such a category of respondents.

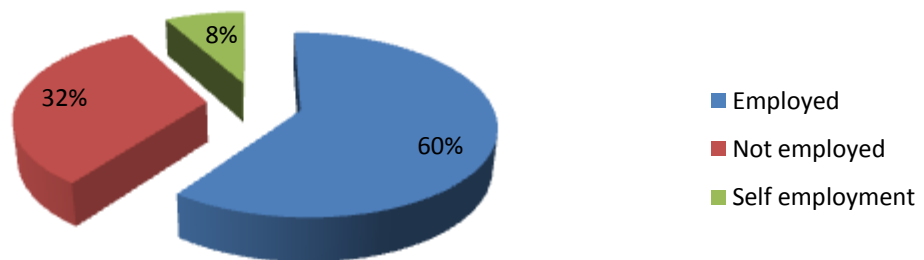


Source: Students Questionnaire

(N=500)

**Figure 14 Respondents' Specializations**

Figure 14 shows that majority of the respondents 300(60 percent) were in Social sciences, 125(25 percent) were in Humanities while 75(15 percent) were in Science.



Source: Students Questionnaire

(N=500)

**Figure 15 Employment Statuses of Respondents**

Figure 15 indicates majority of the respondents 300(60 percent) were employed, 160(32 percent) not employed and 40(8 percent) self employed.

### **4.3 Data Presentation and Analysis**

Data analysis was done by analyzing questionnaires for university administrators DVCs and Registrars of public and private universities. The data analyzed also came from the second questionnaire that was given to students in public and private universities. The other Data was collected from interview schedule of the government officials from the Commission of University Education. The other was an interview schedule for the informed specialists (senior lecturers) from both the public and private universities.

### **4.4 Research Question One: What is the Level and Nature of Programmes offered in the University Education?**

#### **4.4.1 Level of Programmes offered in the Universities**

One of the things this study sought to establish is the level and nature of programmes offered in university education. Findings of the study show that the distribution of programmes in the universities selected in this study is influenced by various factors, at least from the observed patterns. One of the patterns is that of the level of programmes. In this regard, it was observed that while the private universities reported less Ph.D programmes on offer, comparatively more Ph.D programmes were offered by public universities. However, when it comes to the lower level programmes such as Certificate and Diploma, the private universities reported more of these lower level programmes

(Certificates and Diplomas) as compared to their public counterparts. This trend can be explained in many ways. For example, it was also notable that there was a close relationship between the age of the university and the nature and level of programmes offered. In this regard, it was found out that while MMUST and Pwani University tended to have less postgraduate level degree programmes, Kenyatta University and JKUAT had more of such programmes, possibly, owing to their age which indicates that they are more established and have the ability to mount such programmes. Such high level programmes require high level skills and facilities which the newly established universities may not have. The newly established universities such as MMUST, Pwani University and even KEMU appeared to have most of their programmes in the Social Sciences and Information Technology as compared to longer established ones like Kenyatta University which, beyond the Social Sciences, had more courses in the Physical Sciences and even Human Sciences. It was therefore the position of the researcher that the distribution of the programmes in the selected Universities is influenced by factors such as age of the university, whether public or private and the extent to which the university has established itself.

**Table 4.3 Responsiveness in Programmes**

	<b>Beneficiaries</b>	<b>Consistent needs</b>	<b>Expectations</b>
<b>Extremely dissatisfied</b>	52	43	10
<b>Dissatisfied</b>	14	29	14
<b>Neutral</b>	5	9.5	10
<b>Satisfied</b>	19	9.5	47
<b>Extremely satisfied</b>	10	14	19
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>

**Source:** University Administrators Questionnaire

(N=21)

Table 4.3 shows university administrators respondents from public and private universities on their views on the following issues:

In relation to responsiveness in programmes a total of 14(66 percent) are dissatisfied while a total of 6(29 percent) are satisfied. On the consistent needs in programmes a total of 15(72 percent) not satisfied while a total of 4(23.5 percent) are satisfied. On programmes expectation a total of 14(66 percent) are satisfied while 5(24 percent) are not satisfied. The results also indicate that an average of 5(5.1 percent) of respondents remained neutral. On the other hand, generally the results shows that responsiveness of programmes on beneficiaries and consistent needs are not encouraging while programme expectations is very positive in the universities. Secondly university administrators were asked to state their views on how they reflect on programmes in terms of vision, mission, aspiration, direction and goals. Their responses are shown in table 4.4.

**Table 4.4 Respondents Views on Programmes Reflection**

	<b>Vision</b>	<b>Mission</b>	<b>Aspiration</b>	<b>Direction</b>	<b>Goals</b>
<b>Extremely dissatisfied</b>	57	38	10	10	5
<b>Dissatisfied</b>	10	5	10	5	10
<b>Neutral</b>	5	5	5	-	-
<b>Satisfied</b>	14	33	33	38	33
<b>Extremely satisfied</b>	14	19	42	47	52
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

**Source:** University Administrators Questionnaire

(N=21)

Table 4.4 shows university administrators respondents from public and private universities on their views on the following issues; on vision of the programmes a total of 14(67 percent) are not satisfied while a total of 6(28 percent) are satisfied. On the programme mission 9(43 percent) are not satisfied while a total of 11(52 percent) are satisfied. On programme aspiration a total of 4(20 percent) are not satisfied while a total of 16(75 percent) are satisfied. On programme direction 3(15 percent) are not satisfied while a total of 18(85 percent) are satisfied. On programmes goals a total of 3(15 percent) are not satisfied while a total of 18(85 percent) are satisfied. In all the five categories an average of 3 percent remained neutral. However also results indicate that in terms of programmes goals, aspirations and direction most universities are doing well, while the programme visions and missions seems to be unfulfilling. An average of 3(3 percent) remained neutral. According to Andrade (2012) it is important that institutions and programmes periodically undergo a process of reviewing their desired learning outcomes, taking ownership of them, and assuring that they guide the practice. Thirdly university administrators were asked to state their views on the degree of adequacy on their programmes in terms of best expression on talents and expertise table 4.5

**Table 4.5 Programmes in Relation to Talents and Expertise**

	<b>Talents</b>	<b>Expertise</b>
<b>Very adequate</b>	52	42
<b>Adequate</b>	33	19
<b>Inadequate</b>	5	10
<b>Very inadequate</b>	10	29
<b>Total</b>	<b>100</b>	<b>100</b>

**Source:** University Administrators Questionnaire

(N=21)

In Table 4.5 shows university administrators respondents from public and private universities on their views. On the issue of programmes showing best expression on talents the response shows that a total of 18(85 percent) agree it is adequate while a total of 3(15 percent) say it is inadequate. On Expertise a total of 13(61 percent) shows that it is adequate while a total of 18(39 percent) shows that it is inadequate.

In general the results show that the programmes in the universities are managed well in terms of talents and expertise. This is in line with Brent (2013) who emphasize that through programmes the expertise of faculty and staff and other resources of the institution are made available to students to enhance learning. Fourth, still on the nature of programmes in universities, the university administrators were asked to give their views on the programme ratings table 4.6.

**Table 4.6 Respondents' Views on Programme Rating**

	<b>Satisfactory</b>	<b>Neural</b>	<b>Unsatisfactory</b>
<b>Viable</b>	57	10	33
<b>Review process</b>	29	19	52
<b>Support</b>	38	5	57
<b>Implementation</b>	38	10	52
<b>Evaluation</b>	38	10	52
<b>Industrial attachment</b>	19	5	76
<b>Continuously Improved</b>	29	14	57
<b>Appropriate resources</b>	29	10	61
<b>Comparison with other universities</b>	47.5	5	47.5

**Source:** University Administrators Questionnaire

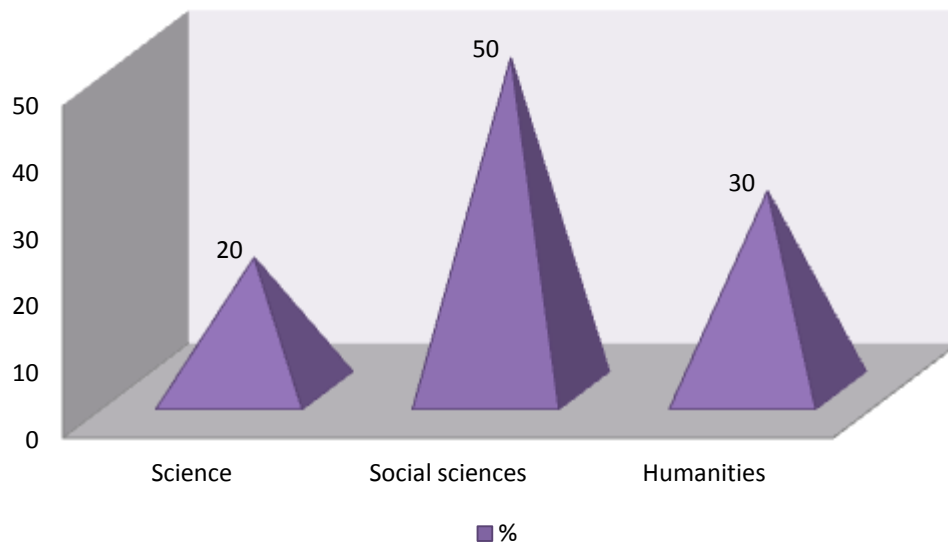
(N=21)

Table 4.6 shows university administrators respondents from public and private universities on their views on the following issues;

On viability of programmes 12(57 percent) are satisfied while 7(33 percent) are not satisfied. On programmes review process 11(52 percent) are not satisfied while 6(29 percent) are satisfied. On support of programmes 12(57 percent) are not satisfied while 8(38 percent) are satisfied. On implementation of programmes 11(52 percent) are not satisfied while 8(38 percent) are satisfied. On evaluation of programmes 11(52 percent) are not satisfied while 8(38 percent) are satisfied. On industrial attachment programmes 16(76 percent) are not satisfied while 4(19 percent) are satisfied. On continuous improvement on programmes 12(57 percent) are not satisfied while 6(29 percent) are satisfied. On supply of appropriate resources towards programmes 13(61 percent) are not satisfied while 6(29 percent) are satisfied. On comparison of programmes with other universities 10(47.5 percent) are satisfied while 10(47.5 percent) are unsatisfied. In all these 9 categories also the results show that there is an average of 2(9.8 percent) of the respondents who preferred to be neutral.

However, generally the results indicate that the university programmes are still not managed well in order to satisfy the needs of the potential and continuing students in both public and private universities thus affecting demand and supply. According to Aldridge and Rowley (2013) achieving and maintaining high standards in programmes and services is an essential and shared goal across academic and student life. Regardless of the type of organization, meaningful reviews of the ongoing improvement pre-suppose that the programmes and services offered have defined goals.

Fifth, in order to enhance the demand of these programmes the study sought to establish the kinds or nature of discipline that are offered in their respective universities from university administrators respondents of both public and private universities selected for this study figure 16.



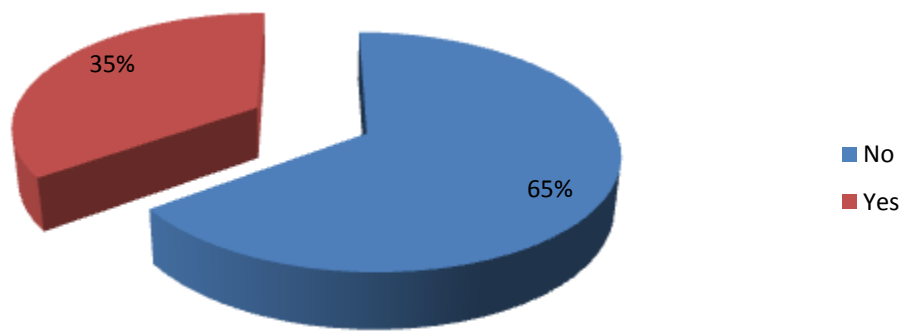
**Source:** University Administrators Questionnaire (N=21)

**Figure 16 Disciplines in Public and Private Universities in Kenya**

Figure 16 shows that 11(50 percent) university administrators respondents from public and private universities agree that the most dominant discipline in universities is in social sciences, 6(30 percent) are Humanities while 4(20 percent) were Sciences. According to the results social sciences seem to be offering more programmes the others. These findings are supported by Mwiria (2003) who emphasize that sciences are very

demanding in terms of technology advancement and financial resources. This is a big challenge and poses a big problem in Kenya and the rest of Sub-Saharan Africa.

As regards university education in Kenya, certain questions have arisen. For example, the questions of how many universities are able to sustain and maintain the value of their programmes to the development of Kenya and the associated challenges have bothered many people. This has raised questions on the main crucial objectives of university education in Kenya. In relation to this figure 17 sheds light on the situation of the level of practicals in our university education.



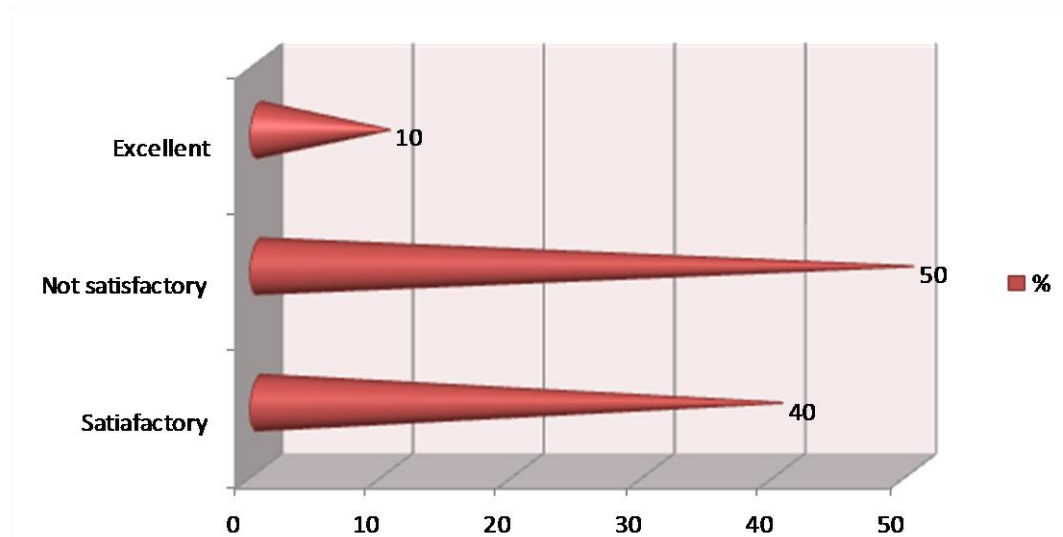
**Source:** University Administration Questionnaire (N=21)

**Figure 17 Levels of Practicals in University Education**

In figure 17 Shows that 14(65 percent) university administrators respondents from public and private universities agree that their courses are not practical oriented while 7(35 percent) say that their courses are practical oriented. Despite of them being very marketable to the prospective employers, the administrators observe that these courses

were very strict in terms of cut-off points for admissions especially mathematics which is a very crucial subject in the relevant clusters and obviously performed poorly at KSCE level. The fact that the majority feel that the science courses are not practical oriented compromises the glory of these courses hence their declining popularity.

This finding appeared to be consistent with Siringi (2007) who note that these courses require other miscellaneous expenses by individual students pursuing the practical oriented programmes. The costs are in terms of equipment, fees and more miscellaneous expenses. He further says that non-practical programmes are normally lower in expenses compared to sciences in terms of costs incurred in every university whether regional or international. In relation to the nature of programmes above it was also very important to find out levels of research and innovation in university education. This is shown in figure 18 below.

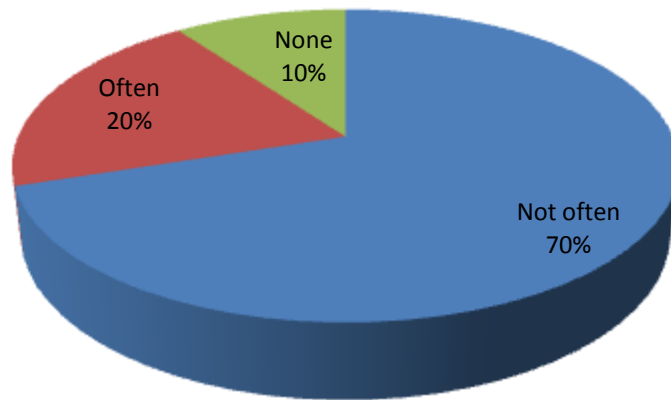


**Source:** University Administrators Questionnaire (N=21)

**Figure 18 Levels of Research & Innovation in the Universities**

In figure 18 11(50 percent) university administrators respondents in public and private universities agree that the research and innovation in universities is not satisfactory. 8(40 percent) agree that research and innovation is satisfactory while 2(10 percent) say the research and innovation is excellent. This appeared to be in line with some requirements as presented by Skilbeck (2000) according to views, university education contributions to basic, strategic and applied research should be maintained and enhanced. Yet according to the findings of this study, most of the universities in Kenya are not ready to invest heavily in research and innovation.

Apart from the innovations and research in university education, it is very important to consider the aspect of projections as explained in figure 19 below.



**Source:** University Administrators Questionnaire (N=21)

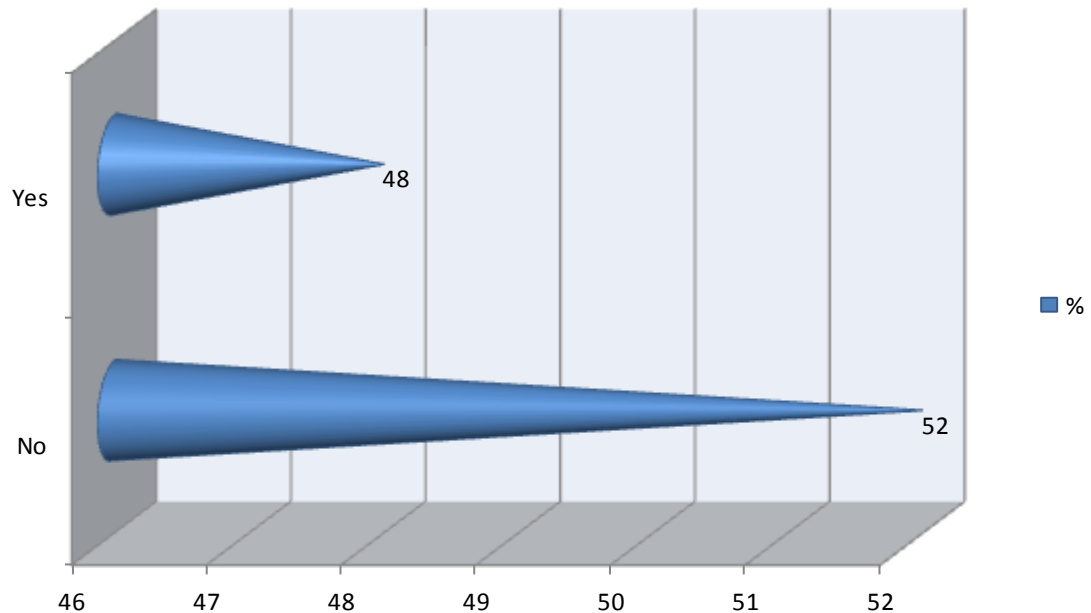
**Figure 19 Projections of Enrolments Based on Manpower Targets**

With regards to the projections of enrolment based on manpower targets, 15(70 percent) university administrators respondents from the public and private universities agree that they do not often admit students on the basis of statistical projections. 4(20 percent) agree they often consider projections, while 2(10 percent) are non-committal to statistical projections. This finding is also consistent with Gravenir (2004) who emphasizes that there is generally lack of follow-up statistics of the already potential employment vacancies and other related logistics. Indeed, according the findings of this study, most universities find that finance and lack of expertise as the key issues in the provision of higher education.

In the Kenyan case, and as established in the interviews held with both university administrators and officials in higher education, the universities, both private and public are involved in aggressive competition in recruiting as many students as possible. The trend in these universities is geared towards admitting as many students as possible regardless of their future employment opportunities. This trend has led to unemployed graduates without proper jobs to sustain development of the nation. With the introduction of module II programmes (self-sponsored programmes) the situation has worsened.

This has also led to the slow death of middle level (tertiary) colleges without students in various artisan courses. In relation to projections programmes offered in these institutions should be very popular in terms of employment in various sectors. This situation of popularity of programmes in Kenyan public and private universities is portrayed in figure 20 as explained below. Many universities especially the module II programmes have in

some cases over admitted many students in some programmes which are not a guarantee towards employment.



**Source:** Students Questionnaire (N=500)

### **Figure 20 Programme Popularity in terms of Employment**

Figure 20 indicates that 260(52 percent) student's respondents in private and public universities agree that their programmes which offer various courses are not popular in terms of employment while 240(48 percent) say their programmes which offer various courses are popular in terms of employment.

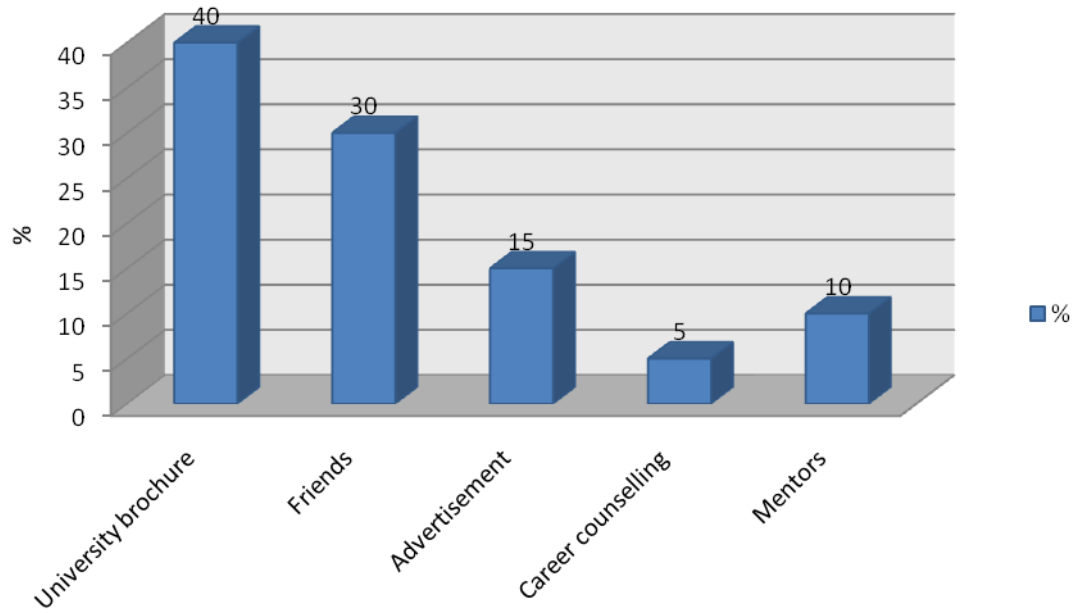
Most of the respondents, who agreed that their programmes popularity is low in relation to employment, attributed this to factors such as, inadequate prior information, following

the wave, lack of mentors and outright ignorance. This was found to be consistent with Jowi (2003) who also argues that the essence of professionalism is a thorough and up-to-date grasp of the fundamental knowledge base of an occupation.

This includes sufficient understanding of the underlying theoretical principles to be able to adapt to novel circumstances and to incorporate research findings into practice; and appropriate practical skills and professional values.

This kind of trend is certainly worrying in that the demand and supply of university education in Kenya should be scrutinized deeply with a lot of concern. If this trend continues to manifest itself in university education then the demand will be very low for the potential students. This is also worsened by the ever increasing and establishment of many universities both public and private without consideration of manpower, capital and creation of jobs to absorb graduates.

In relation to the above the issue of prior information to potential students in various programmes is very crucial in terms of information which leads to wise choices of programmes. Students were asked to state the sources of information through which they got to know about university programmes and their responses are as shown below.



**Source:** Students Questionnaire (N=500)

**Figure 21 Source of prior Information on Students' Programme**

Form the figure 21 above, 200(40 percent) student respondents from public and private universities indicate that they got prior information from the university brochure, 150(30 percent) from friends, 75(15 percent) from advertisement, and 50(10 percent) from mentors while 25(5 percent) from career counseling. This was interpreted to mean that most universities appear to be doing a lot to market their programmes through brochures and that the prospective students also share a lot of such information, possibly through other means such as social media. It therefore appears, as Bacchus (1992) also observe that an institution should commit itself to recognize its obligation to provide a high quality service and accurate information to inform students' choices if they have to get students to invest time, effort and money in such an institution.

#### 4.5 Research Question Two: What are the Factors affecting Demand for and Supply of University Education?

To tackle the issue of prices it was important to summarize the prices of levels of programmes in both private and public universities

**Table 4.7 Prices of Programmes in Kenya's University Education.**

Programmes	Range of Prices (KSHs.) P.a.
<b>Certificate</b>	60,000—90,000
<b>Bridging Courses</b>	25,000—50,000
<b>Diplomas</b>	93,000—120,000
<b>Advanced Diplomas</b>	110,000—130,000
<b>Bachelors degree</b>	121,000—141,200
<b>Post-grad. Diploma</b>	120,000—142,300
<b>Masters</b>	142,700—161,700
<b>PHDs</b>	385,300—850,000

**Source:** University Administrators Questionnaire

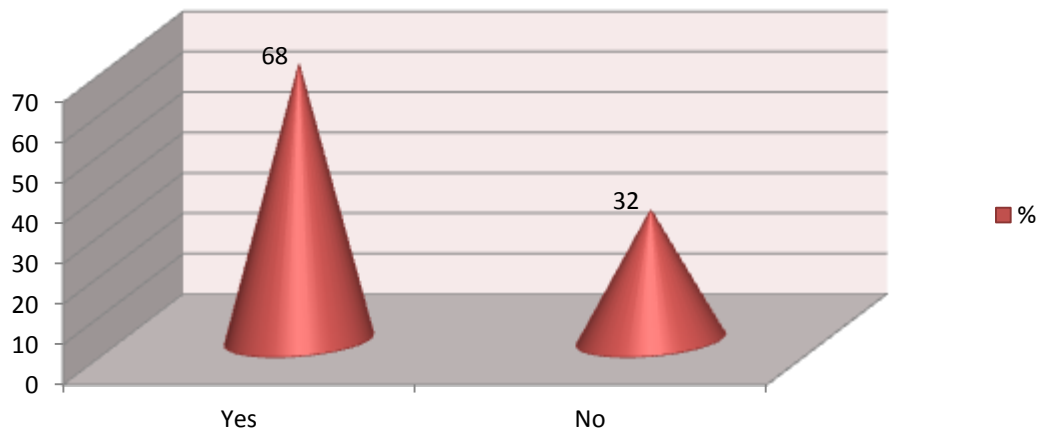
(N=21)

Table 4.7 above shows the different prices of programmes offered by the both public and private universities in Kenya. The prices were collected from university administrators through the provision tentative approximation of fee structure. The prices were given indicating minimum and maximum for a while. The reason given is that these prices must change with the rate of inflation dictated by market forces. However, the prices are relatively expensive in most of the universities thus making it difficult for the majority potential students to be able to purchase university education. It is also important to note

that most of these prices are subject to change especially in an upward trend and not downwards.

According to Michael (2009) the law of demand states that, other things remaining constant (*Ceteris-Paribus*), the higher the price of a good (university programmes), the smaller is the quantity demanded and indeed, findings of this study show that in terms of the courses offered at the universities, the cheaper the expenses involved in any programme offered, the more the students' enrolments e.g. business related courses.

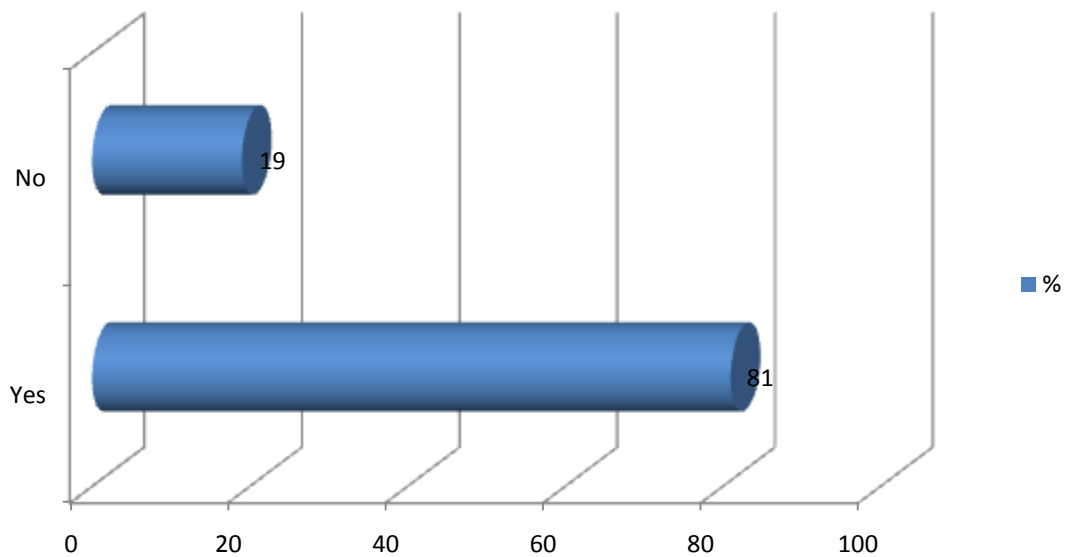
Secondly the substitution effect created by a change in a product's price has on its relative expensiveness, and consequently on the quantity demanded. When the price of a product falls, that product becomes cheaper relative to all other products. It is therefore noted that the price of university education is relatively high. Figure 22 explains further on the effects of these prices on the consumers (students and potential students) as shown below.



**Source:** Students Questionnaire (N=500)

**Figure 22 Attitudes on Prices to University Education**

Most of the respondents from public and private universities indicate that price 340(68 percent) is the main determinant to access university education while 160(32 percent) of the respondents agree that prices are not the main factor determining access to the university education. Apart from the price and costs the other aspect that determines access to university education is personal disposable incomes as presented in the figure 23 below.

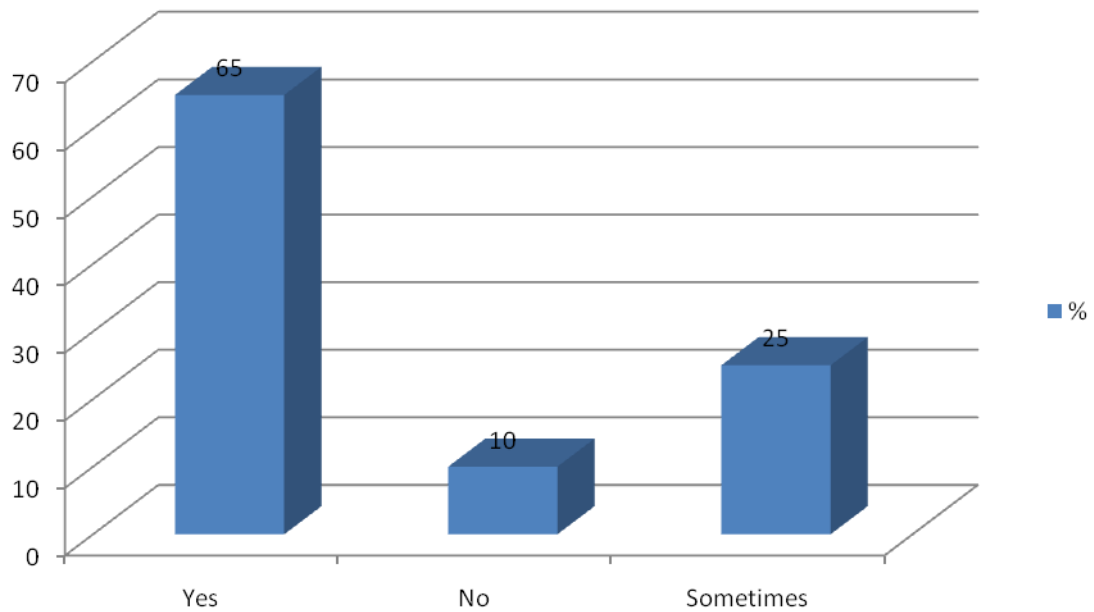


**Source:** Students Questionnaire (N=500)

**Figure 23 Personal Disposable Incomes**

Figure 23 indicates that students respondents from both public and private universities 405(81 percent) agree that personal disposable income affects demand for education while 95(19 percent) disagreed. The fall in income of the potential students means that at each level of private costs there are fewer enrolments. A rise in income means more

enrolments. As noted above education means investments for future or immediate benefits. In relation to the above determinant figure 24 explains further this fact as indicated below.



**Source:** Students Questionnaire (N=500)

**Figure 24 Benefits Accruing to Acquisition of Education**

Figure 24 shows that 325(65 percent) students respondents from public and private universities agree that benefits accruing to acquisition of education affect demand for education. 125(25 percent) say it sometimes do and not always, while 50(10 percent) did not agree.

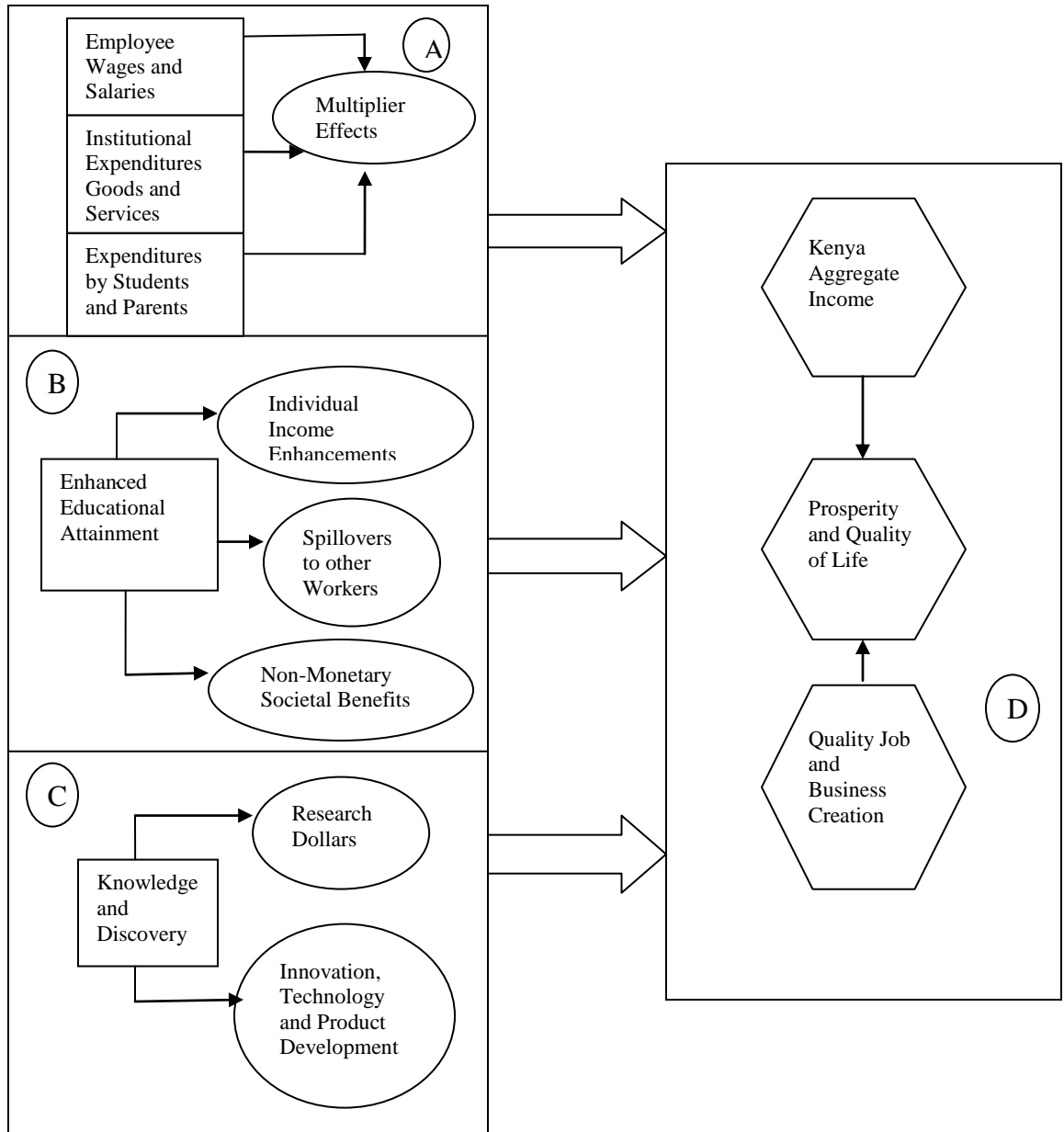
It is therefore the contention of the researcher in this study that one of the aspects that shape the trend of demand of university education is that of accruing benefits. Accordingly, a majority of the respondents indicated investing in education if the future expected benefits would be higher than the present. The higher the expected benefits the higher the demand for education and vice versa, that is expected prestige, wider employment prospects, self esteem, job promotions etc.

Thomas (2007) confirm that private returns on education involve calculating the costs of education by involving such things as books, fees, clothing, and transport and so on. This means to assess the earnings foregone maybe important to both the individual and the society.

This means that students forego the present income and investing that income in education for the sake of future extra earnings that education is expected to bring to him and the society. The Figure 25 below explains the relationship between university education and economic well-being in relation to reasons given by the respondents from both the public and private universities.

Key to Figure 4.20 below

- Ⓐ Direct Impact
- Ⓑ Benefits to Individuals and Society
- Ⓒ Knowledge Creation
- Ⓓ Ultimate Outcomes

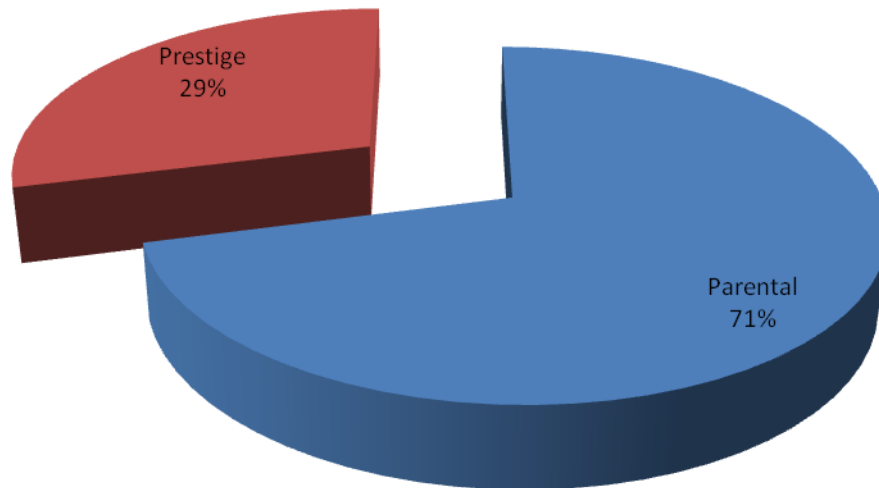


Source: Students Questionnaire

(N=500)

**Figure 25 University Education and Economic Well-Being.**

Apart from the benefits accruing from university education, it is also important to consider the social aspect as explained below.

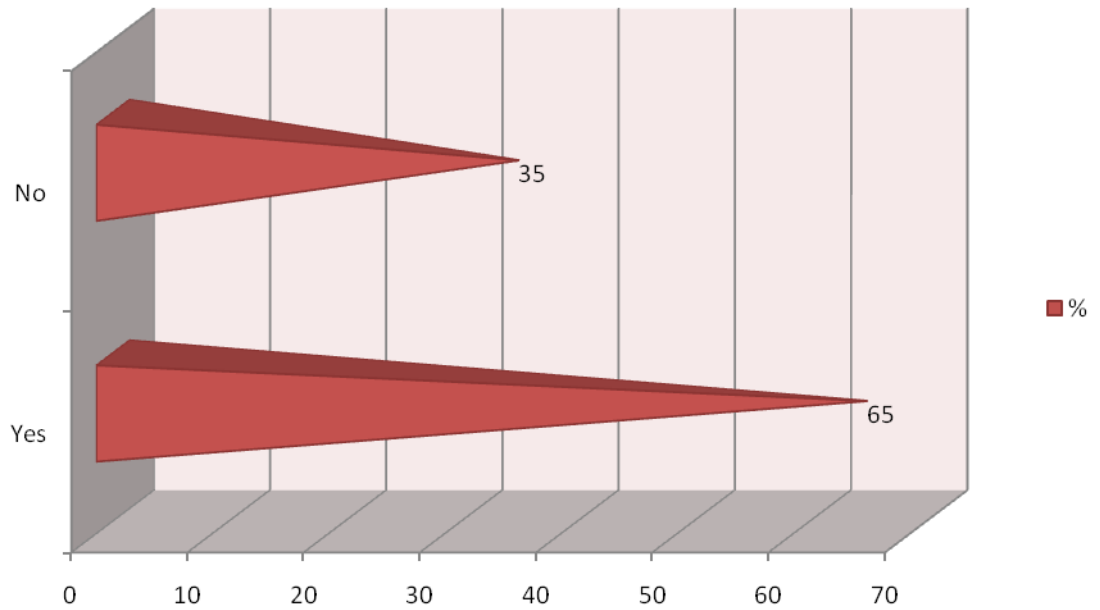


**Source:** Students Questionnaire (N=500)

**Figure 26 Social Reasons for Choosing Education (Parental & prestige)**

Figure 26 above 355(71 percent) of the students from public and private universities indicates that parental factors as a social reason mainly affects demand for education while prestige is 145(29 percent). In this respect, there are those who actually take their children for university education because it is their parental responsibility. Today, education is commonly regarded as an important area of investment for society as a whole and the social return analysis is an attempt to calculate the returns on this investment for the society. The value of earnings foregone are totaled for the society as a measure of production lost and this time the taxes not deducted, because the state has had to forego them.

The other crucial determinant in this study is the effects of population which forms the society. The composition of any population is very crucial in terms of those who are able to purchase a given commodity, in this case the programmes on offer at these universities. This is explained in figure 27 as explained below.

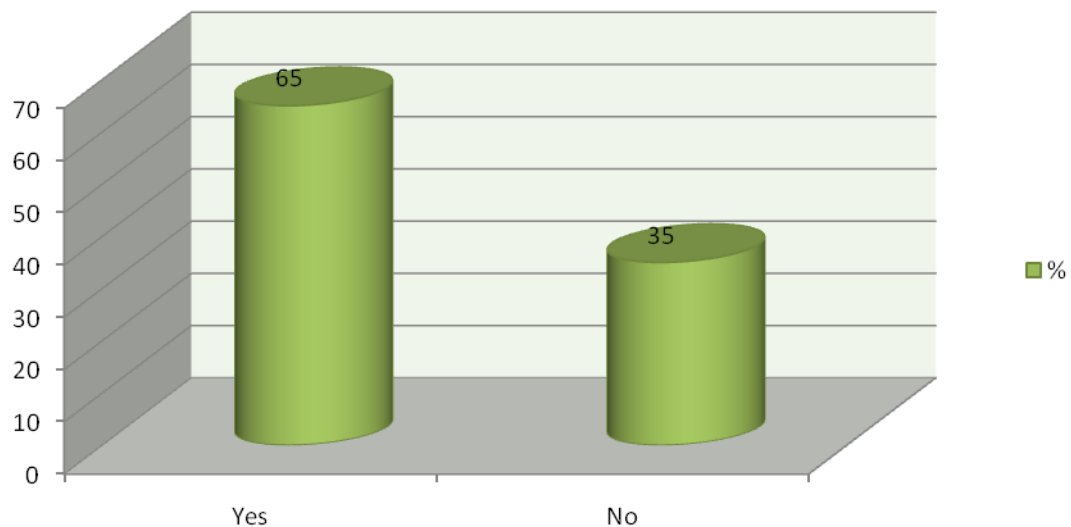


**Source:** University Administrators Questionnaire (N=500)

### **Figure 27 Effects of Population on Demand of Education**

Figure 27 shows that 325 (65 percent) of the university administrators from public and private universities supported that population affects demand for education while 175(35 percent) disagree that population was not a determinant. Other studies done on this aspect have argued that demand also depends on the prize, size and the age structure of population. According to Glenn (2010) the larger the population the greater is the demand

for all goods and services, e.g. university education. He argues that school going population, age distribution of boys and girls i.e. more working people are able to take care of the young. It includes social economic status i.e. affluent population which is in high demand for education and vice versa for the poor. Other than population, there is also the aspect of the tastes and preferences in the same population which is so crucial towards demand. The population might be skewed towards education or not depending on the interests. When asked this question, the respondents gave their views as shown below in figure 28.



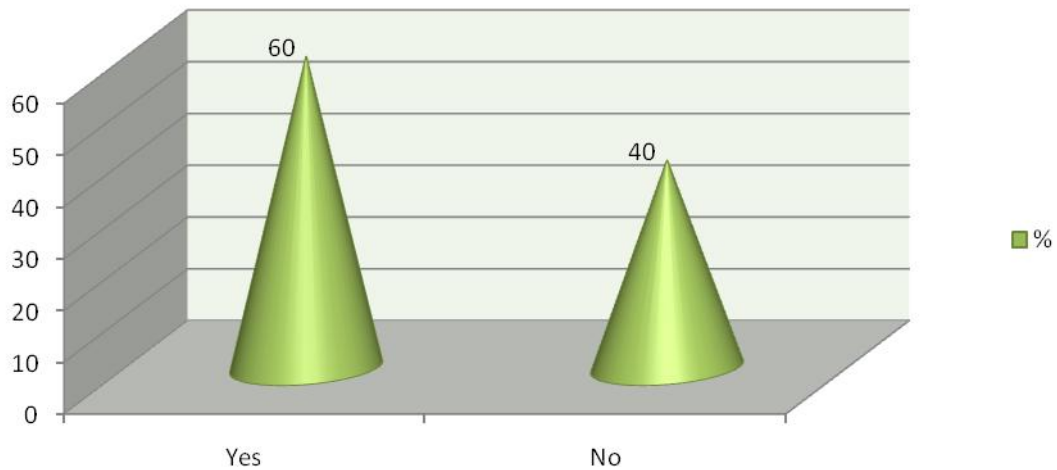
**Source:** Students Questionnaire (N=500)

**Figure 28 Effects of Preference/Tastes on Demand of Education**

In figure 28 325(65 percent) of the students from private and public universities supports that preference/tastes affect demand for education while 175(35 percent) did not. This, in

a way shows that most of the respondents prefer to invest in education, possibly because of the accrued benefits, real or perceived. This finding was consistent with those of Forret (2007) which confirms that demand depends on preferences/tastes which depend on an individual's attitudes towards goods and services. The cultural factors may provide either discouraging or enabling environment for education. For example some cultural norms, practices and attitudes tend to be detrimental to the girl child e.g. Samburu, Maasai and Pokot women, education is not valued but instead they are subjected to marry off at the expense of education. Thus there is low demand for education.

Following from the above, it was important to consider the changes in quantity demanded in terms of programmes available in our universities as explained below.

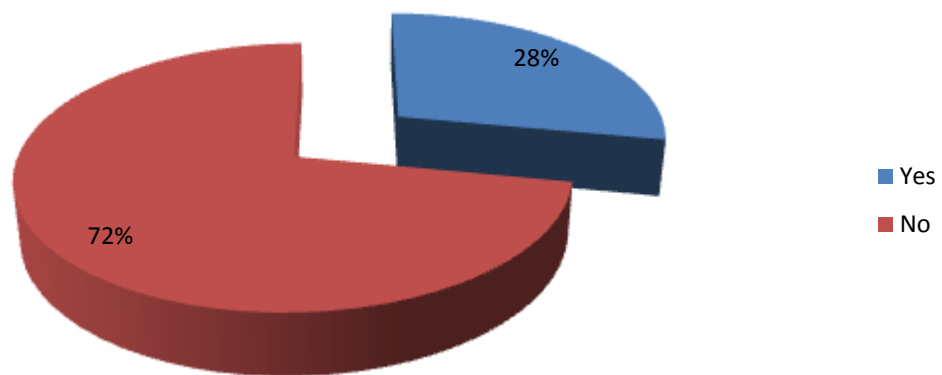


**Source:** University Administrators Questionnaire (N=21)

**Figure 29** Changes in Quantity Demanded in Programmes

Figure 29 indicates that majority of the respondents 13(60 percent) of the administrators in public and private universities agree that changes in quantity demanded in programmes affects demand for education while 8(40 percent) did not agree. The reason is that the products on demand (programmes) previously may loose value prompting consumers (students) to demand less as in seen chapter one (Figure 1 demand curve). This is true in terms of over training graduates and causing a glut in certain programmes which renders them jobless.

Having considered the determinants of demand of university education, it became also important to consider the determinants of supply as shown below.

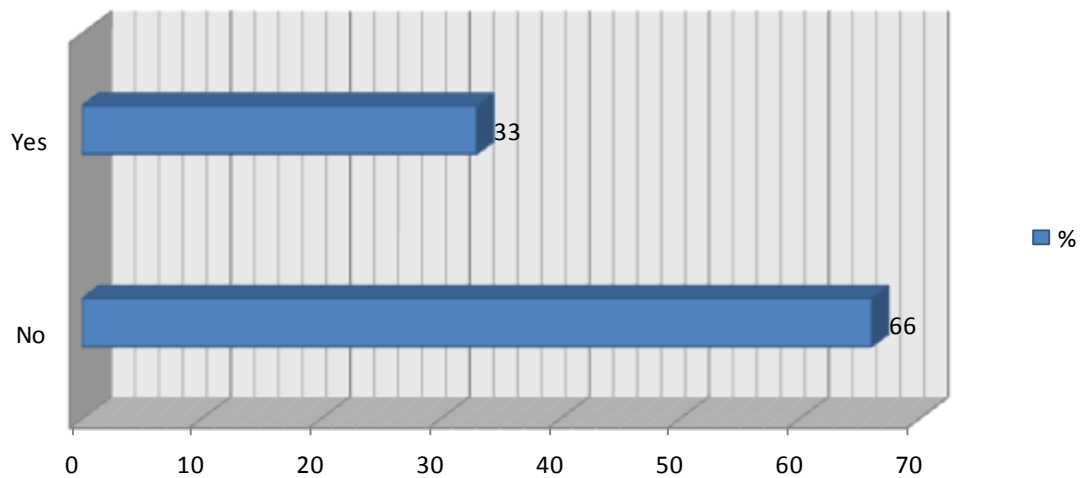


**Source:** University Administrators Questionnaire (N=21)

### **Figure 30 Governments' Budget Allocation to Universities**

Figure 30 indicates that university administrators respondents in public and private universities 15(72 percent) say that the government does not support fully the cost of

university education while only 6(28 percent) agreed. Bellew and Rosemary (2006) observe that the cost of education is a very crucial factor in university education. It affects the individual/society and the provider (government). Precisely there are direct contributions in measurable terms. This is supported by Shultz (1986) who emphasize that investment into human capital is important for the census of the National Income e.g. Japan and S. Korea. Duke et al (2009) in his calculations on the census of the Growth National Product (GNP), found that land, and capital did not account for a substantial proportion. He attributed this to the lack of knowledge about the components of Growth of National Product. He equated it with the acquisition of education which improves production capacity of labour force. To him investment in university education contributes to national wealth. Having seen the government meagre support to university education, the study looked at the benefits that were accruing to the government if they have any impact on supply as shown figure 31 below.



**Source:** University Administrators Questionnaire (N=21)

**Figure 31 Benefits Accruing to the Government from Education**

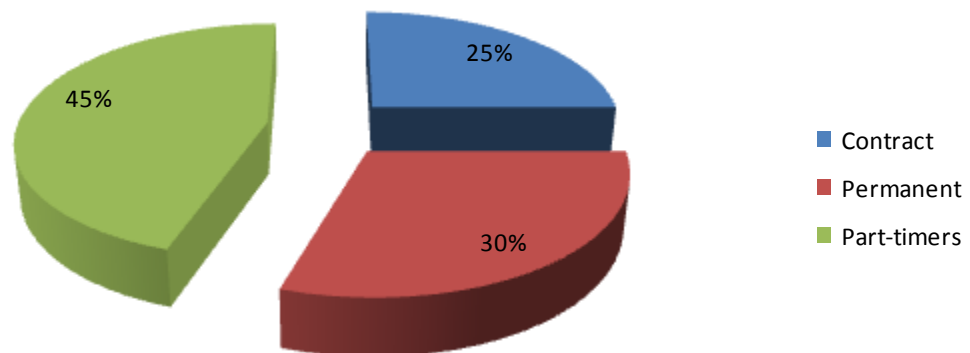
Figure 31 above shows that university administrators respondents from public and private universities 14(66 percent) did not agree that benefits accruing to the government from education affect demand for education while 7(33 percent) did. Rives and Cassidy (1997) assert that direct benefits lead to increased productivity of labour force, increase in national wealth while indirect benefits leads to declining fertility rate, improvement in health and enhanced national consciousness. In relation to the above results it is shows that the government has not invested much in university education. But the study went further to explore various avenues where individual universities subsidized their income as shown in table 4.8 below.

**Table 4.8 Other Financial Sources in Running Universities**

<b>Sources</b>	<b>(f)</b>	<b>%</b>
NGOs	1	4.8
Partnership foreign universities	2	9.5
Initiating projects	11	52.4
Affiliate to tertiary colleges	4	19.0
Churches	2	9.5
Well wishers	1	4.8
<b>TOTAL</b>	<b>21</b>	<b>100</b>

**Source:** University Administrators Questionnaires (N=21)

In table 4.8 university administrators respondents both in public and private universities 11(52.4 percent) shows that initiating projects is the most popular source of finance in most universities. 4(19.0 percent) depend on affiliation to tertiary colleges. 2(9.5 percent) depend on partnership with foreign universities, 2(9.5 percent) depend on churches and 1(4.8 percent) depend on well wishers and also NGOs 1(4.8 percent). In his research Chapman (2008) say that university education consumes a significant proportion of national resources and in principle that burden should be shared among the beneficiaries. In addition the cost is substantial and the benefits which flow from it are unpredictable for the individual and realized over a long period. But Belle wand Rosemary (2006) argue that it would be unjust and insufficient if those who did not have immediate access to the necessary finance to participate in university education were, for that reason, denied the chance of receiving any of its benefits. Apart from the other subsidies the issue of the welfare of the lecturers was very crucial as far as the government is concerned as explained below.



**Source:** University Administrators Questionnaire (N=21)

**Figure 32 Employment Categories of the Lecturers**

In figure 32 university administrators respondents in public and private universities 10(45 percent) shows that most of the lecturers are Part-timers, 6(30 percent) are permanent while the rest 5(25 percent) are on contract in most universities. This finding is supported by Radner and Miller (2010) who argues that institutions of higher learning have to operate within an international market for education and they are to be judged by international standards. Job security and satisfaction is one of the pre-requisites of motivation of employees in any organization. This helps in maintaining and retention of workers who are very crucial in terms of rendering services. On the other hand it was also very important to explore the ways and means of students' financial sources and also see the role of the government support for survival in the university education as shown in table 4.9 below.

**Table 4.9 Probable Sources of Finance for Students' Courses**

<b>Source</b>	<b>(f)</b>	<b>%</b>
Parents	185	37
Guardian	75	15
Self	90	18
HELB	75	15
CDF	50	10
Scholarship	25	5
<b>TOTAL</b>	<b>500</b>	<b>100</b>

**Source:** Students Questionnaire

(N=500)

In table 4.9 Most of the students in public and private universities respondents 185(37 percent) confirm that parents are the main source of finance for their university education. 90(18 percent) shows that some students are self sponsored, 75(15 percent) shows that guardians are the sources of finance, 75(15 percent) agrees that HELB is the source of finance, 50(10 percent) shows that CDF finances students while 25(5 percent) point out that scholarships are the source of finance.

In contrast to the findings Shultz (1986) observe that the level of investment needed in a learning society is very fundamental especially when the government and other stake holder apart from parents participate in the creation of financial avenues for both ongoing and potential students in university education. In support to this argument Chacha (2004) note that in Kenya HELB have no representatives from the universities and are marred with nepotism, tribalism and even lack transparency. The disabled students are not defined and also no transparency in low economic students financing methods.

According to this research, education is seen as a public as well as a private goal and governments are expected to ensure that there is no under-investment in it because of apathy, or the private individual's tendency to invest in education only to the extent that he or his child benefits. The manpower and rate of returns arguments alone are seen by many to justify the increasing role of the state in the financing of education.

#### 4.6 Research Question Three: What are the challenges facing demand and supply of University Education?

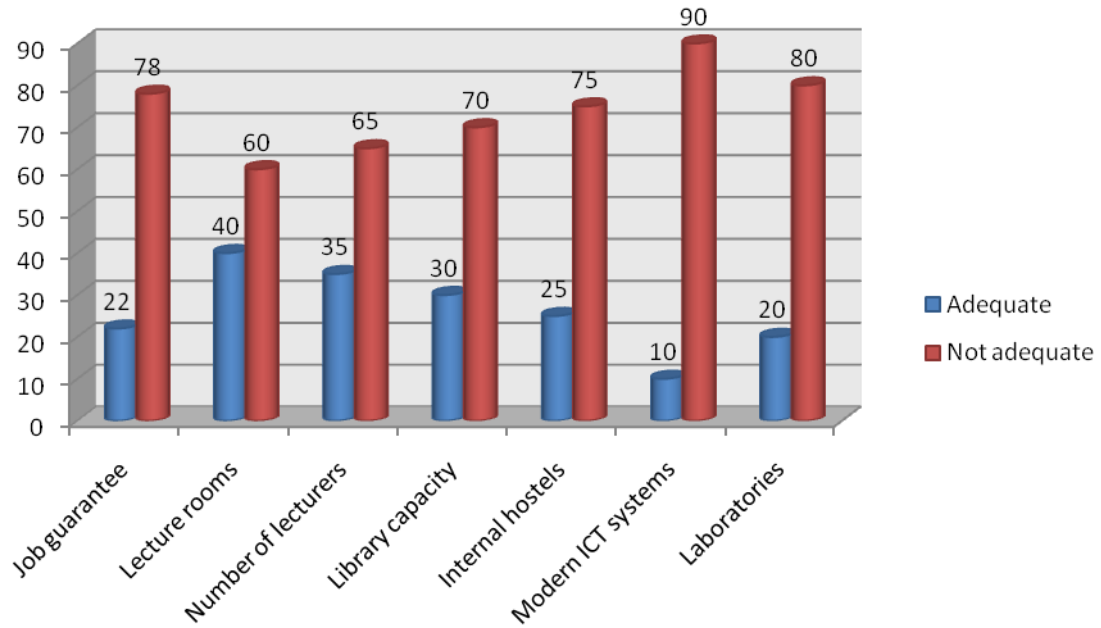
**Table 4.10 Reasons for Students' Wastage Rate**

<b>Reasons</b>	<b>(f)</b>	<b>%</b>
Costs	250	50
Disciplinary cases	125	25
Wrong programmes	75	15
Domestic problems	50	10
<b>TOTAL</b>	<b>500</b>	<b>100</b>

**Source:** Students Questionnaire

(N=500)

In table 4.10 Students respondents from public and private universities 250 (50 percent) shows that cost in university education causes wastages. 125(25 percent) disciplinary cases, 75(15 percent) wrong programmes while 50(10 percent) relate student wastages to domestic problems. These results indicate that it is therefore generally taken that there is a certain level of wastage in university education. Apart from student general wastages in our universities, the study also explored several crucial challenges as explained figure 33 below.



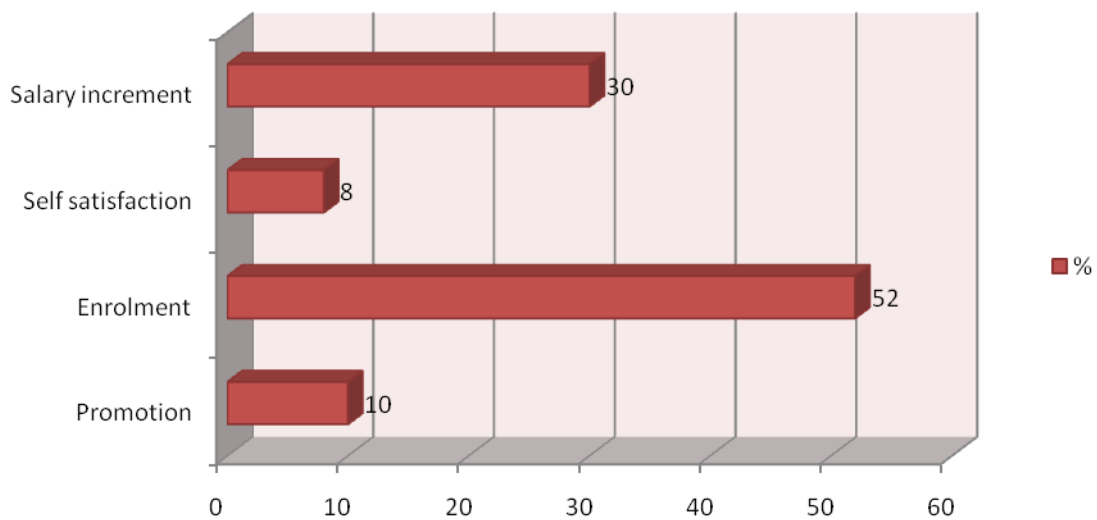
Source: Students Questionnaire

(N=500)

### Figure 33 Other Challenges in University Education

In figure 33 on challenges students respondents in both public and private universities 340(68 percent) agree there are many challenges while 160(32 percent) say there are no challenges. On lecture rooms 300(60 percent) say they are not adequate while 200(40 percent) agree are adequate. On the number of lecturers 325(65 percent) agree they are not adequate while 175(35 percent) say they are adequate. On library capacity 350(70 percent) agree not adequate while 150(30 percent) say is adequate. On internal hostels 375(75 percent) agree are not adequate while 125(25 percent) confirm are adequate. On modern ICT systems 450(90 percent) agree are not adequate while 50(10 percent) confirm that they are adequate. On laboratories 400(80 percent) say are not adequate while 100(20 percent) agree are adequate. On job guarantee 390(78 percent) say are not

adequate while 110(22 percent) agree are adequate. These results generally indicate that the universities have not addressed these challenges adequately in terms of demand and supply of university education. These may have adverse effects on students and potential students. In relation to the above the study also sought to know the expected returns from university education.



Source: Students Questionnaire (N=500)

**Figure 34 Future Returns of Diploma/Degree Courses**

Figure 34 indicates that 260(52 percent) students respondents from public and private agree that employment will guarantee future returns after university education. 150(30 percent) agree on salary increment and 50(10 percent) support on promotion while only 40(8 percent) agree on self satisfaction. These results are in line with Psacharopoulos (2002) who argue that private rates returns if were to be known by potential students and

reasonably certain to continue, would be likely to stimulate sustained high levels of demand for university education.

Apart from the future returns the rating of tuition fees has been very fundamental in determining the enrolments and subsequent graduation rate as shown in table 4.11 below.

**Table 4.11 Rating of University Education Fee**

<b>Rating Fee</b>	<b>(f)</b>	<b>%</b>
Expensive	440	88
Affordable	60	12
<b>TOTAL</b>	<b>500</b>	<b>100</b>

**Source:** Students Questionnaire

(N=500)

Table 4.11 indicates that 440(88 percent) students respondents in public and private universities and say university fee is expensive while 60(12 percent) of the respondents said it is affordable. These results are in contrast with Oliviera (2007) who emphasize that in developed world for example, USA access funds are readily provided to institutions to enable them to support students on the basis of an in assessment of financial need.

In Kenya most students and potential ones live in poverty. Most of them are forced to seek employment for excessive hours in term-time to the detriment of their studies and that some accumulate large debts, not only to HELB but also to commercial lenders as

well. It is therefore emerging that most of the students from the low socio-economic backgrounds are the first casualties as shown in table 4.12 below because of inadequate financial support and other factors.

**Table 4.12 Semester-off or Deferment**

<b>Requested</b>	<b>(f)</b>	<b>%</b>
Semester-off	105	21
Deferment	90	18
Requested for None	305	61
<b>Total</b>	<b>500</b>	<b>100</b>

**Source:** Students Questionnaire

(N=500)

Table 4.12 indicates that 305 (61 percent) students in public and private universities had not deferred or requested semester off, 105(21 percent) had requested for semester-off while 90(18 percent) requested for deferment of the academic year. These results are supported by Otieno (2005) who confirms that in Kenya completion rates have relatively remained high although non-completion rates have been difficult to measure because statistical records do not track individual students through the university education system. Non-completion seems to be an increasingly difficult concept to measure if more students undertake university education programmes in a flexible way, over a long period of time.

#### **4.7 Research Question Four: What are the strategies for addressing the challenges associated to the trends of demand and supply of University Education in Kenya?**

Responses were collected and summarize from 500 students and 60 administrators respondents in public and private universities on strategies of developing demand and supply of university education in Kenya. The responses were qualitatively analyzed from their various opinions and suggestions. The responses were categorized as follows:

##### **i) Demand of University Education**

The respondents noted that the costs in university education were very exorbitant in both the private and public universities. This made most of the ongoing students unable to complete their programmes or potential students to be unable to join the universities. Therefore respondents suggested that there is need for the policies to be put in place to review the costs to be affordable by the stake holders.

Second, most of the programmes offered have no job guarantee apart from the few ones like engineering and medicine. The respondents suggested that the government to create more job opportunities to be able to absorb graduates so that they can reduce the problem of educated unemployed graduates.

##### **ii) Supply of University Education**

The respondents noted that most of the public and private universities have a problem in both physical resources and human resources. In this case they suggested that there was an urgent need to improve the universities infrastructure and improve on human resource so that quality university education could be achieved.

Second, they suggested that the government to prioritize university education by investing more in budgetary allocation. This will help in the lower socio-economic students and will boost the grants for research and innovations in different disciplines in university education.

Third, it is important to adopt the national framework of awards with rigorously maintained standards which the academic community recognizes. This means that the autonomy of institutions can be sustained only within a framework of collective responsibility for standards, supported by the active involvement of professional bodies.

Fourth, the university education system to be explicit about what it is providing through learning programmes, and their expected outcomes, so that students and employers have a better understanding of their purposes and benefits. Given the belief that the university education system needs to match the best in the world, it is important to examine a good deal of evidence about strengths and weaknesses of alternative approaches. It is necessary to visit for example Australia, France, Germany, Japan, Netherlands, and USA in order to examine aspects of their systems. In these visits, get discussions with policy makers, representatives, employers, academics and students, and also visit a range of different types of these institutions.

Fifth, the government to make sure that university education is to provide expanded opportunities and adopt the needs of students and other clients. Maintain international

standing in research, introduce new approaches to learning and teaching and quality assurance, and greatly improve its cost-effectiveness. This success can be achieved through the staff commitment and response to challenges that are currently facing the demand and supply of university education in Kenya.

#### **4.8 Interview Schedule of Informed Specialists**

The following are responses from the 14 informed specialists (senior lecturers). They were qualitatively discussed and found to be both direct and indirectly related to the trends of demand and supply of university education. These responses were discussed in the following sub-headings:

##### **4.8.1 Information on University Staff**

Staff defined in most of the universities is only just under 40 percent as lecturers and researchers. High ratios of professional and associated staff in university education are to be expected given the nature of activities. It is acknowledged that the increase in academic staff numbers in has been proportionately smaller than the increase in the number of students. Staff have faced increased teaching loads, larger teaching groups and in many cases, new kinds of students. Increased requirements for accountability have led to new demands on staff. Delegation of budgets and management decisions to individual departments has required academics to take new tasks. Taken together, these developments represent a significant increase in the volume of work for individual

academics and a change in its nature. Administrative and support staff have faced the same kind of challenge.

The survey of academic staff carried out, found out that in early 80s and 90s during the semester, University lecturers spent 50 percent of their time on teaching, guiding and examining, 28 percent on research and 14 percent on administration and meetings with the rest spent on variety of professional activities (Otieno, 2005). My survey on academic staff showed that they now typically spend 35 percent of their time on teaching, guidance and assessment, 20 percent on research and 15 percent on administration and management. With the rest spent on other activities. Very little time is spent explicitly on professional development.

The research showed that academic staff is not contented with the way they spend their time. They would like to spend less time on administration and management and to transfer the time to research. They would also like more time for professional development and attend seminars and conferences. Over half of those doing research claim to be doing it outside normal working time. It is also evident from my survey that academic staff is concerned about the quality of support they can offer to students and feel it has declined over the last 10 years.

A high level of academic and other support for individual students has long been one of the characteristics of university education in many countries and is a major factor and

challenge in enabling this country (Kenya) to maintain good quality, relatively short degree programmes with high completion rates. The increasing strain on such support is therefore a matter of concern.

Many administrative and support staff feel that they had to take on large additional amounts of work, are working far more than their contracted hours, and cannot keep up with what is expected of them. In an interview with academics I sometimes found skepticism about the need for the present scale management activity in university education, and its quality. Administrative and support staff are not skeptical about the place of management, but see a need for it to become more effective.

#### **4.8.2 Aspects on Staff Development**

Academics are all committed to keeping abreast of the latest research and ideas in their disciplines, but a few of them have the opportunity to keep at the forefront of developments in how to teach their subjects. According to my survey of staff in university education, only just over half (50 percent) of academics have ever received any training in how to teach and over two-thirds of those had received training only at the beginning of their careers. This inevitably means that a large proportion has had no training in, for example, the use of information technology for learning and teaching. Likewise, although many academic staff has significant management responsibilities- for example, the financial and personnel responsibilities of the head of the department, they rarely have the training to support these functions. It was noted that so little attention is

paid to equipping staff with advanced knowledge and understanding of the processes of learning and teaching. Administrative and support staff are also concerned that they have little access to training and feel that their potential is under-used as a result.

There is a wide range of non-academic staff employed in university education and for some of them; the distinctions from academic staff are becoming increasingly blurred. Many such staff, for example librarians, technicians and computer support staff are directly involved in guiding and supporting students. With the widespread introduction of modular programmes, administrative staff has taken on new tasks in guiding and tracking students through their choice of programmes. Ramsay (1998) observes that in UK staff with new skills and roles, for example in marketing or contract management is recruited to support the more commercial orientation of at least some university education activities. In my survey in relation to administrative and support staff it showed that they are frustrated by their lack of opportunity for career progression, the low regard in which administrative and support functions are held, and the feeling that they have responsibility without power.

#### **4.8.3 Funding University Education**

According to my survey there are widespread concerns namely; (a) with financial pressures (b) institutions have been forced to defer capital investment in equipment and buildings and maintenance, with consequent damage to infrastructure(c) that recent sharp cuts in public support for investment makes the position worse. The academic staffs also

see the need for additional funding, and express particular concerns about the limited time they have for research, the inadequate support they can give students and the pay levels.

#### **4.8.4 Aspects on Lecturers and Resources**

The learning environment of students today is unlike that in the 1960s (Skilbeck, 2000). The dramatic increase in student numbers, which has not been matched by a proportionate increase in funding, staffing or other resources, has resulted in increased class sizes, decreased class contact time for students, and an increase in students studying off campus. Despite these major changes, the traditional teaching methods of university education still predominate. The teaching methods experienced by the highest proportions of students in my survey were lectures 65 percent, seminars and tutorials 15 percent, essays 10 percent; projects and dissertations 10 percent. There is a general pressure on resources in institutions. Palfreyman (2004) emphasize that great lecturers create a common ground of intellectual commitment. They stimulate active, not passive, learning and encourage students to be critical, creative thinkers, with the capacity to go on learning even after their college days. This means that the effectiveness of teaching and learning should be enhanced.

In the management of learning the rise in student numbers and the continuing pressure on the institutional finances resulting in lower staff to student ratios, has meant larger class sizes and less contact time for students. Otieno (2005) in his research agree that students

perform worse in large classes, and markedly so in some subject areas, particularly the social sciences are presently overflowing with students.

A major concern has arisen from the following (a) the expansion of student numbers (b) the rapid increase in the costs of printed materials (c) changes in teaching and learning methods, and (d) additional opportunities and costs presented by information technology have led to the adequacy of library provision. There is pressure on space and the supply of books. In some institutions students have limited access to popular texts, supplemented by heavy use of reprographic facilities.

It is observed that the pattern of learning has changed, with an increasing proportion of time spent outside the class room in independent study. Administrative and support staff have noticed a change in the delivery of university education, with a greater emphasis on independent learning. This survey shows that most lecturers still see teaching primarily in terms of transmission of information, mainly through lectures. There are many teachers who are ready to adopt different methods of teaching as circumstances change. This reflects the lack of incentive to develop teaching knowledge and skills, and the limited opportunities for staff development within departments.

According to Bacchus (1992) in developed countries the use of communications and Information Technology (*C&IT*) as a tool for teaching and learning has increased rapidly in the last few years in the light of rising numbers of university students. For example in the UK which has the most advanced Academic Information Technology Network in the

world. The largest project is the Teaching and Learning Technology Programme (TLTP); it has involved investment of over \$ 2 billion by the Funding Bodies to launch over 70 projects to develop computer-based teaching and learning course materials.

#### **4.8.5 Access to University Education**

According to the views of informed specialists increasing participation in university education is a desirable objective of national policy. But it must be accompanied by the objective of reducing the disparities in participation between groups. It is important to ensure that university education is responsive to the aspirations and distinctive abilities of individuals. Widening opportunities can certainly be consistent with maintaining standards.

A lifelong career in one organization will become increasingly the exception. People will need the knowledge and skills to control and manage their own lives. Experience suggests that the long-term demand from industry and commerce will be higher levels of education and training for their present and future workforce. They argue that this leads to something of a paradox for university education. That is on one hand Kenya feels itself to be poorer and therefore less able to afford to fund university Education. On the other hand, as the economic necessity for high level education and increase skills, so does the need to maximize the proportion of the population with such university education and skills.

#### **4.9 Interview Schedule for CUE and MHE officials**

The following are responses from the 30 CUE officials and 30 MHE officials which were descriptively discussed in relation to demand and supply of university education as following:

Although the Commission for University Education (CUE) has very important functions that give considerable statutory powers to CUE to run university education, it is marred with a lot of weaknesses as the following respondents' views from the officials indicate.

##### **4.9.1 Weak Statutory Powers**

According to its statutory powers, CUE was expected to play an active role in planning, development, budgetary matters and maintaining quality education. The politicization of planning and development of university education seems to have effectively denied the Commission this particular role.

##### **4.9.2 Reduction to o Issue Charters**

Only one of CUE's statutory functions, the accreditation of Private Universities, has been its main pre-occupation since its secretariat became operational, in 1986. The mushrooming of private universities has focused the Commission's energies in developing accreditation instruments to regulate and permit the award of charters. This has led to ever increasing number of private universities with questionable credibility in their courses and recently turning former tertiary colleges into affiliate campuses to established public universities.

### **4.9.3 Autonomy of Universities in relation to CUE**

Government action in decision making also made it difficult for CUE to play an active role in public universities budgetary matters. In practice, after the establishment of CHE, presently renamed CUE, public universities continued to argue their individual budgetary submissions with the treasury, liaising with each other and collectively through the committee of vice-chancellors.

Interestingly, vice-chancellors who are normally represented on CUE and praise its work on accreditation of private universities, effectively bypass the CUE when it comes to their own plans and budgets. They defend their institutional autonomy which each university enjoys by virtue of its own statute, and clearly resisting the notion of ceding part of it to CUE. They believe that rationalization of departments and related planning issues are best handled by freely negotiating them among themselves.

### **4.9.4 Lack of CUE to Control Quality in Public Universities**

CUE statutory requirement to make regulations in respect of admission of persons seeking to enroll in universities and provide central admissions service to public universities, as well as the maintenance of standards for courses and examinations, were rendered inoperative through the creation of by the vice-chancellors of the Joint Admissions Board (JAB). With this situation in public universities, it is evident that demand and supply of university education in Kenya still has got a long way to go in terms of:

- i) Promotion of objectives of university education namely the development, processing, storage and dissemination of knowledge for the benefit of mankind.
- ii) To coordinate the long-term planning, staff development, scholarship and physical development of university education.
- iii) To liaise with the government departments and public and private sectors of the economy in matters relating to overall national manpower development and requirements.
- iv) To examine and approve proposals for courses of study and course regulations submitted to it by private universities.
- v) To cooperate with the government in the planned development of university education.
- vi) To advise the Minister on the establishment of public universities and the promotion of national unity and identity in universities.

## CHAPTER FIVE

### SUMMARY, CONCLUSION AND RECOMMENDATIONS

#### **5.1 Introduction**

This study was aimed at establishing the determinants of the trend of demand for and supply of university education in Kenya. This chapter was divided into the following subsections namely summary of research findings, conclusions and recommendations.

#### **5.2 Summary of the Findings**

The summary of the findings stated below has been done as guided by the objectives and the research questions that guided the study.

##### **5.3.1 What is the level and nature of programmes offered in the university education in Kenya?**

In terms of the level of programmes, the study revealed a range of programmes all the way from certificate, diploma to degree and even Ph.D. And in terms of the nature of courses offered, the study revealed that the majority of the courses undertaken are social sciences constituting 50 per cent of the respondents followed by humanities and sciences with 30 and 20 percent respectively. Further on the nature of courses, the study revealed that they are mainly practical oriented with 65 per cent of the respondents confirming this and a further 50 per cent reporting availability of research and innovation in the universities. It was however rather disturbing that 70 per cent of university administrators reported that they do not often admit students on the basis of statistical projections and perhaps this may partly explain the existing mismatch between university courses and

potential employment opportunities thereby resulting in the evident phenomenon of educated unemployment. Also noted is that most of the programmes are not managed well for example evaluation, mission, mission, review, appropriate resources and support. In any case, the majority of respondents (52 per cent) indicated that their course programmes were not popular.

### **5.3.2 What are the factors affecting demand and supply of university education in Kenya?**

With regard to the factors affecting demand of education, it was interesting to note that unlike the earlier studies which have always presented the benefits (particularly economic benefits) to be the main factor affecting demand of university education, the findings of this study revealed a seeming paradigm shift with a majority of 71 per cent indicating that the main factor is social reasons. This was then followed by the cost factor and others such as preferences and tastes as well as changes in quantity of education demanded.

On the other hand, and with regard to factors affecting supply of university education, the study revealed that the main factor is state funding of university education with a majority of 70 per cent indicating that the government budget for university education is not adequate and that the government therefore does not adequately support university education. It therefore appears that government funding is the main factor affecting the supply of university education.

### **5.3.3 What are the challenges facing demand and supply of university education?**

With regards to the challenges facing demand and supply of university education, the study has revealed that availability of resources and wastage of university students are the two main factors. It was however encouraging to note that 52 per cent of the respondents look forward great future returns on university education particularly in terms of employment.

### **5.3.4 What are the strategies for addressing the challenges associated to the trends of demand and supply of university education?**

With regards to strategies for addressing the challenges associated with trends of demand and supply of university education, the study proposed that the university administration should ensure that teaching staff is adequate as well as proper and better coordination of Open Learning programmes to avoid over expenditures. At the same time, the study also proposed review of university fees with a view of making education more affordable. Considering that more of the students seeking university education are family people, the study also proposed the construction of hostels with family set-up especially for student mothers so as to enable such students' access education. The other way is to increase financial sponsorship as well as reducing the cost of education which creates opportunity for those deserving students who may have difficulties paying university fees. The fees can also be charged according to units taken/registered. Further than this, universities should provide enough copies of handouts at its cost through tuition fee paid, provide spacious lecture rooms to cater for the growing number to university students and finally

allow more time for registration. In addition, university physical resources like furniture, lecture halls they should be well maintained. Most important was to increase the human resource to improve on teacher-student ratio so as to improve quality of learning. The university should encourage research and innovations in various fields by giving grants and incentives to the lecturers and other scholars.

#### **5.4 Conclusions**

In view of the foregoing findings, the researcher made a number of conclusions. These conclusions are presented here in the order of the objectives of the study.

Concerning the first objective which sought to establish the level and nature of programmes offered in the university education in Kenya, the researcher concluded that universities are trying to reach out to as many people as possible (who are seen in this case as clients) in their quest to provide education as manifested through the diversity in the level and nature of their programmes, target consumers of their programmes and even the modes of study. It is however notable that even as this is the case, programmes management is inadequate. Also statistical research projections were found to be missing in most of these universities hence the unpopularity of some of the courses with immediate employment on completion.

In relation to the factors affecting demand and supply of university education in Kenya, the study concludes that the extent to which certain factors affect demand of education in

Kenya is not constant. It keeps changing as evidenced in the fact that while the (economic) benefits of education has for so long been the main factor affecting demand of university education. Findings from this study revealed that social reasons form a much stronger factor in the demand for university education in Kenya. Nonetheless, the other factors such as personal disposable, preferences and tastes and the quantity of programmes demanded also continue to influence the demand of university education at varying levels. As for the supply of higher education, it appears that the government and its financial policy on education is the main determinant of the supply of education and in the absence of a supportive educational financing policy the parents will always bear the burden of costs (fees and other related expenses) for their children in the wave of poverty.

Concerning the challenges facing demand and supply of university education, the study concluded that the challenges have mainly to do with over-stretched facilities materials for teaching and learning and that the continued inadequacy of these facilities and materials forces the students to spent more thereby further increasing the cost of education thus making it less and less accessible.

In relation to strategies to develop demand and supply of university education, the study revealed that four main aspects namely; reducing the costs, improve human resources, increase on physical facilities and offer grants and innovation opportunities to improve quality of university education.

## **5.5 Recommendations**

Having provided summaries of the findings and thereafter conclusions to the study, this section provides recommendations from the findings and the conclusions.

On the first objective, this study recommends that there is need to admit students on the basis of statistical projections. This will ensure that to a good extent there is some consistency between university courses and potential employment opportunities. This will be a sure starting point to address the issue of educated unemployment that has been identified as emanating from this mismatch.

On the objective on the factors influencing the demand and supply of university education, the study recommends that there is need plan well for university education e.g. admitting students based on carefully done projections since lack of this may certainly result into challenges related to quality of education. At the same time, there is need to strengthen the funding modalities for university education since it appears to be the strongest factor in determining the supply of higher education in Kenya. Finally, such projections should also include projections on the patterns of demand of university education as it has been established that such reasons as to why people seek university education keep changing.

On the challenges facing demand and supply of university education, the study recommends that universities should plan prudently and admit numbers of students they

can take care of by way of providing adequate facilities and other resources to address the reported unavailability of resources and wastage of university students.

### **5.6 Suggestions for Further Research**

The following recommendations were made for further research:

- a) Further research is also recommended with regard to comparison between academic performance of Self Sponsored Programmes (*SSP*) and Joint Admissions Board (*JAB*) students to check on the quality of education given to these two groups of students. In addition, research of this kind should be extended to other public institutions in a bid to assess *SSP* programmes in the country.
- b) A similar study should be carried out in all tertiary/middle level colleges of education and training because it is clear those determinants of demand and supply of these levels of education is different from university education.
- c) A study to establish key determinants of programmes provided in these universities should be carried out. This will enable university education policy-makers to know the specific needs of specific programmes and therefore, address each programme with respect to its uniqueness.
- d) A study should be carried to establish the quality of university education in the light of increasing number of university going students. This is in respect of the current trend of many upcoming universities and enrollment of very many students with limited resources.

- e) A study should be carried out on the impact of Information Communication Technology (*ICT*) on teaching in university education increasing numbers of enrolled students in these institutions. It will be very important to establish how many lecturers are conversant with this mode of teaching.

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## APPENDIX I

### Questionnaire for the University Administrators (DVCs and Registrars)

This study is for academic purpose. It is intended to establish the problems of students and their effects on learning in public universities. Kindly respond to the questions as candidly and precisely as possible. Your honesty and co-operation in responding to these questions will highly be appreciated with utmost confidentiality.

Please fill in the required information in the spaces provided or Tick ( ) where necessary.

#### A) Background Information

1) (a) Institution \_\_\_\_\_

(b) Designation of the respondent \_\_\_\_\_

2) Type of University

Public University ( )

Private University ( )

3) Marital status:

Single ( )

Married ( )

Separated ( )

Widowed ( )

4) Gender: Male ( )

Female ( )

#### B) What is the level and nature of programmes offered in the University Education in Kenya?

5) (a) List all the levels of programmes that you have in your University.

	Institution	No. of Programmes	Type of Programmes
1.	KU		
2.	JKUAT		
3.	MMUST		
4.	CUEA		
5.	BARATON		
6.	PWANI		
7.	KEMU		

4) How satisfied are you are that the programmes are responsive to:  
(1) Extremely dissatisfied (2) Dissatisfied (3) Neutral (4) Satisfied (5) Extremely dissatisfied

- a) Beneficiary (1) (2) (3) (4) (5)
- b) Consistency needs (1) (2) (3) (4) (5)
- c) Expectations (1) (2) (3) (4) (5)

5) Do the programme reflect the following?  
(1) Extremely dissatisfied (2) Dissatisfied (3) Neutral (4) Satisfied (5) Extremely dissatisfied

- a) Vision (1) (2) (3) (4) (5)
- b) Mission (1) (2) (3) (4) (5)
- c) Aspirations (1) (2) (3) (4) (5)
- d) Directions (1) (2) (3) (4) (5)
- e) Goals (1) (2) (3) (4) (5)

6) Do your programmes show best expressions in terms of:  
(1)Very adequate (2) Adequate (3) In adequate (4) Very inadequate

- a) Talents (1) (2) (3) (4)
- b) Expertise (1) (2) (3) (4)

7. How do you rate your programmes in terms of the following?  
(1) Satisfactory (2) Neutral (3) Unsatisfactory

- a)Programme viability (1) (2) (3)
- b) Review process (1) (2) (3)
- c) Support (1) (2) (3)
- d)Implementation (1) (2) (3)
- e)Industrial Attachment (1) (2) (3)
- f) Continuously improved (1) (2) (3)

8) Levels of Universities Programmes in industrial Attachment (Tick)



Demand

15) The range of prices of our programmes

<b>Programmes</b>	<b>Range of prices (KSH)</b>
Certificates	
Diplomas	
Advanced Diplomas	
Bachelors degree	
Post-grad. Dip.	
Maters	
PHDs	

16) Do the above prices affect access into University Education?

Yes ( )

No ( )

17) Does the aspect of population affect demand of University Education?

Yes ( )

No ( )

18) Does the changes in quantity of programmes affect demanded of University Education?

Yes ( )

No ( )

Supply

19) How do you rate the Disposable Income of the government?

<b>Rating</b>	<b>Tick</b>
Average	
Below	
Excellent	

20) Does the government do enough on the Cost of University Education?

Yes ( )

No ( )

21) Does the benefits accruing to the government from university Education affect demand?

Yes ( )

No ( )

22) What is the government budget for your University?

<b>Category</b>	<b>Tick</b>
Average	
Below	
Excellent	

23) State other financial means of running the University.

<b>Category</b>	<b>Tick</b>
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NGOs	
Partnership foreign universities	
Initiating projects	
Affiliate to tertiary colleges	
Churches	
Well wishers	

24) In which category do your lecturers fall in?

Category	Tick
Contract	
Permanent	
Part-timers	

**D) What are the problems and challenges facing demand and supply of university education in Kenya?**

25) Which reason(s) contribute to students' wastages and may affect access to University education?

Category	Tick
Costs	
Disciplinary cases	
Wrong programmes	
Domestic problems	

26) Which of the following items are adequate or inadequate in your University?

Category	Adequate	Not adequate
Lecture rooms		
Number of lecturers		
Library capacity & Enough resources		
Internal hostels		
Job guarantee		
Modern ICT systems		

**E) What are the strategies for addressing the challenges associated to the trends of demand and supply of University Education in Kenya?**

17) Suggest the way forward to improve demand and supply of University Education.

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## APPENDIX II

### Questionnaire for Students in Public and Private Universities

This study is for academic purpose. It is intended to establish the trend of demand and supply of University Education in Kenya. Kindly respond to the questions as candidly and precisely as possible. Your honesty and co-operation in responding to these questions will highly be appreciated with utmost confidentiality.

Please fill in the required information in the spaces provided or Tick ( ) where necessary.

#### A) Background Information

1) Institution: \_\_\_\_\_

2) Indicate Category:

SSP Student ( ) 65%

JAB Student ( ) 35%

3) Your gender Male ( ) 52% Female ( ) 48%

4) Your age (in years). Between;

18-25 ( ) 26-33 ( ) 34-41 ( ) 41-49 ( )

5) Marital Status:

Married ( ) Single ( ) Separated ( ) Widowed ( ) Divorce ( )

6) What is your category?

Humanities ( ) 25% Sciences ( ) 15% Social Sciences ( ) 60%

7) Indicate your employment status

Employed ( ) 60% Not employed ( ) 32% Self-Employed ( ) 8%

#### B) What is the level and nature of programmes offered in the University Education in Kenya?

8) (a) Is your course programme popular in terms of employment?

Yes ( ) 48% No ( ) 52%

(b) If no, what are the reasons for choosing?

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9) Which source did you get your prior information about your programme?

Category	Tick
University brochure	
Friends	
Advertisement	
Career counseling	
Mentors	

10) (a) Do you like your course?

Yes ( )

No ( )

(b) State the reasons for saying no

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11) (a) Is your course practical oriented?

Yes ( )

No ( )

(b) If no, give reasons

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**C) What are the Determinants of Demand and Supply of University Education in Kenya?**

Demand

12) Do the prices of programmes affect the demand for University Education?

Yes ( )

No ( )

13) Do personal disposable incomes affect University Education?

Yes ( )

No ( )

14) Do the benefits accruing from University education affect demand of potential students?

Yes ( )

No ( )

Sometimes ( )

115) Does the social reasons influence demand of University Education?

Yes ( )

No ( )

16) Does preferences/tastes affect the demand of University Education?

Yes ( )

No ( )

Supply

17) Rank in order of preference your probable sources of finance for your course.

Means of financing course	Ranking (1—6)
Parents	
Guardian	
Self	
HELB	
CDF	
Scholarship	

**D) What are the Problems and Challenges related to demand and supply of University Education in Kenya?**

18) How do you rate your fee?

Expensive ( )

Affordable ( )

19) (a) Indicate if you have requested :

Semester-off ( )

Deferment ( )

None ( )

(b) Give reason(s) for your choice.

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20) What are some of the problems and challenges do you think influence demand and supply of university education? (Tick)

Category	Adequate	Not adequate
Lecture rooms		
Number of lecturers		
Library capacity & Enough resources		
Internal hostels		
Job guarantee		
Modern ICT systems		
laboratories		

21) How do you rate the returns on your diploma/degree course?

Category	Tick
Salary increment	
Self satisfaction	
Employment	
Promotion	

22) How do you rate your fee for your course?

Category	Tick
Expensive	
Affordable	

23) Please tick any request below from your University.

Category	Tick
Semester-off	
Deferment	
Requested None	

**E) What are the strategies for addressing the challenges associated to the trends of demand and supply of University Education in Kenya?**

24) Suggest solutions to the above listed problems

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### APPENDIX III

#### Interview Schedule for Government Officials (MHE& CUE)

1. a) Institution : \_\_\_\_\_  
b) Designation: \_\_\_\_\_
2. What is the policy of Ministry of Higher Education (MHE) on assessment of educational Credit / Student based funding structure in University Education in Kenya?
3. How are the MHE / CHE /HELB/ evaluate the role of JAB in this era of liberalization of University Education in Kenya?
5. What is the position of the Ministry / CHE on the efficiency on the demand and supply of University Education in Kenya?
- 6) (a) what efforts is the ministry doing to make sure that the new universities follow substantive requirements before commencing?  
(b) What are the punishments for those who do not adhere?
- 7) What are the problems and challenges experienced in terms of demand and supply of University Education in Kenya?
- 8) What recommendations can you make to enhance the demand for and supply of University Education effectively and efficiently in Kenya?

## APPENDIX IV

### Interview Schedule for Informed Specialists (Senior Lecturers)

1) (a) Institution: \_\_\_\_\_

(b) Designation: \_\_\_\_\_

2) What is your opinion on the current pattern of financing University Education in Kenya?

3) What is your opinion on the current growth of University Education institutions in Kenya?

4) Comment on the Costs of programmes in terms of fees and the upkeep of students in Kenya?

5) How do you evaluate the relevance of JAB towards our students and the potential students?

6) What is your opinion on the relevance of the programmes offered in our University Education institutions in Kenya?

7) Comment on physical structures of university education institutions.

8) What are the problems and challenges experienced in terms of demand and supply of University Education in Kenya?

9) What recommendations can you make to enhance the Demand for and Supply of University Education effectively and efficiently in Kenya?

**APPENDIX V**

**RESEARCH BUDGET**

<b>No.</b>	<b>Items Description</b>	<b>Sub-Total</b>	<b>Total</b>
<b>1.</b>	<b>Proposal writing</b> Desk Research-from various libraries Stationary, Computer, photocopy, printing and binding.	28,800.00 43,200.00	<b>72,000.00</b>
<b>2.</b>	<b>Research Instruments</b> Questionnaire (typing & Copies) Discussion Guide	35,000.00 10,000.00	<b>45,000.00</b>
<b>3.</b>	<b>Data Collection</b>  Hiring of 8 research assistants @ 8,000.00	64,000.00	<b>64,000.00</b>
<b>4.</b>	<b>Data Analysis (SPSS)</b> Data analysis	25,000.00	<b>25,000.00</b>
<b>5.</b>	<b>Final Draft Printing and Binding</b> Typing, Photocopy, Binding	40,000.00	<b>40,000.00</b>
<b>6.</b>	<b>Transport/Miscellaneous</b> Transport Telephone Stationary Computer service/internet services	52,000.00 20,000.00 38,000.00 35,000.00	<b>155,000.00</b>
	<b>GRAND-TOTAL</b>		<b>246,000.00</b>

**APPENDIX VI**

**KENYATTA UNIVERSITY  
DEPARTMENT OF EDUCATIONAL  
MANAGEMENT, POLICY AND  
CURRICULUM DEVELOPMENT**

P.O. BOX 43844 – 00100 GPO

**NAIROBI**

DATE: \_\_\_\_\_  
\_\_\_\_\_

Dear Sir/ Madam,

I am post graduate student at Kenyatta University pursuing a Doctor of Philosophy degree (*PHD*). I am undertaking a research study in the field of Educational Planning and Economics of Education. My research topic is “**Determinants of the Trend of Demand for and Supply of University Education in Kenya**”. You have been chosen to participate to in this study. The questionnaire intends to find out the trends of Supply and Demand of Higher Education in Kenya.

Your co-operation in answering the questions faithfully will be highly appreciated. All the data collected will be treated with utmost confidentiality and will be used only for the purpose of this study. Thank you in anticipation.

Yours faithfully,

**MADANJI O. GABRIEL**

**PHD. STUDENT (*RESEARCHER*)**

**REG. NO. E83/11904/07**

## APPENDIX VII

### Government Expenditure on University Education 2007/08—2011/12

	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012 +
<b>RECURRENT EXPENDITURE</b>					
MOHEST					
General Administration and Planning	392.20	613.3	723.7	389.5	540.5
Technical Education	2,607.0	3,815.3	2,885.1	3,162.3	2,604.1
National Council for Science & Tec .	111.8	129.2	188.4	535.5	621.1
University Education	10,941.5	12,899.8	16,266.5	33,784.5	31,137.4
Higher Education Services	1,484.1	2,239.3	2,199.8	3,961.8	4,039.6
<b>SUB-TOTAL</b>	<b>15,536.6</b>	<b>19,696.9</b>	<b>22,263.5</b>	<b>41,833.6</b>	<b>38,942.7</b>
<b>DEVELOPMENT EXPENDITURE</b>					
MOHEST					
General Administration and Planning	-	-	-	2,020.0	2,756.1
Technical Education	284.0	1,412.0	1,088.3	3,139.0	3,580.7
National Council for Science & Tec.	-	5.0	32	-	-
University Education	693.0	2,340.4	2,340.4	3,022.2	7,404.7
Higher Education Support Services	-	-	-	-	-
<b>SUB-TOTAL</b>	<b>977.0</b>	<b>3,757.4</b>	<b>3,460.7</b>	<b>8,181.2</b>	<b>13,741.5</b>
<b>GROSS TOTAL EXPENDITURE</b>	<b>16,513.6</b>	<b>23,454.3</b>	<b>25,724.2</b>	<b>50,014.8</b>	<b>52,684.2</b>

Source: Economic Survey, 2012.

## **APPENDIX VIII**

### **Guidelines for Preparing Proposal for establishment of a New University**

The basic requirements for the establishment of a new university are stipulated in the Universities (Establishment of Universities) (Standardization, Accreditation and Supervision) **Rules, 1989, section 7 (1) (a-f). Rule 7** is the basis for preparing a proposal document for establishing a new university. The guidelines could be summarized as follows:-

#### **Chapter I**

- Historical background of proposed university
- Experience of the sponsors.
- Justification for proposed university
- The vision, mission and philosophy of the proposed university.

#### **Chapter 2**

- Proposed name
- Location
- Academic character

#### **Chapter 3**

- Aims and objectives
- Strategies for achieving the objectives

#### **Chapter 4**

- Organs of Governance
- Administrative and academic structure

#### **Chapter 5**

- Outline of academic programmes intended to be conducted.
- The phases of implementation of the programmes.
- The justification for mounting programmes

#### **Chapter 6**

- Human resources (academic and non-academic )
- Library resources (up-date-collection, collection capacity, sitting capacity etc).

- Physical resources(land offices, lecture rooms, laboratories, utility services, health facilities, games and sports, library facilities etc)

### **Chapter 7**

- Timetable (including steps to be taken in the next three years towards the realization of the aims and objectives for which the university is to be established).
- Chart showing when various activities will be undertaken..

The following Appendices are to be attached with the application:-

### **Appendix I**

- Detailed curricula of the programmes to be mounted in phase one.

### **Appendix II**

- Title Deed

### **Appendix III**

- Detailed description of the proposed university library.

### **Appendix IV**

- Physical Resources (architectural drawings, charge of user documents, laboratory analysis of water etc).

### **Appendix V**

- A ten year master plan indicating physical, academic and financial resources.

### **Appendix VI**

- Rules and conditions governing student conduct and discipline.
- Terms and conditions of service for staff

### **Appendix VII**

- University admission requirements (minimum entrance requirements, other admission requirements)
- Financial requirements (tuition fees, medical fees, examination fees, accommodation and catering etc).
- Student welfare services (counseling services, sports facilities, health services etc)

**APPENDIX IX**

Research Request Authorization from Graduate School

**APPENDIX X**

Research Authorization from MHE

**APPENDIX XI**

Research Permit

**APPENDIX XII**

Research Clearance Permit