THE POTENTIAL OF OPEN DISTANCE AND e-L IN BROADENING
FEMALE STUDENTS ACCESS TO UNIVERSITIES IN KENYA: A
STUDY OF KENYATTA UNIVERSITY’S MARSABIT CENTRE

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KENYATTA UNIVERSITY

MAY, 2014

DECLARATION

I confirm that this research thesis is my original work and has not been presented in any University/institution. The thesis has been complemented by referenced works duly acknowledged. Where text, data, graphics, pictures or tables have been borrowed from other works- including the internet, the source are specifically accredited through referencing in accordance with anti-plagiarism regulations.

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We confirm that the work reported in this thesis was carried out by the candidate under our supervision as University Supervisor(s).
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Kenyatta University

DEDICATION
This thesis is dedicated to my parents Josphine Syevutha Kyutha and Justus Kyutha Wambua, sisters, brothers and more specifically to my late brother Joseph Nzila Kyutha, and my family members Geoffrey Musyimi (husband), Fidelis Ngumbau and Philemon Musyoka (sons) and Faith Mueni (daughter).
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To the Almighty God for His Mercies, Wisdom, Knowledge and Understanding that brought this study to completion.

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My sincere appreciation to my younger sister, Judith Syombua and her family, for taking care of my sons during the time of this study.
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### ABBREVIATIONS AND ACRONYMS

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<tr>
<td>ASALs</td>
<td>Arid and Semi-Arid Lands</td>
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<td>CBT</td>
<td>Computer-based Training</td>
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<tr>
<td>CD-ROM</td>
<td>Compact disc, read-only-memory</td>
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<tr>
<td>CLEP</td>
<td>College Level Examinations Programmes</td>
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<tr>
<td>DE(L)</td>
<td>Distance Education(Learning)</td>
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<tr>
<td>DSST</td>
<td>Dantes Standardized Subject Tests</td>
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<tr>
<td>e-Learning</td>
<td>Electronic Learning Programmes</td>
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<td>FGM</td>
<td>Female Genital Mutilation</td>
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<td>HE</td>
<td>Higher Education</td>
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<td>HELB</td>
<td>Higher Education Loans Board</td>
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<tr>
<td>HIV/AIDS</td>
<td>Human Immunodeficiency Virus/ Acquired Immunodeficiency Syndrome</td>
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<tr>
<td>IBT</td>
<td>Internet-based Training</td>
</tr>
<tr>
<td>ICT</td>
<td>Information Communication Technologies</td>
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<tr>
<td>JAB</td>
<td>Joint Admissions Board</td>
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<td>KCPE</td>
<td>Kenya Certificate of Primary Education</td>
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<td>KENET</td>
<td>Kenya Education Network Trust</td>
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<td>KU</td>
<td>Kenyatta University</td>
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<td>LMS</td>
<td>Learning Management Systems</td>
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<td>MCDE</td>
<td>Malawi College of Distance Education</td>
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<td>MoE</td>
<td>Ministry of Education</td>
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<td>ODeL</td>
<td>Open, distance and e-learning</td>
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<tr>
<td>PC</td>
<td>Personal Computer</td>
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<td>O L</td>
<td>Open Learning</td>
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<td>SA</td>
<td>South Africa</td>
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<td>Acronym</td>
<td>Description</td>
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<td>SSA-</td>
<td>Sub-Saharan Africa</td>
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<td>TV -</td>
<td>Television</td>
</tr>
<tr>
<td>UoN -</td>
<td>University of Nairobi</td>
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<tr>
<td>WBT -</td>
<td>Web-based training</td>
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<tr>
<td>ZINTEC -</td>
<td>Zimbabwe Integrated National Teacher Course</td>
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<td>ZOU-</td>
<td>Zimbabwe Open University</td>
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ABSTRACT

In Kenya, female students and especially those from Arid and Semi-Arid and marginal areas are underrepresented at various educational levels, particularly at University Level. The interventions to widen access and participation in Kenya for female students have been instituted centrally using affirmative action which led to increase in female access and participation but has also led to socio-economic and regional inequality. This is because it has given advantage to female students from prestigious schools, high socio-economic, urban and metropolitan areas at expense of those from Arid and Semi-Arid areas and the marginalized. This called for a change in mode of delivery in higher education, in order to bring the desired social change of attaining gender and regional equality in educational access. In an attempt to increase access and participation for female students from Arid and Semi-Arid and marginal areas, Kenyatta University with Ford Foundation and Kenya Education Network Trust started an Open Distance and e-Learning Centre at Marsabit, hosted by Moi Girls Marsabit in 2008. Since the programme was launched, studies have not been conducted to determine its feasibility and the potential it has as a strategy to increase access of female students from Arid and Semi-Arid areas to university in Kenya. This study was specifically focusing on finding out how Open Distance and e-Learning is designed and implemented in a rural and remote area, the potentials it has as a mode of delivering higher education and increasing female students from marginal areas to higher education. The study design employed a case study. Majorly qualitative data was generated and also quantitative data to address the study objectives. Purposive sampling was used for the study. Self-administered questionnaires were given to all the students enrolled at the centre, structured interviews were conducted on initiators of the project, project coordinators at Marsabit and Kenyatta University, Executive Director of Kenya Education Network Trust, Lecturers who interacted with the students, and Focus Group Discussions were conducted for a few selected students and community leaders. The data was mainly analysed through coding and categorization and entailed deep descriptions using words to represent information as obtained from respondents. Quantitative data analysis entailed basic descriptive statistics which were represented in tables and percentages. The data obtained showed that when well designed and fully sponsored Open Distance and e-Learning is more suitable approach to increasing access to female students to university from marginal areas. The Open Distance and e-Learning initiative is acceptable by both students and the community since the women can learn within their cultural setting. The study also showed that the implementation was not proper. The students lacked variety of reading materials, they needed more face-to-face interaction with lecturers, they needed a wider variety of courses to be offered since only Bachelor of Education (Arts) courses were offered. In terms of support, a broader financial support system was needed for them to complete their courses. There is a need for research to be conducted to establish the most promising package of interventions to be implemented to ensure greater access, high enrolment and completion rates of enrolled students.
CHAPTER ONE
INTRODUCTION

1.1 Background to the Study:

The Role of Open and Distance Education in Expanding Access to Higher Education

According to Field, J. (1994), Open Learning is used to denote both an educational philosophy and a set of techniques for delivering knowledge and skills. As a philosophy, open learning implies greater accessibility and student centeredness: it implies placing learner rather than provider at the core of educational practice. As a set of techniques, it is characterised by the use of resource-based teaching and training, often associated with the use of new communications media. As concepts, distance education and open learning are jointly referred to as ‘Open and Distance Learning’ (ODL) (Sharma 2007). Distance education refers to the mode of education where the interacting learner and teacher are separated by space and time, while open learning focuses on removal of many restrictions and rigidities in opening the doors of education for the needy learners (Koul, 2000). As a methodology, Distance Education (DE) is generally defined as one in which the learner is separated from the instructional base or teacher, either in space or time, for a significant portion of their learning.
In addition, most definitions of distance education pay attention to the following characteristics:

a) Institutional accreditation, where learning is accredited or certified by some institution or agency.

b) Use of a variety of media, including print, radio and television broadcasts, video and audio cassettes, computer-based learning and telecommunications.

c) Provision of a two-way communication, which allows for tutor-learner interaction.

d) Possibility of face-to-face meetings for tutorials, learner-learner interaction, library study and laboratory or practice sessions.

Though in some countries distance learning and open learning are used for different functions, the modern system of education uses these two terms jointly to refer to the same and unified concept Open and Distance Learning. The basic principle in both the cases remains the same. The main philosophy that governs the system is learners’ flexibility and democratization of education. This is the conception that has been adopted in this study. The concern is to establish if the various initiatives being established by countries in the name of Open and Distance Learning for marginal populations address the characteristics above in order to ensure quality (Dearnley 2003).
Throughout the world, studies show that Open and Distance Learning is a force contributing to social and economic development through the broadening of access to marginalized groups, especially women. This growth has been stimulated in part by interest among educators and trainers in the use of new Internet-based information technologies, but also by the recognition that traditional ways of organizing education need to be reinforced by innovative methods if the fundamental right of all people to a life of learning is to be realized (UNESCO, 2000). In efforts to meet the new and changing demands for education and training, open and distance learning may be seen as an approach that is at least complementary and under certain circumstances an appropriate substitute for the face-to-face methods that still dominate most educational systems. The barriers that may be overcome by distance learning include not only geographical distance but also other confining circumstances, such as personal constraints, cultural and social barriers and lack of educational infrastructure. Open and Distance Learning offers a number of advantages to both learners and providers. Problems such as distance and time, which are barriers to conventional learning, are overcome in Open and Distance Learning with the use of Information and Communication Technology, self learning materials and a good student support mechanism. However, the following are the main contributions of Open and Distance Learning for higher education.

Most University e-Learning programmes have been designed to increase access to higher education, especially for non-traditional students. In a recent survey on the
importance of various goals to institutions' distance education program (a high proportion of which use online technology as a primary or supporting medium of instruction), two out of three United States of America four-year public institutions indicated that increasing student access was a very important goal; either by "making courses available at convenient locations" (72%), or by "reducing time constraints for course taking" (66%), (UNESCO, 2000). The corresponding figures for four-year private institutions were also high (65% and 61% respectively). In Europe, as well, there is abundant evidence to show that widening access to their programmes – and to their related academic resources – is an important objective of many university e-learning strategies; reaching new groups of students (women and other marginalised groups) is an additional and closely related goal (UNESCO, 2000).

According to UNESCO (2002), Open and Distance Learning offers opportunities for countries to meet the new and changing demands for education and training. Open and Distance Learning is both complementary and under certain circumstances an appropriate substitute for the face-to-face methods that still dominate most educational systems. The advantages of Open and Distance Learning are seen more in terms of the learner through more freedom of access, and thereby a wider range of opportunities for learning and qualification. The barriers that may be overcome by distance learning include not only geographical distance, but also other confining circumstances, such as personal constraints, cultural and social barriers and lack of educational infrastructure (Plummer,
For the student, it is often a cheaper alternative to pursuing a course through conventional methods. Since many people cannot afford to leave their work in order to study, it is important that distance education and training may be combined with work. Distance and Open learning may also mean a more learner-centred approach, allowing greater flexibility and choice of content as well as more personal organization of the learning programme (UNESCO 2002).

Various studies have argued that the universalization of education and its worldwide acceptance as a continuous or lifelong undertaking, coupled with concerns about educational access and equity (Sangai, 2004, Komba 2009) as well as the prevailing level of poverty, necessitate the use of various education delivery approaches to enable all citizens to benefit from this public good. The conventional system caters for the needs of full-time learners from a specific age group enrolled in recognized institutions of learning at various levels of the education system: primary, secondary and tertiary. The requirements of such a system, usually determined by the relevant school/university boards, largely excludes many people outside traditional school-going age groups, those who are unable to fulfil essential eligibility requirements, and those who need education and training to gain competence in jobs and upgrading of their qualifications and training (Sangai, 2004). In the conventional approach the learner has to be on-campus, to register as a full-time student and to attend face-to-face lectures. Open and Distance Learning in this respect would be more appropriate to marginal populations, especially women, who in certain communities are limited by culture, poverty and tradition to access regular higher education institutions.
Women face challenges of multiple roles that may limit their ability to access traditional mediums of higher education that may mean leaving work, home, or family.

Abiodum (2008) argues that men constitute the first and underlying cause of gender (and perhaps \ every other form of) inequality. . . “it has become the prevailing custom in many societies that the male, gradually but determinedly acquired and retained decision within the family and other institutes of the society”. Making decisions in such private and public matters definitely translates into holding and retaining the power to control most affairs. And little surprise, such decisions of cause, would always be more beneficial to the male. Abiodun (2008) further argues that women, no matter how educated, do not belong to the Boys’/Men’s clubs, where important information is shared and crucial decisions are made. Most of these decisions may result in the marginalisation of women. Studies by Hochschild (1989), involving research on women’s work and family life, introduced the idea of the ‘second shift’, this being the home shift that women do following formal paid employment. This ‘shift’ involves tasks traditionally undertaken by women linked to family and community, including housework, and childcare. The American Association of University Women (AAUW) believes that education forms a ‘third shift’, as more and more women see education as key to future opportunity and economic wellbeing and are embarking on distance education, adding study and research to their other roles. While studies by Hochschild and later by AAUW are based on research undertaken in the United States of America, their findings are relatively
universally applicable. Due to their multiple existing roles, women are particularly ‘vulnerable to negative effects of adding a new role such as student to their already busy lives’ (Cragg, Andrusyszyn and Fraser 2005).

After decades of decline and policy neglect, there is now increasing interest from national and international actors in expanding higher education in Sub-Saharan Africa. Most African countries are in the process of reforming universities to admit more students. Expansion in access has been achieved through increased enrolments in public universities, including the creation of new ones; and a rapid growth of private universities (Materu, 2006.) The interest in higher education, and especially with issues of access and equity in Africa, has been due to the worldwide recognition of the increasing role of higher education and knowledge in development. Globally, policymakers and governments increasingly acknowledge that the ability to improve people’s lives rests substantially on the development of human skills and the capacity to develop and adapt technology appropriate to the needs of individual nations and local situations (Materu, 2006).

Referring to the increasing demand for university education in Africa, Mackintosh (1999) argues that the slow growth in access to tertiary education in particular as a “time-bomb”. This is because improving access to education is one of the highest priorities of capacity building on the continent. For example, the tertiary education gross enrolment ratio for Sub-Saharan Africa is 3.6% when compared with other developing regions, for example, the Arab states (14%), Asia (10.4%) and Latin America (18.4%), (World Bank 1999). Based on the demographic profiles of the traditional 18 – 23 year-old cohort of higher education, the 1999
World Bank Report estimated that many African countries needed to double their access to higher education by the year 2010. Based on this challenge, the need for distance education in Sub-Saharan Africa to meet the access needs, especially of marginal populations and women, has been on the increase. Shabani and Okebukola (2001) suggest that what informs the demand is:

a) the perception that distance education can expand the limited number of places available,

b) reach a wider student audience,

c) meet the needs of students who are unable to attend on-campus classes,

d) provide continuing professional development to graduates,

e) be used to meet the demand for life-long learning,

f) involve outside experts who would otherwise be unavailable (for example, there is a lack of trained teaching personnel relative to the demand, teachers are geographically concentrated and teachers with expertise are in short supply), and

g) Improve access to education for women who have been treated as second class citizens as far as development is concerned.

Despite the increased expansion in higher education, Sub-Saharan Africa still faces challenges related to participation rates, access and equity. Studies show that participation rates in Sub-Saharan Africa Universities are substantially lower than the average for both developing countries and industrialised/developed...
countries (UNESCO, 2008). The median participation rate for Sub-Saharan Africa is 2.5% compared to the developing country median of 13% and the industrialised country median of 58% (UNESCO, 2008). In addition to low participation rates, access to higher education is highly inequitable along the lines of gender; socio-economic status; and region (Morley, Gunawardena, Kwesiga, Lihamba, Odejide, Shsckleton and Sorhaindo 2006). In almost all Sub-Saharan African countries, women have substantially lower participation rates. Where they have managed to enter higher education in Sub-Saharan African countries, their participation is often concentrated in so called traditional ‘women’s’ disciplines such as the humanities and education, rather than in commerce, engineering and science (Oanda and Rita, 2010). Besides, in almost all Sub-Saharan African countries, participation in higher education is skewed in favour of students from urban and metropolitan areas. Students from rural households face enormous barriers to accessing higher education in general and the higher quality higher education institutions in particular (Chege and Sifuna, 2006).

The major barriers to increasing access and the academic success of women and other disadvantaged groups include cultural gender bias, types of secondary schools available, the inflexible nature of the system, lack of female role models in education, lack of guidance and counselling available to women and the admission criteria to most institutions of higher learning that are mainly not responsive to the disadvantaged groups (Morley, Gunawardena, Kwesiga, Lihamba, Odejide, Shsckleton and Sorhaindo 2006).
To meet the above challenges, countries in Sub-Saharan Africa are embracing Distance education and Utilization of e-Learning to deliver higher education. The impact of information technology has led to the emergence of Open, Distance and e-Learning (ODeL) as a supplement to the traditional educational system. Many educational institutions around the world are experimenting with Open Distance and e-Learning to enable them address the growing demands for higher and continuing education. National distance education programmes have contributed significantly to increasing access to tertiary education. Distance education students now represent at least 30% of those enrolled at Makerere University in Uganda, and about half of students at both the University of Cape Coast in Ghana and at the Catholic University of Mozambique (Mufutumari, 2010). At the University of Mauritius, 40% of their first-year modules are now available as distance education programmes (Mufutumari, 2010). By removing barriers to education, Muganda, (2002) says that Open Distance and e-Learning opens up the possibilities of social justice in higher education in terms of access, relevance, flexibility, lifelong learning opportunities and democratization of knowledge. However, maximizing the realization of these possibilities is still problematic as evidenced. For example, to date in Africa (Maliyamkono and Mason, 2006) there are still a great number of people who are missing out on higher education. Consequently, intertwining Open and Distance Learning with e-Learning as a pedagogical strategy has led to new insights and new technologies have been optimized to enhance teaching and learning. E-learning is an important tool for
distance education, since it offers instant access to global educational resources. It also allows:

a) Easy creation, update and revision of course materials

b) Enables more flexible interactions between teachers and students; and

c) Provides easier access to education for students in remote locations (Bon, 2007).

In Most of Africa, Open and Distance Learning is seen as an alternative or complementary mode of learning. For many who have attended school, a university or college is the place to aspire to. For many can better their chances, and improve their qualifications by devoting themselves to distance education. Courses are designed with technology in mind. In other words Information and Communication Technology is increasingly used to assist in learning. This technology enables the student to have direct and immediate access to the lecturer. She/he may participate in chat rooms with other learners and the lecturer to transmit materials by electronic mail. Students may access the digital library and browse the internet doing their own research or may have lectures posted on the web. There is also a growing trend whereby some courses are available only via electronic means. The problem is that in Africa, the most advanced form of technology is not available as medium for most Open and Distance learners (Bon, 2007). Many potential students live in very remote areas, generally in isolation. Coping with book learning is itself an innovation and the investment necessary to navigate the computer may become a barrier. Due to the acknowledged educational benefit of the computer, the university committed to Open and
Distance Learning may be obliged to have learning centres decentralized from the main campus and train learners in the use of the computer and establish a computer laboratory.

The forces that are shaping the structure of Open and Distance Learning programmes in Africa include the changing landscape of higher education in Africa in the 21st century which is significantly different from that of previous centuries. The increasing number of entrants to higher education is higher now than at any time in the past; making higher education in Africa evolves from an elitist pursuit into a mass system. The pressure of numbers is one thing that traditional institutions are not equipped to cope with. Their capacities can never be raised to respond to the ever-increasing demand. The only alternative is the Open and Distance Learning system (Kanwar, 2008). However, inadequate capacity, lack of infrastructure and professional competencies in Open and Distance Learning remain important barriers. In many African countries there is a dire shortage of qualified staff required for guiding and influencing the development of Open and Distance Learning policies and for planning, developing, managing, and evaluating the programme (Bon, 2007). In addition, most Open Distance Learning institutions are handicapped by financial constraints. Several distances learning institutions in Africa were started without adequate provision for funds and many of the institutions grew and expanded so rapidly beyond the available resources, and as a result they have been unable to maintain both the quantity and quality of their services as well as the efficiency of their operations.
In Kenya, various commissions have since independence highlighted Open and Distance Learning as an alternative strategy of delivering education. Ominde Education Commission at independence in 1964/65 recommended the establishment of an advisory commission on Open and Distance Learning. In 1976, the Gachathi Report recommended that solution to access of education should involve Open and Distance Learning. This was further recommended by subsequent reports such as the MacKay report of 1981 and the Kamunge Report of 1988 (Odumbe, 2008). Though no specific national policy was set up to guide the use of Open and Distance Learning in the country, individual institutions used it to address education needs.

Over the years there has been rapid rise in the number of students in university education. In the 2008/09 total enrolment in Kenyan public universities was 100,648, private accredited universities was 21,165 and private unaccredited was 1,344 (MoE, 2009). Even with the rapid expansion of higher education as the case throughout sub-Saharan Africa, women are dramatically under-represented in it in Kenya. For some time, public universities have been operating an affirmative admission criterion for increasing access for female students and those from Arid and Semi-Arid areas, though the numbers of students from these areas who qualify under the regular Joint Admissions Board (JAB) are very few. In 2009 the number of students from Arid and Semi-Arid areas admitted to the public universities under affirmative criteria was only 60 students out of 24,221, comprising 0.24% (Mwiria, K. 2011). Since girls in Arid and Semi-Arid areas are affected more by socio-economic and cultural barriers, the numbers of female
students from these areas who are admitted to the universities are very low. In Kenya, in the year 1986, women comprised 49% of primary school students, 41% of secondary school students, and only 30% of university students (Republic of Kenya, 1988). With current data 20 years down the line, the situation has not changed much since in public institutions, in year 2008; women comprised 49% of primary school students, 45.99% of secondary school students, and 37.65% of university students (MoE, 2009). Although, on the basis of the overall enrolment at the university level, females have increased over the years but their percentage remains low in relation to their male counterparts. The enrolment increased from 4,740 in 1987/88 to 11,280 in 1990/91 and current data reveals that in 2008/09 were 37,896 which constituted 37.65% (MoE, 2009).

In terms of background, it is apparent that most of the women who attend university come from proportionally more advantaged background. For example, at the University of Nairobi in 1999/2000 to 2004/2005 academic year, out of 2400 female students admitted only 11 or 0.6% were from arid district and 388 or 16.2% were from semi-arid districts. There is also the strong attachment to traditional lifestyle that denies women opportunity to schooling, and this gets worse if schooling has to make women travel outside their homes, because their culture restricts female mobility. These social-cultural factors confine women to the lower levels of the educational systems. These perceptions coupled with economic factors, leads to most families in marginal areas to terminate girl’s education at lower levels of education. A study by Kanake (1998) showed that
men tend to shun highly educated girls especially where candidacy for marriage is concerned. A highly educated woman is viewed as rude, uncooperative and unable to manage house work. These perceptions are said to discourage some female and their parents from pursuing higher education in marginal areas (Kanake, 1998), since marriage for women is highly valued. Thus there is need for urgent attention to these issues to increase women’s access and participation in university education. These socio-cultural factors also make Information and Communication Technologies’ equipments not accessible by women. There is a cultural notion that men own all the technology and the equipment is inaccessible to women and girls even in their own homes, thus they will not know how to use it. Information and Communication Technologies are male-dominate and women are not the first to gains access and use them due to cultural and socio-economic factors. In such areas there is a problem if women tried to access equipments in meeting places that are regarded as men’s preserves, such as rural shopping centres, libraries and community centres. Thus women lack the necessary confidence and need to be encouraged.

Measures taken to increase access to higher education in Kenya, especially for female students and students from marginalized groups have hardly democratized or enhanced equity at this level. On the contrary, patterns of access to both public and private universities tend to reflect increasing regional, gender and socio-economic differentiation in the country. A recent study tracking various access opportunities for female students to universities in East Africa reveals that in the case of Kenya, at the University of Nairobi, 83.4% of students come from high economic
potential districts with only 0.5% of total females coming from arid or semi-arid districts (Griffin, 2007). The Report indicated that affirmative action policies tend to favour disproportionately girls from prestigious schools and high socio-economic areas. What this means is that specific affirmative policies are needed for females students from the Arid and Semi-Arid regions and those from poor households. Part of the new interventions should be to explore how the Unexploited Potential in Open and Distance Learning can be used to increase higher education opportunities for women from the Arid and Semi-Arid areas. Experiences from other countries such as Tanzania, Nigeria, South Africa and the United Kingdom have demonstrated the potential of Open and Distance Learning in increasing access. Kenya has not pursued this mode of delivery in a consistent and aggressive manner.

This study was a case study of the Open and Distance and e-Learning program for female students from Pastoralist communities in Marsabit County. While in the past some groups’ cultural attitudes and practices led to limited participation in formal education, low completion rates and poor educational achievements among pastoral communities and especially in arid and semi arid districts, the continued political neglect of these areas, the high level of poverty coupled with slow pace of economic development, ethnic and clan conflicts and occasional droughts and famine, have perpetuated low enrolments. These factors have increased regional and gender inequality in access to and provision of basic education opportunities that is reflected in subsequent levels. This is the background that led Kenyatta University, in partnership with Ford Foundation and Kenya Education Network Trust, to initiate an Open Distance and e-Learning centre for women from
marginalized and Arid and Semi-Arid area in 2008, hosted by Marsabit Moi Girls Secondary School. It was, therefore, important to find out how the programme was running and if it could be used as a strategy of increasing access of female students to higher education who faced similar limitations, like those of Marsabit County.

Due to socio-economic, cultural and infrastructural barriers, girls and women from the said region were not able to participate at all levels of education compared to males or other women from other parts of the country. Hence, Kenyatta University initiated an Open Learning Centre to address the training needs of female secondary school teachers in Arid and Semi-Arid and marginal areas, which required a two pronged approach. First, was to increase the pool of female graduates who would fill the gaps in female teacher placements. Besides providing opportunities for higher education, the Kenyatta University centre uses creation of female teachers as role models in communities. The innovation aims at training female teachers in higher education. Since they teach in local schools, they will act as role models and inspiration to other girls students in primary and secondary schools. In this way, the project adopts a holistic approach that may in the long term transform female education among the Arid and Semi-Arid communities. Secondly, due to socio-cultural, economic and infrastructural challenges, Open and Distance degree programmes were the most viable in reaching potential students in remote areas since strong attachment to traditional lifestyles denies women opportunity to schooling. This gets worse if schooling
has to make women travel outside their homes, since their culture restricts female mobility (Sheila and Elaine, 2005), coupled with their productive and reproductive roles in society. Such programmes need to exploit Information and Communication Technologies (ICTs) to increase the quality and completion rates of enrolled students. Hence strategies such as Open Distance and e-Learning if well designed, can address some of the barriers to higher education since women will access such education within their cultural setting. Moreover, Open Distance and e-Learning has the ability to integrate education with the culture. Though in marginalized areas, it may not be the answer to female access and participation in higher education, parse, it holds up a promise to bring those at the peripheral of society within the net of educational opportunities through enhancement of talents and capacities.

It was therefore important to find out how it was being implemented, the views and perceptions of the female students, besides the various cultural obstacles to gender and Information and Communication Technology use and the views of the community leaders about the centre.

1.2 The Statement of the Problem

This study set out to find out whether a sponsored Open Distance and e-Learning as a mode of delivering higher education and as an intervention has a potential of broadening access of female students from Arid and Semi-Arid and marginal
areas to universities in Kenya. These females usually face various barriers in their attempt to university education as has been already pointed out in this discussion. Kenyatta University Marsabit Open Distance and e-Learning Centre was established to address these limitations in two ways: One, to train female teachers at the university level who would then be role models to stimulate girls’ education within the Arid and Semi-Arid regions. Two, to provide higher education within convenient environments for women from the pastoralist communities of the region. The study also sought to find out how Open Distance and e-Learning was designed and implemented to increase female access to and participation in higher education within the Arid and Semi-Arid areas.

1.3 The Purpose of the Study

Through a case study of Kenyatta University Marsabit Centre, the purpose of this study was to find out the operations and implementation strategies of Open Distance and e-Learning in Arid and Semi-Arid region in enhancing the access of female students from marginalized areas to higher education. The study also purposed to find out student support programmes which could be put in place to make Open Distance and e-Learning more women friendly and thus increase access and completion rates of enrolled female students.

1.4 Objectives of the Study

The following objectives guided this study:
a) To explore how the Kenyatta University (KU) Marsabit Open Distance and e-Learning Centre had been designed and implemented as a strategy to increase access of female students from marginal areas to universities in Kenya.

c) To find out the perception of the female students and the local community on Open Distance and e-Learning as a strategy for increasing access to women in marginal areas to Universities.

d) To identify the challenges of adoption of Open Distance and e-Learning to increase access to female in higher education.

e) To find out how Open Distance and e-Learning could be improved as a strategy to broaden access of female students from marginal areas to Universities.

1.5 Research Questions

a) How had the Kenyatta University Marsabit Open Distance and e-Learning centre designed and implemented as a strategy to broaden access of female students from the marginal and communities in Arid and Semi-Arid areas to universities in Kenya?

b) What were the perceptions of the students at the Kenyatta University Marsabit Open Distance and e-Learning centre, and the surrounding
community on the centre as a strategy to broaden access of female students from the communities to the university?

c) What challenges faced the adoption and implementation of the Kenyatta University Open Distance and e-Learning centre as a strategy to broaden access of female students to universities?

d) How could Open Distance and e-Learning strategies be designed and improved to broaden access of female students from marginal communities to universities in Kenya?

1.6 Significance of the Study

The findings of the study were expected to contribute to the literature informing the practices of designing and implementing Open Distance and e-Learning to be suitable to women in marginal areas. This was in respect to designing Open Distance and e-Learning programme that address the socio-cultural, economic and infrastructural challenges which impede their access to and participation in higher education. The study provided information about the student support programme and improvements that could be made to address the specific and real needs of female students from marginalized areas. The study was to provide information on the challenges of adopting Open Distance and e-Learning in remote areas and provide recommendations of overcoming them. The study was to inform the potentials that Open Distance and e-Learning had in increasing female participation in university education and how these could be harnessed to increase
female participation in higher education, thus bridging the gender and regional gap in university education.

1.7 Limitations of the Study

Due to geographical location, long distance and poor infrastructure, a pre-visit to the Centre was not done by the researcher before the time of study. However the information required was obtained by conducting the Centre coordinators at Kenyatta University Main Campus and at Marsabit Centre.

Due to time and financial limitation the study was narrowed to the Open Distance and e-Learning students and some members of Board of Governors of the host school to give their views and perceptions about the Centre as a strategy to increase female access and participation to higher education in their community.

Poor infrastructure and high cost of transport limited accessibility to the centre by researcher and research assistants. To ensure adequate and objective data was collected and analyzed, triangulation of research techniques was used. Also, where face-to-face interaction with the respondents was not possible, objective data was collected using various Information and Communication Technologies such as e-mails and mobile phone communications. In addition, one of the research assistants was from Marsabit.

1.8 Delimitations of the study
This study did not get responses from the male guardians and spouses of the female students enrolled at the Centre, in terms of the support they gave them. This was because, the study intended to get the experiences of the female students and the other population involved in the activities of the Centre.

1.9 Assumptions of the study

This study assumed that the information and data provided by the respondents was true and correct concerning the Centre and community in terms of perceptions, challenges and the possible ways of overcoming the challenges. Thus the data provided was quality and adequate for the study to draw conclusions on the Open Distance and e-Learning as a mode of delivery of higher education to broaden access and participation to women from marginalized areas.

1.10 Theoretical framework

This study was based on two theories, namely: Paradigm Shift Theory and Social Feminist Theory.

1.10.1 Paradigm Shift Theory

According to Kuhn T. (1962), scientific revolution occurs when scientist uncounted anomalies which cannot be explained by the universally accepted Paradigm within
which scientific progress has thereto been made. While applying the concept of paradigm within social context in addressing issues of changing paradigm, process popularly called paradigm shift, Handa (2012) shows how the shift affects social institutions in order to meet social needs and bring the desired social change. In this study, the current institutional-based access to university education highly favours male students and females from metropolitan regions. These ones do not face many barriers in their access to higher education. To broaden access to female students from Arid and Semi-Arid regions, who face many barriers in their attempt to access university education, there is a need for a paradigm shift to Open Distance and e-Learning.

In this context, the study attempted to find out whether Open Distance and e-Learning and using student centred approaches for women had any impact in increasing female participation in higher education. In this current shift, Open Distance and e-Learning and student-centred approaches puts `other groups` (women, marginalized communities) as on the same footing with dominant groups (men and women from metropolitan regions). The inflexible admission, selection and entry requirements by Joint Admissions Board and on-campus admission have limited the access of women from Arid and Semi-Arid and marginalized communities to higher education. Thus, such has to be replaced by a flexible admission and selection programme which caters for learner’s needs and constraints of time, space, resources and socio-economic disabilities faced by women. This will give these hundreds of Kenyan women hope or a chance to
juggle multiple roles in society while they continue learning. With Open Distance and e-Learning there will be a shift from face-to-face, teacher-learner approach where the learner is passive, communication is one way, and learner is not involved in development of knowledge. Hence, the paradigm shift would involve learner-instructor approach where the learner is active, communication is two way and the learner is involved in knowledge development, decision making on what to learn, how and when to learn.

1.10.2 Social Feminist Theory

According to Adamson, Briskin and McPhail (1988), in Lekalgitele (2003), social feminist recognizes that the exploitation and oppression of women are rooted in the structure of patriarchal capitalism. They believed that sexualism is so deeply ingrained in the social relationships of this that a fundamental transformation was necessary to bring about social change.

All theoretical perspectives in society strongly agree that culture does not merely mimic the past; it alters the present and transforms the future. Since in most remote marginal areas women are not empowered and lack economic control, they cannot make decisions as to whom in their society is to be educated. They are also restricted to move from their homes for long periods unaccompanied by their spouses or male guardians. Moreover, traditional campus-based mode of delivery of higher education has led to gender and regional inequality in access to higher education because of the oppression and exploitation of females in the
society by males through these cultural restrictions. Sponsored Open Distance and e-Learning as a mode of delivery of higher education will enable females’ access higher education within their cultural set-up. This will empower them economically and, since they are participating in economic growth of the society, may end their exploitation and oppression by males. This could result into change in the educational trends in these societies, leading to gender and regional balance in education.
1.11 Conceptual Framework of the Study

Figure 1.1 the conceptual framework

Women from marginalized area barriers to access higher education

- Restrictions of female mobility
- Socio-cultural practices that are discriminative
- Endemic poverty and male financial dependency
- Low performance in national exams
- Distance to educational institutions

Bridge to overcome Barriers

Open Distance and e-Learning mode of delivering university education overcomes the barriers and restriction

Open Distance and e-Learning enabling features

- Flexible time management
- Flexible selection and admission procedures
- Cost effective
- No regular class attendance
- e-learning thus can be learnt anywhere, anytime
- high degree of autonomy and independence in learning

Outcome

Women in Arid Semi-Arid and marginal areas access to higher education within acceptable cultural context

The conceptual framework for the study derives from theories of gender and education. A study by Plummer (2002) identified a wide variety of evidence from different countries to support the conclusion that open and distance learning has the potential to provide equal opportunities in higher and continuing education. She
emphasized that Open and Distance Education per se was women-friendly since it did not require attendance in class at set times. She also observes that geographical location and isolation have been identified as limiting the educational opportunities for women. Similar to women in rural Ghana, it has been described by Heiler and Richards (1988: 192, quoted by Plummer, 2000) that for rural Australian women, distance and isolation usually go hand in hand, greatly affecting their chances to gain education, training and employment. Hence Open and Distance Education bridges the educational and training gap for them to gain employable skills.

The study by Plummer (2002) shows that women make more demands on the institution than do male students, and they value and utilize the services in a different way. Women also place a higher value on the local support services. As a result, they have a higher rate of attendance in study centres, even though they have to overcome more obstacles in order to be able to participate. This female-oriented approach to learning at a distance need to be taken into account by Open and Distance Education system which actively wants to provide equal opportunities for men and women.

Plummer (2000) has argued that women and men have different learning styles which affect their participation in Open and Distance Education. She points out to research findings showing feminist theories of differential learning styles in men and women. The socio-economic characteristics of women influences their learning styles to a very large extend. The influence is so strong to the extent that some scholars attribute the under-representation of women in some courses to their different learning styles. Referring to the context in Canada, Przymus (2004) remarks that women are enjoying Open and Distance Education amid their hectic lifestyles.
The use of Information and Communication Technologies for Open and Distance Education has been shown in the literature to have special usefulness for women due to the uniqueness of their multiple roles and its impact on their learning styles. Some literature has argued that this is due to the learning styles of women and their multiple tasks, hence, Information and Communication Technologies could be a supportive facility for their studies at a distance. Others argue that the inherent technological challenges of women will not help the use of Information and Communication Technologies for Open and Distance Education for women (Evans 1995; Apt and Grieco 1998; and Davenport, 2004). The arguments of the present study are that Institutional set ups have the potential of helping women to combine distance courses with their family responsibilities and thereby contribute to more equal opportunities. It is assumed that distance learners are autonomous and independent and can study on their own and work their way through the course materials provided by the institution.

1.12 Operational Definition of Key Terms

**Affirmative action:** action taken on a temporary basis in favour of a disadvantaged group so as to enhance equity.

**Access:** availability of opportunity or chance for admission or to be in the system of institution of higher education.
**Distance Education (DE):** as a methodology, DE is generally defined as one in which the learner is separated from the instructional base or teacher, either in space or time, for a significant portion of their learning. In addition, most definitions of DE pay attention to the following characteristics:

**E-learning:** comprises of all forms of electronically supported learning and teaching. Is essentially the computer and network-enabled transfer of skills and knowledge.

**Gender discrimination:** refers to unequal or preferential treatment of individuals or groups based on their gender that results into reduced access to or control of resources and opportunities.

**Gender parity:** this is a numerical concept referring to equal number of girls and women, boys and men relative to their respective number in the population.

**Marginalization:** unequal treatment of people based on the suspect qualities of race, gender and place of origin. People and communities as those are not considered to be part of society thus hindered from taking part in or cannot participate fully in country’s social development and are excluded from services, programmes and policies.
**ODEL:** a mode of higher education transmission and dissemination of knowledge in which the teacher is separated from the learners in terms of space and distance, which is essentially computer and network-enabled.

**Open Learning (OL):** is a philosophy of learning that is based on the principle of flexibility to increase access to and equity in education.

**Participation:** active involvement in enrolment, retention progression, performance and transition.
CHAPTER TWO
REVIEW OF RELATED LITERATURE

Introduction

This section presents a review of literature related to the study. The review is presented based on locale and the objectives of the study.

2.1 Reviews on the Study Locale Marsabit

Marsabit County is Kenya’s largest, most arid, and least inhabited region, and the majority of their residents were, until quite recently, nomadic pastoralists. Marsabit Town, on Marsabit Mountain, where Moi Girls Marsabit Secondary School which hosts Kenyatta University Open Distance and e-Learning Centre, is the district capital, and the mountain is home to most of the district’s agriculturalists, which include Burji, Boran, and Ariaal and Rendille communities (Republic of Kenya 2008). The pastoral groups live predominately in the lowlands, although there are cattle keeping Boran and Ariaal settlements on Marsabit Mountain, and Samburu settlements in the Ndoto Mountains. Between the Ndoto Mountains and Mt. Marsabit lies the broad and flat Koroli Desert, which is occupied by Rendille’s who are camel keepers. To the north of the Rendille is the Chalbi Desert bordering Lake Turkana and Ethiopia, inhabited by Gabra camel pastoralists, Boran cattle pastoralists, and Dasenech agro-pastoralists on the shores of Lake Turkana. To the West (in Turkana County) live the Turkana cattle and camel pastoralists who have traditionally raided Rendille and Samburu.
To the East (Wajir and Isiolo) are Somalis, made up of different clan groupings. All of these groups have raided and counter-raided each other for livestock, with many raids intensifying during the extensive droughts of the 1990s (see Appendix G, The Map of Marsabit County).

Information regarding different socio-economic profiles related to the study locale was got from the Kenya multiple indicator survey undertaken by the Kenya Bureau of Statistics (Republic of Kenya 2008). This was the latest data available at the time of this study and was used to make important decisions about sampling. The data shows that by 2008, 37 per cent of the households in Marsabit District were headed by a female, 56 per cent had at least one child below 5 years of age, and 85 per cent had at least one child below 18 years of age. Approximately four out of five (77 per cent) households had at least one woman in the reproductive age group that is 15-49 years. Regarding fertility, the data showed that the total fertility rate in Marsabit district was 6.1 children per woman, with fertility peaking around the age groups 20-24 and 25-29. An analysis of the age-specific fertility rates shows that 54 per cent of the total fertility rate was contributed by women aged between 20-29 years. The contribution of adolescent age group which is 15-19 years to total fertility was about 10 per cent. This shows a high prevalence of teenage pregnancy in the district and has implications on educational participation. Indeed the survey (Republic of Kenya 2008) showed that eleven per cent of women aged 15-19 years had given birth to at least one child and this percentage went as high as 34 per cent among women with no education compared with twelve per cent among women with primary level of
education. This statistics was also replicated in school attendance patterns where the survey showed that 37 per cent of children aged 36-59 months were attending pre-school with female children slightly more (37 per cent) compared with male children (36 per cent). The differentials by mother’s education level showed that 35 per cent of children with mothers having no education attended preschool, while 42 per cent of their counterparts with mothers having primary education attended pre-school. The percentage of male children attending Standard 1 was double (31 per cent) that of female children (15). The survey established boys had an advantage over girls (65 per cent versus 59 per cent) in school attendance. Differentials by mother’s education and wealth index were also noted. For example, 49 per cent of primary school age children from low wealth index households were attending school at the time of the survey compared with 91 per cent of their counterparts from high wealth index households. Finally, the survey also revealed an increased percentage of children of secondary school age who were attending primary schools. Twenty four per cent of secondary school age children were attending primary school when they ought to have been in secondary schools. Overall, what the survey shows is that increased education of mothers has a positive effect in increasing educational participation of children, especially girls across all the educational levels. It is also the best way of reducing underage marriages among girls in pastoralist communities. Young married girls are a unique, though often invisible, group. They are required to perform heavy amounts of domestic work and are under pressure to demonstrate fertility, and often carry the responsibility of raising children while still very
young themselves. Married girls and child mothers face constrained decision making and reduced life choices. Women who get married at younger ages are more likely to believe that it is sometimes acceptable for a husband to beat his wife, and are more likely to experience domestic violence themselves. Women who get married before the age of 18 tend to have more children than those who get married later in life.

2.2 Design and Implementation of Open Distance and e-Learning as a Strategy to increase access to Higher Education

Open Distance and e-Learning as a strategy to broaden access to higher education, especially for marginalized populations, have been promoted worldwide, particularly in the last two decades. This has been mainly due to what has been perceived as the failure of the traditional higher education structures to recruit students in equal proportions from different socio-economic groups. Free and open societies should promote social mobility by developing talent in every social and ethnic group this is an issue which needs to be addressed by schools, universities, employers and governments (Brackstone 2012). It is important that higher education institutions design strategies to recruit students from a wider range of students, including those from ethnic minorities, who are underrepresented in higher education. According to Salmi and Bassert (2012), any society committed to promoting equity must ensure that their education system, including their tertiary education sector, is accessible to students from the
broadest spectrum of underrepresented and traditionally-excluded groups. Salmi and Bassert (2012) argues that supporting the opportunity to seek the benefits affordable by tertiary education in an equitable manner is reasonable and important, as well as just, based on the widespread evidence of the many public and private benefits of attaining a college degree. On a broader level, the public, societal benefits accrued by having higher levels of education present in the workforce include lower unemployment rates, increased tax revenues, greater civic and volunteer participation and lessened dependency on social services.

Studies on access to higher education show that, by 2009, most countries had made significant efforts to increase female participation in higher education (Salmi and Bassert, 2012). However, South Asia and Sub-Saharan Africa still had considerably fewer females enrolled in tertiary education in comparison to the proportion enrolled in other regions. The near doubling of female participation in South Asia and Sub-Saharan African was supported by the joint efforts of governments and the international donor community in promoting access to primary and secondary education for young girls and women through the Millennium Development Goals (MDGs). There is strong evidence of acute inequalities in most parts of the world, playing out along the various dimensions of equity: socio economic, gender, minorities-related, and affecting people with disability. Gender discrimination tends to impact low-income groups girls more prominently. For example, in Peru and Mexico, where female enrolment is lower than male enrolment—contrary to the general trend in Latin America—the difference between low income and high group students is striking.
In Peru, the enrolment rates of girls from the poorest and richest groups are 13.3 and 24.9%; in Mexico, they are 9.1% and 37.4% respectively (Salmi 2012). In many societies, cultural and religious norms ascribe different roles and spheres of influence to men and women. Since the latter are restricted to serving the household and contributing to its wellbeing from inside the home, their life chances are influenced more through marriage than labour market participation. This explains why parents invest less in their human capital, as evidenced by the lower rates of female enrolment in secondary and tertiary education in most of the developing world.

Open Distance and e-Learning has been promoted in the literature as the best innovation to address the above challenges regarding access to higher education for students from low socio-economic groups, especially women. However, evidence on how the initiatives have to be designed and implemented to address both access and quality needs for the underrepresented groups in higher education have not provided very conclusive findings. A study by Singh and Paliwal (2012) argues that Open and Distance Learning system of education have tremendous potential of inclusive growth of education because of their distinctive nature of being a user friendly system. But for these to be successful, Singh and Paliwal (2012) argue the following needs to be taken into account:
a) Support Services and Programme Delivery: Including provision of individualized support to learners, frequent learner interaction with the Academic Counsellors and other learners, reference books in the Library, video/audio programmes and interaction with the Coordinator on administrative and academic matters.

b) The methodology of instruction in this mode should be different from that of the conventional mode of education. The distance education system is more learner-oriented and the learner should be an active participant in the pedagogical (teaching and learning) process.

c) Most of the instructions should be imparted through distance education methodology and face-to-face mode as per the requirement.

The Distance Education system should follow a multimedia approach for instruction, which comprises:

a) Self Instructional Written Material: The printed study material (written in self-instructional style) for both theory and practical components of the programmes should be supplied to the learners.

b) Audio-Visual Material Aids: The learning package should contain audio and video Compact Discs which have been produced by the University for better clarification and enhancement of understanding of the course materials given to the learners.
c) Counselling Sessions: Normally counselling sessions should be held as per schedule drawn by the Study Centres. These should mostly be held outside the regular working hours of the host institutions where the study centres are located.

d) Teleconferences: Live teleconferencing sessions should be conducted via satellite.

e) Practicals /Project Work: Some Programmes like Masters in Business Administration, Tourism Studies and Journalism should have practical/project component also.

Though Singh and Paliwal’s study does not specifically focus on Open Distance and e-Learning as a strategy for broadening access to women, especially those from marginal communities, the suggestions they make with regard to how the programme should be designed and delivered provided our study with the focus and benchmark of evaluating the Kenyatta University Marsabit Centre.

Spencer (1984) argues that for learning to be open, it has to be designed such that it takes account of the following various issues:

a) Open and Distance Learning should be flexible in delivery and recognize that students can be at a distance from the teacher and can, therefore, overcome spatial and time barriers.
b) Distance learning should seek to provide open and accessible adult education that is open to traditionally excluded individuals and groups.

c) Access to educational resources for those disadvantaged as opposed to individualized education should be provided.

d) Open Learning should encourage critical reflection and practical democracy such as workers’ self-management.

e) Openness should be widened to provide accessible and democratic education: education that is accessible to all.

Pulist (2001) conducted a study on ‘Student Support Services in Correspondence/Distance Education in India: A Historical Perspective’. He highlighted the necessity of Open and Distance Learning in imparting quality higher education through optimum use of technology. According to him, the student support services eventually aim at compensating for the absence of live support from teacher for the benefit of the isolated individual learners and making the necessary basic facilities available to them directly or indirectly. Our study also focused on examining the quality of support services which students at the Kenyatta University Marsabit Centre were receiving to substitute for lack of face-to-face interaction.
A study from Tanzania undertaken by Komba (2009) suggests that for Open Distance and e-Learning to be implemented in a successful manner, various issues need to be taken into account. These include:

a) Developing the programme over a long period of time to be accepted as an alternative mode of acquiring new knowledge and skills.

b) Gradual development of capacity, starting from certificate, diploma, and undergraduate to postgraduate levels.

c) Reliance on the utilization of locally developed materials for its programmes using local experts.

d) Building of local capacity using external links and an established and networked system to be used in delivering the print materials to distant learners.

The study also suggests the need for regulatory frameworks. For private sector involvement in the provision of education, including distance education at all levels.

The suggestions by Komba were taken into account in this study, especially with regard to establishing the steps that were undertaken in setting up the Kenyatta University Marsabit Centre. It was also important for the study to gauge if the centre factored in aspects of quality assurance of course materials and programme delivery to the learners. In the section on policy recommendations, our present study has recommended three policies to guide the development of Open Distance
and e-Learning in Kenya. These are a qualifications framework for quality assurance, Information and Communication Technology policy and an Open Distance and e-Learning policy.

In Zimbabwe, a study conducted by Mafa, Mpofu and Chimhemnga (2013) sought to investigate the prospects and challenges of combining face-to-face and open and distance learning at Zimbabwe Open University. The study used mixed methodology, which involved descriptive surveys, interviews, focus group discussions and documentary analysis. Data was collected from students, administrators in Zimbabwe Open University ten regional centres and from lecturers. Quantitative data was analysed using SPSS programme whilst qualitative data was analysed using grounded theory. The study concluded that combining both open distance learning and face to face learning programmes complemented by information communication technology helped students to conceptualize their courses. In terms of design and implementation, the study argues that for Open Distance and e-Learning to be successful, the following needs to be taken into account:

a) Investing in Information and Communication Technologies devices so that students can access their tutorials through internet. The face-to-face contact through internet and e-learning could go a long way to solve the problems of travelling to regional centres for tutorials.

b) Module writers need to revise and update modules once every two years in order to make them interactive in the different disciplines.
c) Universities need to establish own regional centres with classrooms, internet facilities and offices so that the implementation of face-to-face tuition can be effectively done.

d) Universities need to train all its lecturers in designing e-learning materials. The discourse that follows when students and tutors interact through internet will go a long way to improve the learning process.

The study by Mafa, Mpofu and Chimhemnga (2013) benefited our study in terms of methodology. The suggestions by the researchers especially with regard to investments in Information and Communication Technology, training of module writers and revision of the modules after every two years were replicated in this study.

In a study to establish the relationship between the Arab women’s perceptions of distance education, their personal relevance with the distance education paradigm, and their life affiliations within a distance education environment, Azaiza (nd), points out that in terms of structure, three models of Open Distance and e-Learning can be designed. These are;

**Dual Mode:** referring to institutions that offer education through distance as well as on-campus. In these institutions there may be an administrative staff whose sole responsibilities are distance education, but usually it is the teachers of the parent body who provide the teaching.
**Single Mode:** referring to institutions that have dedicated their activities based on the need for distance education. Single mode institutions are those in which distance education is the sole mission, to which teachers and administrative staff are exclusively dedicated. Course development, instruction, evaluation and other educational processes, are tailored to the distant learner.

**Virtual Mode:** referring to institutions that have offered distance education totally online. Virtual refers to local universities that aim to provide world-class education without boundaries so that students do not have to leave their countries to study abroad.

Azaiza’s study found out that there was a significantly positive correlation between women’s dialog and their perception of distance learning. In addition, the qualitative instrument reported a positive relationship between learners’ perceptions of distance education and their interaction with both students and instructors. Students who interacted with instructors and peers tended to positively perceive distance learning environment. The study also established that religion, society, and culture in the Arab world put rules for the collaboration between genders, which limited their interaction. In the Arab culture, where Islam is embraced, the relationship between genders is controlled not only by religion, but by cultural traditions as well. Furthermore, the study established that women’s domestic roles (for example children and spouse) limited their involvement in obtaining traditional education. Overall, the study established that religion, society and culture limited women’s dialog in a traditional (face-to-face) environment. Thus, distance learning was the solution to overcome this obstacle.
for most women. Muslim women felt more comfortable participating in distance education than face-to-face courses. Azaiza’s study is relevant to our study in terms of the conceptualization of Open Distance and e-Learning as an intervention to overcome the limitations placed by culture for Muslim women to attend higher education far from home. So the context of Azaiza’s study is exactly the same as the one where the present study was conducted.

Furthermore, Azaiza’s study made recommendations that illuminated our study in terms of trying to establish how the challenges facing Open and e-Learning at the Marsabit Centre would be overcome. The relevant recommendations from the study included the need to train both students and lecturers on the use of the Internet, so that they could communicate comfortably; ensure that Open Distance and e-Learning centres had high-speed Internet connections to meet the educational needs; provide professional training for faculty on learners’ support; encourage and create a successful distance learning environment and a detailed plan for face-to-face lectures to add to on-line interactions. University libraries and Open Distance and e-Learning centres should also be equipped with adequate resources that can be available for students as alternative materials for the textbooks.

With regard to the situation of Open Distance and e-Learning in Sub-Saharan Africa, a literature survey conducted by the commonwealth of learning (2002) shows that, in terms of structure, four main modes or models of educational
provision existed in Sub Saharan Africa then. These were single mode institutions, dual mode institutions, mixed mode institutions and consortia. Single mode institutions offered only distance education (for example, the University of South Africa). Dual mode institutions provided both face-to-face and distance education (for example, the Universities of Fort Hare and Western Cape in South Africa, and the Universities of Botswana, Zambia and Nairobi). In mixed mode institutions, the same people design, deliver and administer the distance education programmes as offered in conventional programmes (for example, the Universities of Witwatersrand and Pretoria in South Africa, and the Universities of Mauritius and Eduardo Mondlane in Mozambique). Consortia arrangements involved groups of autonomous institutions combining efforts to offer distance education (for example, African Virtual University and COLISA in South Africa).

Open Distance and e-Learning can increase learners point of access to education. Mwangiro (2001) points out that learners tend to access education in four sites: home, workplace, dedicated study centres and conventional system, traditional classrooms. For example, the Malawi College of Distance Education (M.C.D.E) makes use of day school classrooms to offer support to the distance learners after normal school hours.

The Commonwealth of Learning survey makes various suggestions to guide the development of materials for Open Distance and e-Learning. These are:
a) **Curriculum design:** Noting that many distance education institutions in Sub Saharan Africa have been using curricula from elsewhere in the world, the review recommends for ‘Africanisation’ of the curriculum as an antidote to rigid imposition of western models.

b) **Course production:** Course design and materials should accommodate the characteristics of learners. In many institutions the course production process involves teams of experts such as writers, reviewers, editors, electronic media specialists and graphic artists. In other cases, a course developer needs to be multi-talented.

c) **Quality assurance processes:** The emerging argument is that institutions should introduce the concept of Total Quality Management, which has two dimensions. The first dimension is quality assurance, which is designed to anticipate problems that might occur so that quality controllers end up with little to reject. The second dimension is quality control, which is a retrospective process of checking the work after it has been done to see if it was up to standard.

d) **Learner support:** The common understanding among distance education organisations is that, because learners are isolated, it is extremely important to give them the support they need to achieve their educational goals. Learner support services include a wide range of activities, all of which need to be planned and budgeted for. These activities can be
divided into three main groups: teaching and learning needs, access and information needs, and social and personal needs.

e) **The use of information and communication technology (ICT) in distance education:** The main argument is that extreme caution should be exercised so that Information and Communication Technologies are not used in such a way that they accentuate the disparities between countries and within countries.

All these suggestions from the above study were partially examined in our study to establish the soundness of its design and implementation, especially the relevance of the design and delivery to the target populations. These models depend upon effective management and administration as a means to harness both human and material resources to achieve the organizational goals. The management and administrative domain includes organizing, directing, coordinating and utilizing resources. Open Distance and e-Learning managers should know exactly what they manage, and how to evaluate each component of Open Distance and e-Learning programme, to determine and track its working patterns, whether it deviates and what action to take. Effective management and administration requires procedures for defining and reviewing the institutional missions, for allocating human and financial resources among the competing students demands and markets, for selecting, appointing, training and monitoring teachers, for recruiting, registering and supervising students, for selecting and controlling the use of technologies, for controlling material production system and for managing budgets and finances (Global Distance Education networks, 2001).
This study attempts to establish how and to what extent the Kenyatta University Marsabit Centre has been organized to meet the above concerns.

Weedon (1997) has argued that the design and implementation of ODeL programmes is underpinned by various educational theories and philosophies. These theories and how they are manifested in programme design and delivery are summarized in the table below:
Table 2.1 Influence of Educational Theory on Open Distance and e-Learning Design and Practice

<table>
<thead>
<tr>
<th>Educational Theory</th>
<th>Focus in terms of practice</th>
<th>Nature of Open Distance and e-Learning Design and Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behaviourist/ utilitarian</td>
<td>Emphasis on transmission of “objective” knowledge Single pathway Emphasis on summative assessment and norm-referencing</td>
<td>Printed and Information and Communication Technologies lectures, Activities of low cognitive demand, General tutorial letters Right/wrong feedback on assessment</td>
</tr>
<tr>
<td>Constructivist– drawing on the work of Piaget</td>
<td>Emphasis on construction of knowledge by individuals– concern with materials that provide scaffolding and involve learners in the process, Multiple pathways for diverse learners, Emphasis in assessment marking on feedback to the individual and concern with his/her thought processes, Emphasis on formative assessment.</td>
<td>Self-instructional materials of a multi-media nature, Personalised feedback on assignments, Interactive, open-ended use of information and Communication Technologies, One-to-one tutorials/ tele-tutorials/email etc.</td>
</tr>
<tr>
<td>Socially constructivist</td>
<td>Emphasis on construction of knowledge in collaboration with others, Pair and group activities and assessment tasks, Exposure to multiple viewpoints, Core plus electives, Emphasis in feedback on both individual and group responses, Emphasis on interaction and open-ended discussion Negotiated assessment</td>
<td>Modularisation of self-instructional multi-media materials with multiple links to other resources, Personal and group feedback on assessment Interactive, open-ended use of Information and Communication Technologies Group tutorials audio-video conferencing/ email/chat rooms, etc</td>
</tr>
</tbody>
</table>

*Source: Adapted from Weedon (1997).*

A study by the Commonwealth of Learning (2001) identifies four main technical stages through which Open Distance and e-Learning has evolved in terms of design and implementation evolution. These are:
a) First generation: text-based correspondence courses, with text similar to that used in the classroom.

b) Second generation: mainly print-based, characterised by self-instructional design.

c) Third generation: self-instructional print integrated with media (audio and video).

d) Fourth generation: interactive Information and Communication Technology to support course delivery and learning.

Our study attempted to establish the educational philosophies underpinning the programmes at the Kenyatta University Marsabit Centre. The study also sought to establish, in terms of overall design and implementation, the generation of approaches and materials that were in use.

Moore (1996) argues that the distance between educators and learners is determined by the interrelated function of three sets of variables in learning and teaching processes. The sets of variables, which are instrumental in conceiving and designing Open Distance and e-Learning programmes, are:

a) **Instructional dialogue**—referring to the ease with which there is interaction between the learner and educator. For example, there is often less dialogue between learners and educators in a first year face-to-face lecture than between a distance learner and an educator offering written
feedback on assignments. In this respect, the author argues that dialogue between distance learners and their educators may be slower but more thoughtful than in an immediate face-to-face context, although with greater use of audio- and video-conferencing technology this may be less and less the case.

b) **Programme structure**— referring to the extent to which a programme can accommodate or be responsive to each individual’s needs, and suggests the need for multi-disciplinary teams to design learning experiences in such a way that diverse needs are catered for and opportunities for learner-learner and learner-educator dialogue are maximised.

c) **Learner autonomy**— referring to the extent to which it is the learner rather than the educator who determines the goals, the learning experiences and the evaluation decisions of the learning programme. It raises questions about the extent to which a programme is delivered in such a way that it helps learners to reach a point where they no longer need a third person to mediate their learning. At this stage, learners can cope with a high degree of geographical and time distance between themselves and their peers and tutors.

### 2.3 Perceptions of Students and Local Communities on Open Distance and e-Learning
Studies undertaken in developed countries show that women enthusiastically and successfully take advantage of e-learning opportunities. For example, studies in North America, New Zealand, the United Kingdom and the Netherlands show that women outnumber men in enrolments in distance courses, ranging from 61%-78% in selected universities. Enrolment for women in some of the larger Open Distance and e-Learning institutions varied from 50% at the Open University in the United Kingdom, 54.7% at UNED Spain and 38% at the Open University in the Netherlands (Trivedi, 1989, Evans, 1998; Thompson, 1998, Commonwealth of learning, 1999). Open Distance and e-Learning with its unique character of constant review and removal of students restrictions is viewed to be a tool of increasing access of women to university education by developing flexible entry requirements and selection mechanisms which address the qualities of learning process and revolve around focusing on students academic needs in terms of degree placement and progression, and focus on access quality to professional degree programmes by women and students from disadvantaged backgrounds. Thus Open Distance and e-Learning remains a tool which will not only widen access and participation of women in higher education but also ensure that quality and integrity of education are maintained.

A study by Gudhlanga, Magadza and Mafa (2012) at the Open University of Zimbabwe established that women considered Open Distance and e-Learning as an important tool for empowerment. In the sample that was studied, 34% of the respondents were single women and between the ages of 18 to 25 years of age. About 27% of the respondents were between 31-40 years of age while 41-50
years of age comprised 16% of the sample. The study showed that both single and married students took study courses at Open University of Zimbabwe. 37% of the respondents were single whilst 58% were married.

In terms of course selection in Open Distance and e-Learning, a study by Plummer (2002) observed that just as in on-campus programmes, women do not highly subscribe to science oriented courses. Compared to their male counterparts, women mostly subscribe to humanities rather than the sciences. Conscious effort should therefore be made to attract women to the science oriented courses in open and distance learning as well as on-campus. The study recommended that in the process of harnessing the potential of open and distance learning for women’s education, there is the caution to pay attention to course content as well.

Bird and Morgan (2003) undertook a study in Australia to identify and explore a range of themes, issues and questions that commonly confront adults contemplating enrolment in university, and why they persist. The study specifically focused on issues that prospective adult distance education learners faced. It found that success of adults enrolled in distance education was influenced by the interplay of a variety of factors. Some of the factors identified in the study were conflicting work and family commitments, financial constraints, predisposition and readiness of students for independent learning, lack of appropriate learning support, unfriendly administrative systems and staff, ease of contact and approachability of academic staff and suitability of programme content or its design and delivery methods. While the above study did not
specifically focus on the perceptions and motivations of female students enrolling in Open Distance and e-Learning, it provided a basis for examining the perceptions of women on Open Distance and e-Learning in the present study. Wall (2004) used a post-modern framework to explore the notion of solitude among women distance education students. The study found out that, in contrast to the feminist view that women have a high need for interactive method of learning as opposed to solitary knowledge-building, there were some women distance education learners who, in addition to learning in a collaborative environment, had the skills and confidence to learn in a solitary environment. Thus, learning in solitude was not as detrimental. The study challenged the general notion that women learn best in an interactive rather than solitary environment. The factors which seemed relative to these perspectives were time, choice, course load, individual preferences, and discomfort with technology. Wall’s study was important to our study in terms of examining the viability of establishing an Open Distance and e-Learning centre for females only from marginal regions. Though the conclusion of the study by Wall (2004) did not state categorically that all women had the ability to learn in solitude, it affirms up the concepts of learner independence, learner autonomy, and learner control in distance learning for women.

In terms of approaches to designing Open Distance and e-Learning environments for women, Rekkedal (1994) argues that the experiences of women make them perceive the world differently from men. As a result of the influence of their roles in society, their encounter with the world cannot be the same as that of men.
According to Rekkedal, women in academic settings face a disjunction between their own life experiences and established bodies of knowledge that reflect a male point of view. The thinking is that the existing theories and methods of Open and Distance Learning may be confusing for women who study at a distance and are physically removed from the university community. Perceived and conceived by men in the world of men, the packages of objective, factual material, activities, and exercises of modules that are sent to open and distance learners may have little direct bearing on the social worlds of women. As a result, gender advocates have pushed for and introduced alternative approaches to learning that fit into the social context of women and as a result encourage women to explore their own direct experience in order to understand their society better.

More specifically, Rekkedal’s study proposes that to create gender sensitivity in course development, course delivery, administration of Open and Distance Learning, and all other processes, certain issues need to be looked into. Such issues may include the following:

a) How do women and men learn?

b) What sort of support do men and women need?

c) What sorts of support do women and men need in order to succeed as distance learners?

d) Do course materials enable women as well as men to make sense of their experiences, to find their voice and to take positive action in and on their worlds?
e) Are technologies equally available to women and men, and whether they are likely to approach and experience these technologies in the same way? (Rekkedal, 1994).

Following Rekkedal’s study, Burge (1998) argues that both long and short term goals in relation to women in distance education should be integrated with distance research and practice which acknowledges 'gender related and feminist issues in writing and research'. In the short term there should be a wider recognition of the experiences of women students and educators with the chance taken at every opportunity to raise the realities and the problems' faced by women in distance education. More importantly, Burge’s study highlighted a number of issues which need to be considered to ensure that women distance education students were being given the support that they need in order to succeed. The issues highlighted included the need for programmes to address the lack of confidence and esteem among women returning to university; the need for women in Open Distance and e-Learning programme to overcome isolation and the need for connected teaching that fits many women students' needs.

A study from Zimbabwe by Gudhlanga, Magadza and Mafa (2012) looked at the opportunities provided by Open and Distance Learning for women and as perceived by women. The respondents frequently pointed out that Open and Distance Learning gave women opportunities to further One’s Education, Access to intellectual growth, empowerment, opportunity to enjoy learning, while holding a fulltime job and opportunity to enjoy some degree of flexibility.
In terms of socio-economic backgrounds of female students in Open Distance and e-Learning programme, literature especially from Kenya shows that most of the women who attend university come from proportionately more advantaged backgrounds, and this has been the characteristic of Kenya’s higher education over the years (Chege and Sifuna 2006). This is because parents from higher socio-economic levels are able to educate all children. But to the poorest Kenyans, especially those from Arid and Semi-Arid and marginal areas, educational investment cannot be considered for any children, male or female. Since girls from poor backgrounds are unlikely to proceed to universities through regular programmes, Open Distance and e-Learning offers them a second chance. The challenge is how to design the Open and Distance Learning programme to meet the quality levels that can compensate the female students for what they missed out apart from economic factors. Other barriers to female participation in higher education include low enrolment in secondary level which greatly reduces the scope for progress in higher education, high dropout rates, poor examination results, rigidity of admission requirements and labour-related factors. In Arid and Semi-Arid and marginal areas, unique factors such as socio-cultural practices which discriminate against girls and women, distance to educational institutions, lack of role models as well as religious factors, act as barriers to girls and female participation to higher education (Sheila and Elaine, 2005). Thus, these issues require urgent attention to increase women’s participation in higher education in
marginal areas. These unique factors in Arid and Semi-Arid and marginal areas have impact on girls’ education as discussed:-

a) **Socio-cultural and religious beliefs, practices and attitudes**: In marginalized areas, some socio-cultural factors confine women to the lower levels of education system. Early marriages, where younger girls (under 15 yrs) are often married off to older wealthy men in order to fetch a good dowry is a major factor behind girls’ low performance, drop-out and withdrawal from school. Female genital mutilation (FGM) is another factor. There is also strong belief that once married, girls become part of another family and parental investment is lost (Odaga and Heneveld, 1995). Thus lack of money is an excuse for reluctant parents and families to invest in the girls’ education because they do not perceive the value of education for girls and also because of the socio-cultural perception about the role of women in society. The high status accorded to marriage and motherhood in many communities’ impacts negatively on female participation in education (Cammish and Broch, 1994). In poor households, this value certainly takes on a significant meaning particularly as girls approach puberty.

b) **Low value attributed to girls and their education**: In marginal communities, where ‘traditional’ practices such as Female Genital Mutilation are widespread, girls’ education in not valued as highly as boys’ education (Sheila and Elaine, 2005). Some parents hold beliefs that educating a girl simply enriches her husband’s family and too much education (University Education) may prevent a
girl from getting a suitable husband, and that educated girls’ may cause difficulties in marriage, which could lead to divorce. Some low value attributes to girls’ education are cushioned in local sayings and proverbs.

c) Girls and boys unequal labour burdens: The work burden on girls at home is cited as a negative factor affecting their education. If there is a baby to be taken care of, it is the girl to do so at the expense of her education. Girls are also expected to take their younger siblings with them to school. A practice which many teachers do not encourage. But forbidding girls to bring siblings increases the girls’ drop-out rates. So, they allow them (Sheila and Elaine, 2005).

d) Long distances to schools: Safety and security factors also play a key role in keeping girls out of schools. Long distances to school from home expose girls to physical and sexual dangers and lead to drop out. For example, in Kajiado region there are long distances of between 16km – 40Km, which expose girls to harassment by drunkards (Chege, 1995).

e) Poverty and lack of economic power for female, coupled with son preference: With endemic poverty and lack of economic power in Arid and Semi-Arid and marginalized areas which is borne much more by women than men, women have much less access to disposable income for expenditures related to education. As a report described the problem, “women are generally not engaged in their own economic activities and very few women have money. In many cases, their husbands bar them from making money. Since they need consent from their husbands to obtain loans, many women may have no access to
lending institutions”. Therefore the direct costs of sending all children to school are usually too high for women and poor parents. While primary and secondary school tuition fees have been abolished, parents still pay charges of various kinds. In many cases, these charges are far higher than tuition fees. They include charges for books, stationery, exam fees, uniform, contributions to ‘building fund’, levies imposed by the school management committees, informal ‘tips’ to teachers, and travel costs (Sheila and Elaine, 2005). For the poorest Kenyans in marginal and Arid and Semi-Arid areas, educational investment cannot be considered for any children, male or female. For majority who may support the schooling of only some of their children, gender plays a significant role in determination of which children will be educated. It is believed that sons have the potential of a greater economic pay-off for the family than girls (Chege and Sifuna, 2006).

f) Relevance to the content: When learning strategies fail to recognise and value women’s knowledge, wisdom and experience it is perceived invaluable to them thus a barrier to potential women to access educational opportunities.

2.4 Challenges that face the successful implementation of Open Distance and e-Learning programme

Komba (2009), in a study undertaken in Tanzania, found out that the major challenges that the successful implementation of Open Distance and e-Learning faces is lack of an explicit national policy on distance education. The lack of an overall policy and the poor harmonization of initiatives have led to the random
adoption of different systems and standards, unnecessary duplication of effort, and waste of scarce resources, especially through the loss of potential synergies. The infrastructure is poorly developed for modern distance education based on the Internet and the computer. The cost of establishing the necessary infrastructure is prohibitive, and yet institutions are almost working in isolation to develop the infrastructure for modern distance education. Komba’s study also pointed out that the lack of a teamwork approach to the development of materials for distance education remained a big challenge. The use of part-time tutors, for example, affected the efficiency of The Open University system, because such tutors were usually employees of other institutions.

The study by Mafa, Mpofu and Chimhemnga (2013) in Zimbabwe established challenges that are more specific to students, especially women. Despite the appreciation from the female students of the opportunities that Open Distance and e-Learning presented, the study established that they faced the following challenges which affected their progress:

a) Multiple roles such as mother, wife, employee and student. This challenge was linked to the woman’s traditional role of caring for the home and the family. Respondents pointed out that it was difficult to concentrate on one’s studies ignoring the family. Difficulties were encountered in attending tutorials and consulting tutors.

b) Non-Supportive Spouses. Some respondents in the study pointed out lack of understanding on the part of their spouses. Others explained that
spouses denied them the opportunity to attend group discussions, and to seek advice and guidance from male tutors.

c) Time Constraint: This challenge was linked to the multiple roles of women. After performing all other duties tied to their other roles, women seem to be pressed for time when it came to their university studies. As a result, some ended up missing assignment submission deadlines. Or they failed to submit assignments or submitted sub-standard assignments or even failed to attend tutorials and group discussions. This resulted into low marks in their assignments and was ill prepared for examinations. In the end, they performed badly in their examinations, forming the greater percentage of students who repeated courses.

d) Financial Challenges: Respondents pointed out that it was not always easy to raise money for fees. Women tended to be the last in the families’ financial pecking order. Priority one was paying fees for the children. For married couples, if the husbands wanted to pursue studies, husbands gave themselves the second priority. In the event that funds were still available, then women were considered.

e) The issue of transport to and from tutorials affected rural female students more than urban students.

f) Non-Supportive Supervisor: Participants especially from rural areas complained that since most tutorials were being conducted on Saturdays, it was not always easy to get permission from their supervisors to leave
their duty stations on Friday mornings (Most buses from the rural areas left early in the morning to urban centres. Therefore if women were to be released after school on Friday, there would be no more transport to urban centres, where tutorials were normally conducted).

g) Affordability and Accessibility of Information and Communication Technology: Again, this affected women from rural regions. Therefore, the costs associated with the purchase of Information and Communication Technology gadgets such as laptops were prohibitive. While most participants had internet compatible cell phones, the cost of procuring data bundles from service providers were beyond their financial capacity.

h) Technophobia: Most urban based respondents had access to regional centres’ Information and Communication Technology facilities, as well as from private internet cafes. However, the challenge seemed to be that most elderly female students lacked skills to manipulate computers in search of information. This was exacerbated by the participants’ phobia for Information and Communication Technology.

A study in Nigeria by Olusola and Alaba (2011) reviewed the efforts being made in developing countries in respect of open and distance learning, especially in Nigeria with particular reference to the National Open University of Nigeria (NOUN). It also examined the concept of information and communication technologies and opens and distance learning. In addition, the study investigated factors militating against the effective application of these
technologies to open and distance learning. The study suggests various strategies for Strengthening Information and Communication Technologies for Open and Distance Learning Education in Nigeria. These included:

a) The use of Information and Communication Technologies for open and distance learning should be part of the publicly supported education scheme. There should therefore be public places where the candidates can go to access technology driven - lectures with little or no pay. This will bring about improved computer and internet access for them. It is also believed that it will also complement the efforts of the open and distance learning centres to establish e-learning courses for the students.

b) Information and Communication Technology specialists, in collaboration with the competent and qualified staff in distance learning and with web-based instructional designers and management specialists, can render their invaluable services in the rural communities. This will make learning more accessible to rural dwellers through open and distance education.

c) The capacity building for staff of open and distance education centres is imperative as this will upgrade their technical skills and understanding in specific areas of Information and Communication Technologies to inculcate active learning among distant students.
d) The efforts of sensitization to demystify the use of Information and Communication Technologies in open and distant learning should be recurrently embarked upon among the adult learners. This will not only reduce the problem of cyber-phobia among them but will also motivate them to appreciate the value of Information and Communication Technologies in open and distance learning.

e) The fact remains that many people in the south live below poverty line, expend most of their income on food, leaving no money to invest in Information and Communication Technologies for open and distant learning. This poses a challenge for the prompt intervention in the areas of finance, technical and material support from the foreign donors, Non-Governmental Organisations, philanthropists, corporate bodies and institutions. Such interventions will go a long way in making Information and Communication Technologies accessible to the adult learners in open and distance education setting. In addition, it will facilitate the optimization of Information and Communication Technologies for development and accessibility to the web-based and on-line instructional materials in an open and distance learning setting.

Akinade (1998) argues that distance learners encounter a wide range of difficulties with which they need support to overcome. While students in a distance education environment enjoy a high degree of freedom as compared to those in the traditional mode of education, they are expected to exercise more responsibility with regard to their learning. The challenges unique to
Open Distance and e-Learning students that Akinade points out included:- meeting deadlines for submission of their academic work, doing group work cooperatively, acquiring good study habits, using library facilities to access information technology, preparing for and taking examinations, adjusting to different course lecturers and coping with distance learning strategies apart from the printed material packages they are familiar with. These strategies may include a combination of interactive audio or video tape materials, television-aided learning, overhead projectors, and computer-assisted instruction using the internet or computer referencing.

Some barriers referred to are technical and structural. In relation to Kenya, Amutabi (2004) identified:- poor internet connectivity and limited access in most rural areas, poorly developed websites with some lacking essential installations such as lecturers’ research and publications for students and other researchers to access, shortage of well trained and experienced technical personnel. Also, cost of computer hardware and buying internet access through modems and mobile phones and lack of study discipline among Open Distance and e-Learning learners are some of the persisting barriers.

This study was trying to find out how the Marsabit Centre has addressed the above barriers. Women participation in higher education seems to be low in some developing countries for example Sub-Saharan countries. If new technologies are to be successfully used in Open and Distance Learning, they need to be affordable, accessible and conveniently located for learners. In developing
countries, community-based resource centres containing classrooms, conference rooms, laboratories and libraries, as well as media and technologies for Open Distance and e-Learning required. There are several ways to build and equip such centres which would provide multi-purpose learning resources for the communities as has been demonstrated by the network of the Open University of Tanzania (Sangai, 2004).

The other challenge in Open Distance and e-Learning especially e-learning for women include the high cost of on-line access in much of the world, combined with increased costs of higher education in general. Since most of the women depend on men financially, alternative access strategies need to be devised to increase the rate of women enrolment.

Kabonoki (1999) discusses quality related issues that hinder the adoption of Open Distance and e-Learning programmes. He argues that quality is not divorced from the realities and characteristics of distance learners. He goes on to say that as distance education and open learning gain popularity, competition will develop as more and more organisations offer this service. Education providers will need to come up with effective strategies to survive in this competitive environment. By developing quality learning materials, providers can maintain quality learning experiences. Learning materials that are not customised to the needs of the learners cannot be recognised as being of high quality.

2.5 Suggestions on How Open Distance and e-Learning could be improved as a Strategy to Broaden Access of Female Students to Universities
Mafa, Mpofu and Chimhemnga (2013) study, undertaken in the Open University of Zimbabwe, sought opinions from respondents on how the challenges they were experiencing would be addressed to make Open Distance and e-Learning more attractive and responsive to the needs of female students. The respondents suggested the following:

a) Being allowed a longer book borrowing period by the University.

b) Being given more library pockets than their male counterparts, so that they can borrow more books, since they could not frequent the library at the same rate as their male counterparts.

c) Participants suggested that since child-bearing is a national duty, they be allowed to write examinations from hospitals in instances where they are due during examinations. Where this was not possible, they suggested that they should be allowed to defer their examinations to the next semester, so that they would be allowed to seat for the examinations without being asked to pay fees and going through the rigour of writing assignments.

d) Decentralisation of tutorials to district level.

e) Networking institution offices so that students are able to access Information and Communication Technology.

f) The University must allow spouses to attend orientation programmes for new students.
A study in Tanzania by Komba (2009) indicated two glaring issues related to the operations of open leaning systems. These were gender imbalance and poor completion rates. The study showed that over the years women had been under-represented with female enrolment constituting only 13.7 percent of the total. The findings in the study were contrary to a widely held belief that Open and Distance Learning was a model best suited for gender equality in education. Also striking was the low completion rate for students undertaking the various programmes of study, with the overall completion rate being only 20.4 per cent [higher for males at 21.9 percent, but very low for girls at 10.7 percent]. The Open University of Tanzania (OUT), which was established in the year 1992 under an Act of Parliament No. 17, is by far the major provider of higher distance education in Tanzania. The University is headquartered in Dar es Salaam but has 25 centres distributed all over the country. It offers distance education via print and audio. A computer network linking the regional centres is planned to complement delivery. Student support is provided through face-to-face sessions, study groups tutorials, guidance and counselling, including study skills advisory services for students with learning disabilities. Students are assessed by means of written assignments, timed tests and annual examinations. By the time of Komba’s study, the Open University of Tanzania had an enrolment of over 25,000 students in various disciplines including education, law, science, commerce, economics and many others.

Other studies have suggested that what is needed to improve Open Distance and e-Learning programmes, especially for women from marginal areas, is to focus on
enhancing student support systems. Carnwell (2000) identified the importance of support in her study of nurses undertaking open learning programmes. She noted that this fell into three domains: 1) practical; 2) academic; and 3) emotional. These were mirrored in our study. Students in this study identified the need for the following types of support:

a) Practical support, for example, with child care or domestic arrangements.

b) Technical support, for example, how to word process.

c) Academic support in terms of writing skills, referencing, and literature reviews.

d) Emotional support, which was often just someone that students could talk to about the pressures of being an adult learner.

Koumi (1995) argued that to assure the quality of distance learning materials, it was necessary to recruit highly qualified staff for materials development. The professional experience of course developers is an important input and a major determinant of the quality of course materials. One of the main tasks of a course developer is to ensure that the curriculum is sufficiently and systematically presented using print or non-print course materials. They develop outlines on which units are based. Therefore, staff recruitment processes should lay down procedures and requirements for who are competent, experienced and professionally qualified.
On the same issue of development of course materials, as an intervention to address quality issues, Dhanarajan (1990) recommends that the following tasks be taken into account in the process:

a) Preparation of blue prints for developing and organising materials.

b) Writing study units in collaboration with other course team members.

c) Supplying ideas for visual design.

d) Revising drafts.

e) Working with reviewers, editors and illustrators in preparing materials.

f) Testing and evaluating materials.

g) Reviewing and revising galley proofs from printers.

h) Preparing feedback questionnaires, pre-tests and post-tests, and developing computer-based courses.

Daloz (1986) suggests that tutors of mature learners must recognise the social context in which learning takes place. In open and distance learning, this is of particular importance as it is in this context that most of the learning takes place. Social networks obviously vary in the form that they take, but interestingly, they seem to form the foundation of all support networks. Dearnley and Matthew (2000), and Asbee and Simpson (1998) each reported that “domestic harmony” is an essential ingredient in sustaining the motivation and ability for mature learners to continue studying. In our study, it was noted that if all was not well at home,
students found it difficult, if not impossible, to continue with their studies. Social networks generally provided the practical help that was required to enable students to set-aside the time necessary for effective study, and in many cases were the source of emotional support too. Pascall and Cox (1993) stated that the decision to return to education for women was frequently dependent upon “a complex web of circumstance being right,” a finding that was mirrored in the first stage of this study.

With regard to Kenya, some of the interventions by the government to address the challenge of low female participation in higher education are not quite popular. For example, the affirmative action of early 1990’s which raised their enrolment percentage by about 3% (Chege and Sifuna, 2006), tends to perpetuate the socio-economic status of higher income earners while discriminating the poor and the marginalized. This is because such intervention tends to benefit girls from well known schools and well connected students from the so called disadvantaged regions (Chege and Sifuna, 2006). The other intervention the government is using is the creation of female teachers in primary and secondary schools to act as role models to girls and inspire them to participate in formal education. Open Distance and e-Learning as an approach to higher education addresses the problem of culture and traditions, since it integrates education with culture. Thus due to socio-economic and infrastructural challenges, these programme seems most viable approach to reaching potential female students in remote rural areas. Hence, utilization of e-learning technologies in Open Distance and e-Learning increases the quality and completion rates of enrolled students.
2.6 Summary of reviewed literature

The literature reviewed here shows that the success of Open Distance and e-Learning programmes is dependent on the design and delivery logistics, most of which determined by the latest Information and Communication technologies. However, in sub-Saharan Africa, financial constraints limit the deployment of most of these technologies. Thus, most Open Distance and e-Learning programmes are being offered using first generation technologies. With regard to the suitability of Open Distance and e-Learning for women, especially from marginal communities, studies show the need to adopt curriculum materials and support services that are responsive their needs. This is perhaps the only way that challenges which women as students face, can be addressed. However, in most of sub-Saharan Africa, minimal literature exists to show that these gender aspects have been considered in the design and delivery of programmes. Limited studies seem to have been carried out to evaluate and access the feasibility of Open Distance and e-Learning as a strategy of increasing university education for females in marginal areas. Various studies show strengths of Open Distance and e-Learning and limitations of its adoption but does not provide the challenges and ways of overcoming them in rural remote areas. Our study, therefore, examined these gender dimensions by studying the various aspects of the design and delivery of the programme at the Kenyatta University Marsabit Centre. It had been designed uniquely for women from the marginalized and Arid and Semi-Arid areas of Northern Kenya. It focused on the challenges of Open Distance and e-Learning in rural remote areas and ways of overcoming them.
CHAPTER THREE

METHODOLOGY OF THE STUDY

Introduction

This Chapter presents the methodology used in this study. It shows the research design, methods used to collect data, a description of the study locale, study population, sample size and sampling procedures, research instruments used for data collection, ways of measuring validity and reliability of the study instruments, logistical and ethical considerations, as well as data analysis procedures.

3.1 Research Design

This study was carried out through a case-study design. According to Kombo and Tromp (2006), a case study seeks to describe a unit in detail, in context and holistically. It takes an in-depth study of a particular situation with the aim of producing a nuanced description of the pervading cultural setting which affects education, and an account of the interactions. The design was descriptive in orientation. The aim was to depict accurately and in detail the characteristics of the Open Distance and e-Learning programme as implemented in the Marsabit Centre as a unique case. A case-study design was meant to bring out a deeper insight and better understanding of Open Distance and e-Learning practices as a mode of delivery of higher education. The premise was that it enabled women from Arid and Semi-Arid and marginalized areas to access and participate in higher education, as well as increase their completion rates. This could bridge gender gap and regional balance in higher education. A case-study design was to
bring a deeper understanding of how Open Distance and e-Learning can be implemented in remote rural set-up where the culture is not receptive to technology and female education.

3.2 Study location

The study was carried out in Kenyatta University Open Distance and e-Learning Centre for women, hosted by Moi Girls Marsabit Secondary School in Marsabit Town which is the headquarters of Marsabit County. It is located in North Eastern of Kenya and constitutes four constituencies: Moyale, North Horr, Saku and Laisamis. It also consists of the following districts: Chaibi, Laisamis, Marsabit and Moyale.

3.3 Study Population

The study population included the project initiators, all the students enrolled in Kenyatta University Marsabit Centre, the project coordinators in Marsabit and at Kenyatta University, the community leaders involved in the management of the project who among others included Board of Governors of Marsabit Girls’ Secondary School, lecturers who interact with the target students and representatives from Kenya Education Network Trust.

3.4 Sample Size and sampling procedures
a) Purposive sampling was used for all students to fill a student’s questionnaire, while 10% of the students were randomly sampled for intensive interviewing and focused group discussions (FGDs). At the time of this study, the Centre had 40 female students, and 75% of them responded. They gave their perceptions of Open Distance and e-Learning as a way of increasing women participation in higher education from marginal areas. They also gave views on how Open Distance and e-Learning can be improved to be more women friendly and which student support programmes needed to be put in place to enhance female participation in higher education and increase completion rates of enrolled students. 10% of the students who were interviewed included students with special responsibilities and challenges such as student leaders, those with great disparities in age compared to others, and those with great disparities in distance.

b) The two project initiators were purposive sampled for intensive structured interview. They highlighted on the main reason for starting the project, the proposed ways of designing and implementing Open Distance and e-Learning to address the barriers that female students from Arid and Semi-Arid areas face in their attempt to access and participate in university education.

c) Project coordinator at Marsabit was purposively selected for intensive structured interview. She highlighted on designing, operations and implementation practices of Open Distance and e-Learning at Marsabit
centre and narrated the challenges encountered during implementation. She provided views on how these challenges could be addressed. She also outlined how Open Distance and e-Learning could be improved to increase access to higher education for female students from marginal areas. Also informed on the challenges students face which can affect the quality of learning and completion rates of enrolled students.

d) Lecturers of Marsabit Centre were identified with the help of project coordinator at Kenyatta University, and interviewed. They gave information about their perceptions in terms of strengths of the centre as an innovation of increasing access and participation of female students from Arid and Semi-Arid and marginal areas, the specific challenges they faced as they undertook their duties and the specific challenges they identified in the students. The main objective was as how such affect the quality of learning as well as how such challenges can be addressed to increase access, participation and completion rates of enrolled students.

e) Executive Director of Kenya Education Network Trust was purposively sampled and gave guidelines on designing culturally relevant learning materials and programmes in Open Distance and e-Learning, issues related to delivery and what needed to be done for improvement. The director also focused on the challenges faced during development of materials and the costs involved and ways of overcoming these challenges.
f) Project coordinator at Kenyatta University Centre Office was purposively selected and highlighted on how instructional materials were developed and how quality was ensured at the Open Distance and e-Learning Centre. The coordinator was also interviewed on issues of management of the centre, challenges faced and ways of overcoming them.

g) Local community representatives were targeted by the study and were identified through the centre coordinator and sampled for focused group discussions (FGDs). They provided information related to local perceptions of the project, their views on women’s access to higher education and how supportive they were of the Marsabit project and whether it had the potential of having positive impact on girl-child education in the region in the long run.

3.5 Research Instruments for Data Collection

a) Questionnaire - this was used to collect basic data from 75% of the 40 students enrolled at the Centre. The information collected included; Perception on Open Distance and e-learning as a way of increasing female access to and participation in higher education from Arid and Semi-Arid areas; views on how Open Distance and e-Learning could be improved to be become more women friendly; students support programmes in place and ways of improvement to enhance female participation in higher education as well as increasing completion rates of enrolled students; With the help of project coordinator at Marsabit, the study sought to identify if there were any students who had dropped out. These were to be interviewed to give information of reasons for dropping out and
possible remedy. It was not possible to get them during the time of study but the required information was provided by the Centre Co-ordinator at Marsabit.

b) **Focused Group Discussions (FGDs)** – These were conducted for two groups:

a) A group of five community members who were purposively sampled based on their interaction with the management of the centre. The community members were selected with the assistance of the project coordinator. The information and data that was sought included: local perception and support of the project; views on women’s access to higher education; and views on how the project could be improved to increase female access to and participation in higher education and whether the project would have any positive impact on female education in future.

b) A group six fourth year students who, having been in the programme since its initiation, had rich information on the strength, challenges, potentials, weakness as well how best they thought the programme could be improved.

c) **Detailed Face to Face interviews** – structured and non-structured interviews were conducted for project initiators, project co-ordinators at Marsabit and at Kenyatta University Centre Office, lecturers who were interacting with the students at Centre and the Executive Director at Kenya Education Network Trust as identified above to collect detailed data on various issues related to the project, based on the research objectives of the study. The interviews were based on prepared schedules.
3.6 Validity and Reliability of Research Instruments

The orientation of this study was mainly qualitative and accepted standards of addressing validity and reliability in research were followed. According to Mathison (1988), triangulation is typically the best strategy (test) for improving the validity and reliability of research or evaluation of findings. This is because in naturalistic and qualitative research, triangulation controls for bias and allows establishing valid propositions because traditional scientific techniques are incompatible with qualitative approaches. Patton (2001) advocates the use of triangulation by stating that it strengthens a study by combining methods. This can mean using several kinds of methods or data, including using both quantitative and qualitative approaches.

This study established reliability and validity based on the recommendations above to be in tune with its qualitative approach. First, Piloting of Research Instruments was carried out to establish validity and reliability of the study instruments in terms of addressing the study objectives. The instruments were piloted at African Nazarene University, Machakos Open Distance and e-Learning Centre hosted by Susu Centre. The piloting targeted female students enrolled at the centre, administrators of the centre and members of the local community. The necessary corrections and amendments were made so as to address the specific objectives of the study.
Validity of the study was enhanced by triangulating both research instruments and data sources. Whereas the central objective of the study was to establish the potential of Open Distance and e-Learning as a strategy for female access to higher education, questionnaires, interviews and Focus Group Discussions were triangulated to gain a deeper perspective on this issue. Equally, data sources were triangulated by including students, the centre coordinators, lecturers from Kenyatta University Main Campus and the technical experts from Kenya Education Network Trust. Hence instrument and data source triangulation assured validity in this study.

3.7 Logistical and Ethical Considerations

The following steps were undertaken to ensure ethical issues were observed in this study. First, the researcher sought official permission to undertake the study from the National Council of Science and Technology (NCST). A research permit allowing field work to be undertaken was issued. Before administration of questionnaires and undertaking of interviews, the researcher sought written consents from the respondents. The researcher also assured the respondents of the confidentiality of the responses they provided and that the responses were going to be used for the purpose of the researcher’s Masters of Education work only. The respondents were issued with questionnaires which they were required to fill and return without indicating their names. The instruments for data collection were also designed such that the identity of the respondents could not be detected.
3.8 Data Analysis

The study generated two types of data: qualitative and quantitative data. Qualitative data was analysed through coding and categorization and entailed deep descriptions using words to represent information as obtained from respondents. Quantitative data analysis entailed basic descriptive statistics which were represented in pie charts, graphs, tables and percentages.

CHAPTER FOUR

FINDINGS, INTERPRETATION AND DISCUSSION

Introduction

This Chapter is a presentation of the data that was collected during fieldwork, its analysis and interpretation. The data has been presented, analysed and interpreted according to the research objectives of the study. The Chapter is divided into five parts. Part One presents general and demographic characteristics of the study population that were relevant to this study. Parts two to five present data based on the research objectives. There were four research objectives from which research questions for the study were derived.

4.1 General and Demographic Information

Before presenting and discussing data, this section briefly presents certain demographic characteristics and details of the research locale that were relevant to this study. Moi Girls Secondary School, where the Kenyatta University Open Learning Centre is situated, was started in 1984, as a girls’ boarding school catering for the nomadic girls in Marsabit County. Girls’ education in this
community was not considered important because of culture. Girls were ready for marriage as early as 11 years. Parents identified marriage partners and so booking started at an early age. Education was the transition. While the Government of Kenya had introduced free primary education, the rate of students going to secondary school was quite low. According to the director of the centre, a few girls managed to enrol for secondary education. Most of them, at least 2/3 were married off or their parents sent them to the grazing areas (for boys) as most of them are goat keepers while most girls are sent household jobs to sustain their families, at the completion of class 8. At secondary level those who managed to be admitted were from families that had sought help from well-wishers and Non-Governmental Organisations. Quite a number of parents were opposed to their daughters being in school. After Form Four, the parents were not ready to invest in the girls anymore and so they were married off. This could be evidence in the data in Table 4.1 where 60% of the students enrolled in the Centre were married. According to the director of the centre during an interview, ‘the last examination paper was usually done under duress because the girls were being waited for marriage.

The Centre had 40 students registered and all were to respond to the ‘students’ questionnaire’. From the 40 questionnaires administered, 30 were returned which represented a return rate of 75%.

Figure 4.1 and Table 4.1 below summarize the basic statistical profiles of the students in terms of year of study and marital status.
Data from Figure 4.1 and Table 4.1 above indicate that of the 30 female students registered at the centre who responded to the questionnaire during the time of the study, 40 per cent were 4th years, while 23 per cent and 37 per cent were 3rd and 2nd years respectively. The actual enrolment at the Centre is shown in Table 4.2 below.
Table 4.2 Actual Number of Students at the Centre

<table>
<thead>
<tr>
<th>Year of Study</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>4th</td>
<td>18</td>
<td>45</td>
</tr>
<tr>
<td>3rd</td>
<td>8</td>
<td>20</td>
</tr>
<tr>
<td>2nd</td>
<td>14</td>
<td>35</td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
<td>100</td>
</tr>
</tbody>
</table>

The data from Tables 4.1 and 4.2 showed that, the higher percentage at fourth year could perhaps indicate a higher enthusiasm from the female students themselves and the community immediately after the centre was opened. This interest went down during the second batch of intake which was seriously affected by change of administration at the host school but again it seems to have picked up during the third year intake, after a new administration was put in place and which had support from the local community. There was change of office after registration of 4th years. The lower numbers were explained by the fact that these pioneer students were supposed to be fully sponsored, and indeed the projection of the project for a four-year-period, part of which was covered by the study, was to have 80 female students fully sponsored. But this was later reduced to 40 female students. This also explains why there were no 1st years registered at the centre during the time of the study. In terms of marital status, Table 4.1 shows that 40 per cent of the enrolled students were married while 60 per cent were not. This was therefore an indication that even within the cultural limitation in Arid
and Semi-Arid areas, it was possible to have married female students attend college and access higher education if the institutions were brought near the communities. Most of the students who were married had nuclear families and this didn’t become a barrier to access higher education through Open Distance and e-Learning since they were learning within their cultural setting.

Figure 4.2 Students Type of Family

Table 4.3 below indicated the number of qualified students to the Centre and the actual number at the Centre at the time of study and reasons as to why some were not at the Centre
### Table 4.3 Analysis of Qualified Students to the Centre and the Actual Number at the Centre

<table>
<thead>
<tr>
<th>Year of Study</th>
<th>No. Qualified</th>
<th>Actual No. At the Centre</th>
<th>No. Not in the Centre</th>
<th>Reasons Why Not in the Centre</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>27</td>
<td>0</td>
<td>27</td>
<td>18-lacked funding</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9-missed combination</td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
<td>22</td>
<td>14</td>
<td>8</td>
<td>All lacked funding</td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
<td>10</td>
<td>8</td>
<td>2</td>
<td>1-Pregnancy issues.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1-found hard to cope</td>
</tr>
<tr>
<td>4&lt;sup&gt;th&lt;/sup&gt;</td>
<td>20</td>
<td>18</td>
<td>2</td>
<td>1-Married.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1-Not known</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>79</td>
<td>40</td>
<td>39</td>
<td></td>
</tr>
</tbody>
</table>

Interview with centre coordinator indicated that when advertisement was done, 27 1<sup>st</sup> year students qualified and got admission letters, 18 of them got subject combination while 9 did not. But still they did not report due to lack of funding/sponsorship and the centre did not have the option for self sponsorship. She indicated that 2<sup>nd</sup> year students were initially 22 but 8 dropped out due to lack of sponsorship, 3<sup>rd</sup> years were initially 10 while the 4<sup>th</sup> years were 20. The coordinator also indicated that 4 girls (two 3<sup>rd</sup> years and two 4<sup>th</sup> year students) had dropped out of the Centre. One girl got married and joined her husband abandoning her education. One got pregnant and due to complications she could not cope, while another found Open Distance and e-Learning hard to cope with.
One other also stopped coming for reasons which were not known to the institution and her whereabouts were not known. Those who dropped out of the Centre for whatever reasons were replaced by other qualified deserving female students. This explains why the number of enrolled students was 40 despite the dropout. Demographic information regarding the socio-economic profiles of parents was sought. Two sets of questions were used to gauge the socio-economic background of students as shown in Figure 4.3 below. The idea was to find out, given the cultural limitations that female students from the Arid and Semi-Arid and marginal communities faced to attend formal schooling, which type of family backgrounds accepted their females to enrol at the centre. This was captured by the occupation of parents (father and mother), and their levels of education:
Figure 4.3 Parents Education Level

Analysis from the data provided shows that largely the households from where the students came from were those engaged in cattle livestock keeping (79 per cent for fathers and 61 per cent for mothers), followed by where mothers were business people (33 per cent), and fathers were in formal employment (10 per cent). In both cases, most of the students at the centre came from households
whose parents had non-formal education (60 per cent for fathers and 84 per cent for mothers). This high percentage tends to suggest that education in these communities from Arid and Semi-Arid areas in Kenya is mainly offered non-formally through religious bodies and Non-Governmental Organisations. But increasingly fathers have an advantage in terms of formal education as 20 per cent and 12 per cent had primary and secondary level education respectively.

Interpreting information from Table 4.1 and Figures 4.1-3 altogether implies that the Open Distance e-Learning mode as a strategy to offer higher education to female students within Marsabit and neighbouring communities from Arid and Semi-Arid areas seemed to be more acceptable. Female students attended even when they were married and their families were mostly of the traditional livestock keepers. There was also no evidence that there were higher levels of formal education within the households or formal employment outside the traditional setup which was contributing to the acceptance of female students to take up Open Distance e-Learning. The only explanation therefore was that the design and implementation of the programme which allowed females to participate in higher learning without going away from their traditional homes for long periods was quite convenient for them.

4.2 Design and Implementation of the Project

The first research objective was to establish how the Marsabit Open Distance e-Learning Centre had been conceptualized, designed, and implemented as a strategy to provide access to higher education for female students from the Arid
and Semi-Arid parts of Marsabit County. Data for this objective was got from an analysis of background documents and interviews conducted with the two key personnel who were involved in the setting up of the project Kenyatta University and Women Educational Researchers of Kenya.

With regard to origin, the idea to start the Marsabit Open Distance e-Learning Centre was due to a study that was conducted by Women Educational Researchers of Kenya in 2006 to find out the availability of qualified female teachers in the Arid and semi-arid regions of Kenya. The study which was conducted in three upper Eastern Province districts of Tharaka, Meru North and Marsabit confirmed that gender disparities in teacher placement were common, more so in arid districts. Some girls’ schools were fully managed by male members of staff. The absence/low numbers of female teachers in secondary schools demanded that training and placement of these was paid attention to. The study that was sponsored by the Ford Foundation found out that one of the problems facing female education in the Arid Semi-Arid regions was the lack of qualified female teachers who could be role models. It was generally realized that few girls proceeded to secondary schools from where they could train as teachers. The study established that most schools had no single female teacher and this posed immense challenges to the education of girls. According to one of the respondents who was also involved in the initial conceptualization of the project, it was realized that ‘the more remote a place was, the less likely the school was to have a female teacher,... girls were vastly under-represented at schools, and it was on this issue that the researchers sought to develop a pilot intervention. Many
schools lacked even a single female teacher, reinforcing an overall pattern of girls’ exclusion from education. This absence of female teachers was critical and required a remedy...’

The second problem was that the few females who had succeeded to higher levels of education migrated out of the region and therefore could not be used as role models or teachers to support the education of girls. Also, Arid and Semi-Arid regions, because of the hardships associated with them did not attract qualified people from other regions of Kenya to come and work there, including teachers. This meant that besides the other socio-cultural factors which hindered girls’ participation in schooling, the lack of teachers generally and female teachers in particular made schooling unattractive to girls from communities in Arid and Semi-Arid areas. As discussed in Chapter Three, students in Arid and Semi-Arid communities of Marsabit County tended to enrol in school when they were mature, such that most of them enrolled in primary schools were actually of secondary school age. For girls, this also became a problem because they enrolled in primary schools when culture expected that they should be married and therefore few of them proceeded to secondary school. Since tradition and culture did not encourage movement out for girls who had been married or about to get married, the 2006 Women Educational Researchers of Kenya study established that this tended to be a problem which limited the females taking up training chances even after secondary school. This was because there were no teacher training colleges established within accessible distances which culture could allow female students to venture out alone and attend. Generally, the observation
by Women Educational Researchers of Kenya concurred with literature review for this study which showed that female teachers provided psychological boosts which activate girls’ participation. Female teachers could be role models to young girls, particularly in rural areas and parents were more at ease with safety and protection concerns of their daughters so long as female teachers were present. Available statistics also showed that girls’ enrolment was lower where female teachers were absent.

One solution was to attract more female teachers into the district’s schools. The solution that emerged was to have girls from those places qualify to be teachers. The researchers realized that it would be important to enable the women to do their studies in Marsabit most were afraid of travelling too far from home, and besides, if they travelled to Nairobi, some of them would not return, which would defeat the objective of the programme. Designing an e-learning programme to work in such a remote area was a pertinent challenge for a university like Kenyatta. The researchers designed an e-learning programme that had partnered education lecturers at the university with the technological expertise of the Kenya Education Network Trust and the resources of the Higher Education Loans Board. The Ford Foundation stepped in with financing for the programme in 2008. The aim of the programme was to provide all course materials in distance learning format as electronic modules loaded onto net books that would be distributed to the students. The programme was designed in such a way that the female students would not have to travel to Kenyatta University Main Campus, and that lecturers and examiners would not have to travel to Marsabit. The students would access all
their course materials electronically, while being connected to the university through Module, via an Internet connection provided to the Open Learning Centre for women. By the time of this study, the programme had managed three intakes of students so far (20 in 2008; 10 in 2009; and another 18 in 2010).

One of the recommendations made by the Women Educational Researchers of Kenya study was, therefore, to explore the possibility of establishing a teacher education centre within reach of most of the female students who had finished secondary school and/ or trained as primary school teachers. The teacher education centre would be implemented with flexible access and participation mode such that female students would not travel very far away from their homes. Based on this recommendation, Kenyatta University initiated an Open Distance and e-Learning Centre for Women hosted by Moi Girls Marsabit Secondary School, to address the training needs of female secondary school teachers. Due to socio-cultural and infrastructural barriers, girls and women from Marsabit have not taken full advantage of the programmes offered by the University at the North-Eastern and Eastern provincial Centres located at Garissa and Embu, respectively. The decision to have a Marsabit Open Learning Centre was rationally intentioned as an approach to increase the number of local based teacher trainees. Such teachers would have a higher probability of remaining in Marsabit to teach in their home districts. That would increase the pool of female teachers. This would also have an effect of increasing the base of educated girls. The Ford Foundation provided a grant to the Higher Education Loans Board to facilitate the implementation of the programme aimed at "Increasing Female
In terms of implementation of the project, review of the documents and interview with the three key informants (Executive Director of Kenya Education Network Trust and the two initiators of the Project) showed that the strategy was to involve three institutions in implementing the project collaboratively. The institutions were Kenyatta University, the Higher Education Loans Board and the Kenya Education Network Trust. The three institutions collaboratively sought funds from the Ford Foundation to initiate a distance learning programme, targeting women in Marsabit and neighbouring districts to pursue Bachelor of Education (arts) courses in four restricted subjects (that is Kiswahili, Religious Education, Geography and History and Government). In terms of sharing responsibility, Kenyatta University would host the centre, provide the training to the teachers and support efforts to increase the transition of girls from primary to secondary school. Higher Education Loans Board was to manage a special revolving fund that would facilitate loan provision to female students. Kenya Education Network Trust was to integrated Information and Communication Technology in Distance Learning through a multimedia approach. The Centre started functioning in September 2008. The centre is situated at Moi Girls Secondary School in Marsabit town. The centre admits women, who have either attained the minimum university entry grade of C+, or have a C with P1 certificate. The overall objective of the project is to improve girl transition to secondary schools and universities
for enhanced human capital accumulation in Arid and Semi-Arid Lands. It also aims to increase the proportion of female teachers in both primary and secondary schools to at least 50% of the districts’ total teaching force, build the capacity of Kenya Education Network Trust to act as a resource for Universities on integrating information technology in Distance Education and finally raise the quality of distance education provision by integrating Information and Communication Technologies and multimedia approaches. At the time of fieldwork for this study, 40 students were enrolled at different levels, while the project coordinator indicated that the project was to secure places and funding for 80 females within four years of its inception. But this reduced to 40 later.

The operation of the centre is through the Integration of Information and Communication Technology in Distance Education. The Marsabit Open Learning Centre, like the other eight Open Learning Centres run by Kenyatta University, is modelled along a Distance Education Model. This means that the students are reached with limited or no physical contact with the lecturers, depending on the quality of the materials and levels of technology in use. There is heavy reliance on self-study given the limited teacher/student interaction. Such a model presupposes availability of study materials and resources which have proved to be a major limitation within the Open Learning Centres in the past. As a result, the quality of students who graduate through the programmes has not been the same as that for campus-based students. Quality concerns have prompted the University to adopt technological advancements to improve services of the Open Learning
Centres. Efforts are already underway to integrate concepts of e-learning with the print-based learning study packages. The project carried the discussion forward by integrating technology to improve delivery within the Marsabit Open Learning Centre. This involved the following; Revision of existing modules to ensure that they are interactive, learner friendly, and provide self-assessment feedback to students electronically; introduction of new electronic assessment and exams for students at Open Learning Centres (this was not yet done by the time this study was conducted); provision of access to internet and digital library resources to learners (this was also not yet done by the time this study was conducted). The students at Marsabit were to have individual access to the e-learning resources and e-books using affordable laptop computers and modems. Though provided, most modems were not functional and the laptops lacked power for most of the students. Access to e-learning by students was majorly done by visiting computer laboratory of the school, which was equipped by the project though it was inconvenient for them especially when school was in session because the same facility was being used by the Moi Girls students for their computer classes.

This study established from interviews with the three key informants at Kenyatta University and Women Educational Researchers of Kenya that Kenya Education Network Trust had indeed undertaken training of different levels of staff to boost the success of the project. Kenya Education Network Trust facilitated a five-day’ Marsabit Open Learning Lecturers Training Workshop at Kenyatta University Main Campus aimed at building capacity for the lecturers so that they could be
able to produce interactive multimedia content for distance learning for the Marsabit project and similar projects in future. The next activity was to transform traditional lecture notes and print modules developed for Kenyatta University Institute of Open Learning, first at the Open University from November 2008. The content was then mounted onto modules, taking into account the multiple rates of women educators’ intermediation in the realm of culture, dress, employment and social context for which the teaching materials were being developed. At the time of fieldwork for this study, it was established that Kenya Education Network Trust had undertaken training of student assistantships multimedia content development. This was confirmed during interview with the centre coordinator who indicated that there was student assistant who had been trained to help students in the operations and access modules electronically. But at the time of study she had left the centre for marriage and had not been replaced. About 57 lecturers from Kenyatta University had also been trained on multimedia content development. The content developed by lecturers was converted into commonwealth of learning instructional design template before uploading to the net books and Modules. At the beginning of each semester, it was established that the lecturers held a two-day face-to-face meeting between facilitators and students at Marsabit Girls Secondary School. Subsequently, a one-week meeting is held at Kenyatta University at the beginning of each semester to provide students with adequate guides and tips for the courses they are to undertake for the semester. Frequent contacts were also to be maintained with the students through email and telephone. This was taking place during the time the study took place. Thus it was
concluded that the project had tried to address issues related to instructional design capacity development, development of learning resources (Focusing on Faculty members), providing technical and administrative support (for example e-components), supporting the operational costs for the Marsabit Centre. This was, though not as at the promised frequency (for example salary for the centre coordinator, stocking the library). Installing e-resources and computers at Marsabit Girls did not last for long especially on sustaining the cost of access internet. During the time of study, the school was catering for access cost. But most of the promised facilities like centre office were lacking. Information and Communication Technology technician had not been replaced. Library (of the school) lacked relevant textbooks and money for operational costs had not been released for almost half a year then.

**Discussion**

Based on the information presented above, this study concludes that the Marsabit Open Distance e-Learning Centre had tried to address the basic logistics related to the design and implementation the programme for female students from marginalized communities, though sustainability was seriously wanting. There was evidence of including local content and illustrations on the developed modules. The training of student assistants and lecturers has also contributed to easing the limitations by the female students to access and operate computers and other Information and Communication Technology materials, although a problem came in after the marriage of technical student assistant, who was since, no
replacement was done. At the time of study, technical issues concerning Information and Communication Technology were being handled by the school’s computer teacher who was not part of the programme. The Centre can therefore be said to have a potential as a strategy that can work to improve the quality of distance education provision and the transition of female students to secondary schools and universities for enhanced human capital accumulation in Arid and Semi-Arid areas, if the initial plan of the Centre could be fully implemented and sustained. The centre also has the capacity to increase the proportion of female teachers in both primary and secondary schools in Arid and Semi-Arid regions within the total teaching force, as a strategy of enhancing girls’ enrolment, survival, performance and well-being in schools.

The results also confirm some aspects of literature review as contained in Chapter Two of this study regarding the design of open learning programmes for female students. The study by Mafa, Mpofu and Chimhemnga (2013) in Zimbabwe, for example, argues for an open learning design that is based on investment in Information and Communication Technology so that students can access their tutorials through internet. According to the authors, this would be accompanied by revised and updated modules, regional centres established and owned by the universities, internet facilities and offices so that the implementation of face-to-face tuition could be effectively done alongside training of lecturers in designing e-learning materials. The design by the Kenyatta University Open Learning Centre also seems to have taken account of suggestions by the
Commonwealth of Learning (2000) which recommended that for open learning to succeed, course design and materials should accommodate the characteristics of learners.

4.3 Perceptions of Students and the Local Community regarding the Open Distance and e-Learning Initiative

The second research objective for the study sought to establish what the students at the centre and the local community thought of the initiative as a strategy to encourage female education in the Arid and Semi-Arid areas. The importance of establishing the perceptions of the students and the local community was that the perceptions would determine if female students from Marsabit and the neighbouring Arid and Semi-Arid regions would utilize the opportunities that the centre provided. The perceptions of students were largely expressed in the questionnaire and the follow-up Focus Group Discussions. The numbers of students involved have been presented in Table 4.4:

<table>
<thead>
<tr>
<th>Response</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convenient physical access</td>
<td>18</td>
<td>60</td>
</tr>
<tr>
<td>Creating awareness on female education</td>
<td>19</td>
<td>63</td>
</tr>
<tr>
<td>Easy to combine work and study</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Appeals to community culture</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>Uplifts female education in Arid and Semi-Arid Lands</td>
<td>3</td>
<td>10</td>
</tr>
</tbody>
</table>
From the Table, the highest number of students (63%) saw the centre as important in creating awareness about female education in the Arid and Semi-Arid areas. The response ties well with the objectives for the establishment of the centre as a focus for training female teachers as role models for other girls in the Arid and Semi-Arid regions. 60% of the students showed the importance of the centre in terms of easy physical accessibility. As has been discussed elsewhere in this study, one of the limitations to female students accessing higher education in the Arid and Semi-Arid regions is culture, especially for married women who were not allowed to move out of their marital homes. In this case the Kenyatta University Marsabit Centre was seen as convenient as it enabled even married women to attend and return home. This response ties with another 20% of the students who saw the centre as appealing to the community. The responses from students showed that they largely appreciated higher education opportunities that were provided within their surroundings. The responses also implied that the female students understood the limitations placed on them by culture in accessing higher education away from home.

A follow-up item in the questionnaire sought students’ responses as to why they thought a majority of them never qualified to public universities through regular admissions. This question was in a way meant to establish the manner in which the Kenyatta University Marsabit Open Distance e-Learning Centre had been designed and how it had responded to some or all of the identified challenges.
Table 4.5 below summarises the qualitative responses from students in terms of frequencies and percentages.

**Table 4.5 Responses to why only few Female Students from Arid and Semi-Arid Regions qualify to Universities**

<table>
<thead>
<tr>
<th>Reasons given</th>
<th>Frequency</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultural practices</td>
<td>10</td>
<td>33</td>
</tr>
<tr>
<td>Financial problems</td>
<td>8</td>
<td>26.4</td>
</tr>
<tr>
<td>Lack of adequate resources( both human, time and physical) and facilities at schools</td>
<td>18</td>
<td>59.4</td>
</tr>
<tr>
<td>Un-conducive and harsh conditions for learning</td>
<td>7</td>
<td>23.1</td>
</tr>
<tr>
<td>Lack of support, poor beliefs and peer pressure</td>
<td>11</td>
<td>36.3</td>
</tr>
<tr>
<td>Ignorance</td>
<td>1</td>
<td>3.3</td>
</tr>
<tr>
<td>Lack of role models</td>
<td>10</td>
<td>33</td>
</tr>
</tbody>
</table>

From the table above, it is evident that a majority of the students (59 per cent) associated their lack of qualifying to public universities with the lack of resources both at their homes and schools. This was still culturally based because girls’ education was not valued in their communities. 36 per cent of the students cited factors related to lack of support for schooling from the community and at school, followed by 33 per cent who indicated cultural limitations and 26 per cent who indicated financial problems, which was a scapegoat for not educating girls. Analysed together, the responses from students tended to point to lack of facilities adequate for girls secondary schooling, cultural limitations and financial problems as the main factors which limited access to good schooling and qualification to universities for female students from Marsabit and other Arid and Semi-Arid areas. These responses were similar to Women Educational
Researchers of Kenya findings to the effect that camels were more valued than girls. Thus a camel could not be sold to educate a girl.

The responses concurred with other similar studies by which the government of Kenya has tended to use a more responsive education programs for the pastoralist communities in the Arid and Semi-Arid areas. For example, in a report prepared at the request of the Ministry for Northern Kenya, the Brookings Centre for Universal Education looked at social indicators for 12 of the Arid and Semi-Arid counties. Among the findings of the report was that poverty incidence in counties such as Marsabit, Wajir, Mandera and Turkana exceeded 80 per cent – double the national average. The 12 counties accounted for just over 20 per cent of Kenya’s primary school age population, but almost half of the out-of-school population. They accounted for 9 of the bottom 10 counties in the national league table for enrolment, (Wilkins, 2012). The report also indicated that gender gaps in education in the regions were among the widest in Kenya both in terms of access, progression through schools and test scores. In some of the Arid and Semi-Arid counties, there were twice as many boys as girls in secondary schools. Those (very few) girls who made it through the education system to take the secondary school exam were half as likely as boys to achieve the grade required to secure state funding for higher education, (Wilkins, 2012). Given the level of education disadvantage facing children in the Arid and Semi-Arid counties, an equitable system of public spending might be expected to transfer more per pupil than to other counties. In the case of Kenya, the inverse principle applies. The Arid and Semi-Arid counties continue to receive less than they would if the budget was
allocated as an equivalent transfer for each child. Thus, budget transfers to Arid and Semi-Arid areas are less than half of the level that would take place on the basis of equivalent transfers per child. The reason for the disparity is that transfers are determined by the number of children in school, penalizing those counties with low school participation rates, (Wilkins, 2012). In other word, those with the greatest need got the smallest amount of the budget allocation.

This study established that the design of the Kenyatta University Marsabit Centre took the above limitations into account. The approach was to design and implement a programme that addressed the financial limitations, by sourcing for financial sponsorships for the students. However this dependency on sponsorships through the Ford Foundation and Higher Education Loans Board meant that the initial intake targeted fewer students (80 female students which later reduced to 40) and the catchment was restricted to just target women in Marsabit and neighbouring districts. Kenyatta University also, through Kenya Education Network Trust, developed online materials based on local content and their relevance to the local cultures. The search for relevance has, for example, made the University to re-brand the institute of Open Learning to include e-Learning. This effectively makes it The Institute of Open, Distance and e-Learning. This re-branding of the Institute was geared towards improving the delivery of the educational services to students, which in essence improves the quality of the distance learning programmes. By introducing e-Learning, Kenyatta University is adding value to its programme by placing the student at the Centre of Learning. Some of the new developments in the newly established Institute include students
learning online through an interactive e-Platform, and their access to the University Digital Library. In addition, students, lecturers and the Open, Distance and e-Learning administration work closely to inject into learning creativity, innovativeness and problem solving solutions. Open, Distance and e-Learning also aims at having forums for students’ discussions in form of e-Debates, e-Tutorials, e-Workshops and e-Conferencing.

Finally respondents were asked to indicate factors that generally limited students from the Arid and Semi-Arid areas to access universities in Kenya. Their responses are summarized in Table 4.6 below:

**Table 4.6 Factors limiting access of female students from Arid and Semi-Arid areas to universities**

<table>
<thead>
<tr>
<th>Factor</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor infrastructure and distance to the universities</td>
<td>2</td>
<td>6.7 %</td>
</tr>
<tr>
<td>Poverty and low socio-economic status</td>
<td>5</td>
<td>16.7%</td>
</tr>
<tr>
<td>Lack of relevant and convenient courses for female students</td>
<td>8</td>
<td>26.7%</td>
</tr>
<tr>
<td>Culture related factors</td>
<td>4</td>
<td>13.3%</td>
</tr>
<tr>
<td>Failure to pass Form Four examinations</td>
<td>3</td>
<td>10%</td>
</tr>
<tr>
<td>Lack of information and opportunities</td>
<td>8</td>
<td>26.7%</td>
</tr>
<tr>
<td>Marriage and family responsibilities</td>
<td>4</td>
<td>13.3%</td>
</tr>
</tbody>
</table>

The data from Table 4.6 is consistent with that in Table 4.5 where respondents were asked to indicate the factors limiting their qualification to public universities in Kenya. Some mentioned infrastructure and insecurity noting the following; because of distance they failed to attend tutorials; females were not allowed to go
away from homes, especially the girls, on their own; due to insecurity they could not attend tutorials; most universities are far and the culture restricts female mobility; most females rarely got information because of lack of mass media and poor infrastructure for communication thus ‘most of us are closed out’.

When students lack information, then there is always a negative attitude towards Distance Learning and they will end up staying at home for longer time. Eventually marriage and family responsibilities tie them up. Some mentioned institutional based issues such as inaccessibility to the library and computer laboratory especially during school session; poor mode of delivery since they were to supplement modules by accessing internet and yet for most of them the laptops lacked power and modems didn’t even function. Also, there were delays in getting feedback from the University and from the lecturers; the admission process was long and the mode of delivery Open Learning was hectic for most females. Subject and course selection were rigid and restrictive too. There were even, delays of modules delivery and lack of variety courses materials, lack of information at the Open Distance and e-Learning Centre about courses and examinations. Moreover, courses at the Centre are only for education yet other students would have preferred other alternatives such as law.

Poverty and socio-economic status were indicated as a major cause. Students’ responses revealed that most parents were poor and could not support education for both girls and boys; in any case, most parents preferred educating boys. Girls dropped out of school to look for jobs to supplement family income. Poverty at home also forced parents to marry girls off earlier as a source of income.
Cultural issues were also mentioned as a major cause. Generally, the culture of the communities from Arid and Semi-Arid regions is not supportive of girls’ education and many parents don’t allow girls to travel far away from home. Boys are favoured when it comes to schooling while girls have many responsibilities which limit their time for education. There is also the belief that educating girls is enriching her spouses’ family. Also, there is discouragement from regular students who tell them that they are learning through ‘gumbaru style’ (adult literacy). Female students are married off earlier. The perception is that girls are made for marriage and housekeeping but not for education. Schools and school facilities for girls are therefore not well provided. Hence, most girls do not perform well because of poor schools and lack of fees.

Some mentioned failure to pass form four examination and noted the following:

‘our results are always poor due to lack of accessibility to the class; hence low grades; although the university entrance mark for us was a C+, those with C should have P1 certificate, most girls don’t qualify while the few who manage to go to form four do not meet Joint Admissions Board (JAB) qualifications due to poor performance at Kenya Certificate of Secondary Education (K.C.S.E). level; those who have low grades stay at home and get married, some felt that they don’t qualify due to poor brain but situations make them fail (voices of some- we might be bright but problems reduced the grades), most schools lack resources such as laboratories and libraries, poor results affect the choice and selection of the courses’.
According to the responses, marriage and family responsibilities also contributed in the following ways: since most girls were married off early, it meant that they had children and even when they got a second chance to access university education, bringing up the children and learning at the same time was impossible.

The Centre coordinator, in an interview, noted that the Centre was very important to women education in this arid region. In particular, the coordinator mentioned the following as the strengths of the centre to the community:

a) The presence of university students and personnel especially women would act as role models and motivators to secondary school girls in the region to work hard in their studies.

b) The centre was the only University institution that had been brought to the door-step of pastoralist community thus parents felt secure to allow their girls to participate in higher education.

c) The centre provided a second chance for those girls who had been barred from accessing higher education by other circumstances. It was an Open door facility for qualified girls who would not access higher education due to socio-cultural and economic factors.

d) The scholarships provided enabled the girls to access education. The coordinator indicated that community members would not now have to sell their valued livestock for girls’ education.
Some of the voices of the girls in Focus Group Discussions expressed the following:

a) “We get our freedom from the internet, since in our society women and girls are not allowed to go wherever we want; the internet takes us out to other people, places and realities. It is our way of escaping from our only learning but also giving us liberty”.

b) “Our self-esteem has really improved because of the Information and Communication Technologies programme. We are no longer dependent on boys and men. We feel capable of solving our problems with great autonomy...... which is powerful and makes us very proud”.

c) “Open Distance and e-Learning is bringing University education to our door step. We don’t need to travel away from our closed, restrictive society and culture to access higher education. We can now access it anytime, anywhere and this is helping us to be at the same footing with men and other women in metropolitan regions. Also interacting with women lecturers is opening our eyes that with higher education, women can move to very high height. They act as our role models, motivating and challenging us to continue learning despite the barriers. In turn we will act as role models to other women and girls in our closed society and culture which we hope will change with time”.

Discussion
The responses of the respondents here indicate that they largely appreciated the innovation as a strategy to access higher education. This finding conforms to the study by Gudhlanga, E.S., Magadza, S.N. and Mafa, O. (2012) at the Open University of Zimbabwe which found out that woman considered Open Distance Learning as an important tool for empowerment. The study indicated that both single and married female students took study courses at Open University of Zimbabwe. 37% of the respondents were single whilst 58% were married. The findings also confirm the observations by Azaiza’s study (nd) which argues that there is bound to be a significant positive correlation between women’s dialog and their perception of distance learning. Azaiza’s study also makes observations similar to those of this study. The observations are that religion, society, and culture put rules for the collaboration between genders, which limit their interaction. Specifically women’s domestic roles (for example, children and spouse) limit women’s dialog in a traditional (face-to-face) environment. Thus, distance learning is the solution to overcome this obstacle for most women.

However, the design of open learning initiatives for women has two aspects. The first is to narrow the distance to higher learning centres and address limitations placed by culture and tradition. The second aspect is to design a programme that addresses both the physical and pedagogical dimensions. In the words of Rekkedal (1994), as presented in Chapter Two of this work, it is important for programmes to take into account the experiences of women which make them perceive the world differently from men. As a result of the influence of their roles in society, their encounter of the world cannot be the same as that of men. Hence,
women in academic settings face a disjunction between their own life experiences and established bodies of knowledge which reflect a male point of view. The thinking is that the existing theories and methods of Open Distance Learning may be confusing for women who study at a distance and are physically removed from the university community. Perceived and conceived by men in the world of men, the packages of objective, factual material, activities, and exercises of modules that are sent to open and distance learners may have little direct bearing on the social worlds of women. Hence, while female students in this study appreciated the Marsabit Centre in terms of addressing the physical limitations to higher education, no evidence was provided to show a concern for making the centre and the teaching materials reflect the social experiences of women.

4.4 Challenges that faced the Implementation of Open Distance and e-Learning as a Strategy to increase female access in Kenya

This study sought to find out the challenges that the Kenyatta University Marsabit Open Distance and e-Learning Centre was facing in terms of implementation as a strategy to increase the number of female students accessing higher education from the Arid and Semi-Arid regions. This was captured from the side of students and the other side of the stakeholders who were involved in the implementation of the project.

From the side of students, while 64 per cent indicated that the course materials provided were adequate, 100 per cent indicated that they had difficulty in understanding the materials provided. Hence while most students (64%) indicated that they found the materials and tutorials adequate for their courses, nearly all of
them had problems in understanding the course materials. Students provided two sets of responses. The first set referred to challenges of Open Distance and e-Learning as a model of providing access to higher education to students in marginalized circumstances. The second set referred to challenges that had been caused by the manner in which Kenyatta University had designed and implemented the model. Table 4.7 below summarizes the responses of the students to what they thought were challenges regarding the suitability of Open Distance and e-Learning:

**Table 4.7 Challenges associated with Open Distance and e-Learning as a strategy as Perceived by Students**

<table>
<thead>
<tr>
<th>Challenge</th>
<th>Frequency</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hectic and time demanding-Transport challenges and insecurity to get to centre</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>Being away from lecturers makes it hard to perform as expected</td>
<td>4</td>
<td>13.3</td>
</tr>
<tr>
<td>Distance learning is not favourable for me due to time and lack of enough learning materials</td>
<td>6</td>
<td>20</td>
</tr>
<tr>
<td>Financial Constraints</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>following lecturers to look for results and missing marks</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Getting modules on time and knowing exam dates is a problem</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>Lack of conducive study place and too much day to day work</td>
<td>7</td>
<td>23.3</td>
</tr>
<tr>
<td>Lack of variety in reading materials apart from modules</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>43</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Note: Frequencies and percentages add to more than 100% due to multiple responses.
Responses from Table 4.7 indicate that most students perceived the Open Distance and e-Learning model to lack conducive study place and too much work that the students were given to undertake on their own (23 per cent). But technically this could possibly refer to the failure of the institution to provide adequate and convenient rooms for the students to either discuss or undertake private studies whenever they visited the institution. This was the case when schools were in session. At the time of this study which took place during school holiday, there were adequate classes which the students used to study for private studies and group discussions. The second set of responses associated the challenges of Open Distance and e-Learning with financial limitations, and time related constraints (travelling to the centre more often sometimes made it more expensive than if the students were boarding for a whole semester and looking for lecturers for consultations (20 per cent). The other challenges were lack of variety and sometimes delay in receiving the modules (16 per cent) and lack of frequent face to face meeting with lecturers (13 per cent). The responses from the students point to the contradictions that have faced the advocacy for Open Distance and e-Learning programmes for marginalized populations and have implications on the overall perceptions of their quality. Students from marginalized areas, especially female students, need to be provided with the highest standard of education if they have to catch up. This means a lot of investment in reading materials and other learning resources. But so often, the way Open Distance and e-Learning programmes are implemented creates a feeling that it is a cheaper mode of proving a cheaper education to marginalized
populations. So reading materials lack variety and they have limited face to face meetings with the least qualified lecturers. Students’ responses in this study may therefore have been pointing to this contradiction.

Interviews with the other stakeholders who included the centre coordinator, lecturers from Kenyatta University and the representative of Kenya Education Network Trust, identified the following as the challenges which faced the Marsabit Centre initiative:

a) Issues related to funding to provide adequate scholarships for the number of female students who were in need.

b) Slow internet connectivity due to the poor infrastructure and the high cost of procuring internet equipment.

c) Inadequate physical and human resources such as library, and relevant learning materials.

d) Low or poor Information and Communication Technology skills by both students and lecturers.

e) Few computers at the centre and students’ laptops and modems didn’t function optimally.

f) Late preparations and availability of study modules at the centre.

g) The few courses on offer at the centre limited the students in course selection.
h) Communication policy-due to high international tariffs and lack of circuit capacity, obtaining sufficient international bandwidth for delivery of web pages over internet was cited as a general problem in Kenya.

i) High cost of producing quality materials.

j) Lack of transport facilities the centre used hired vehicles which at times due to high costs involved led to disagreements with the University management.

k) Long distances that lecturers from Kenyatta University Main Campus had to travel to attend to students at the centre meant that there was no sufficient time for consultation.

The responses from students were corroborated with those of project coordinator at the Centre who pointed out that among the challenges that the centre faced were financial-related. This included the high cost of purchasing laptops, modems, internet infrastructure, payment of lecturers and student assistants. Embracing technology by students and lecturers was also cited as a limitation. It was noted that most students and lecturers still preferred traditional face-to-face pedagogy. Hence, reconciling traditional pedagogy with technology presented problems to both groups.

Students were then asked to indicate the steps they took to mitigate the weaknesses of Open Distance and e-Learning. Table 4.8 below summarizes their responses:

Table 4.8 How students coped with the Challenges
<table>
<thead>
<tr>
<th>Coping Mechanism</th>
<th>Frequency</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Addressing centre coordinator</td>
<td>8</td>
<td>26.7</td>
</tr>
<tr>
<td>Discussing in groups among themselves and asking for help from friends and those ahead of them</td>
<td>12</td>
<td>39.6</td>
</tr>
<tr>
<td>Searching information in text books and downloading from internet</td>
<td>5</td>
<td>16.5</td>
</tr>
<tr>
<td>Reading and trying to understand on their own as well as organising themselves within the available time</td>
<td>3</td>
<td>9.9</td>
</tr>
<tr>
<td>Increasing tutorial time</td>
<td>1</td>
<td>3.3</td>
</tr>
<tr>
<td>Great opportunity for us but may forget books</td>
<td>1</td>
<td>3.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

From the responses above, it is clear that most of the students (40 per cent) resorted to friends and peers, in group discussions and tutorials to supplement what they got from the lecturers and hand-outs. Others resorted to address their concerns to the centre coordinator (27 percent) while others took the initiative to get supplementary reading materials, including from the internet (17 per cent).

Regarding the perceived weaknesses of the Marsabit Centre as implemented by Kenyatta University, students expressed different opinions during Focus Group Discussions. The opinions of students revolve around financial issues (sometimes students required more financial outlays to cater for transport, airtime to access internet and purchase of supplementary materials). Hence even though they were on a tuition scholarship, the fact that the scholarship did not meet their other needs related to their attendance and thus completion at the centre became a limitation. The second cluster of responses related to the manner that the University had organized and delivered the course materials. Students’ responses seemed to point to lack of adequate guidance from lecturers, lack of leeway to
select individual courses of their choice and inadequate materials or at times they
got materials that they could not comprehend on their own. There was also a
feeling by students that although the centre was closer to them, the schedule of
courses ended up being more demanding in terms of time.

Table 4.9 below indicates that, whereas an Open Distance and e-Learning mode
was a good alternative for them to access higher education, the manner in which
the Marsabit Centre had been designed was not convenient to their time and
financial circumstances.

Table 4.9 Students’ responses on the weaknesses of Kenyatta University
Marsabit Open Distance and e-Learning Centre

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does not admit girls from high school</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Lacks Transport</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Hectic and time-demanding</td>
<td>20</td>
<td>66</td>
</tr>
<tr>
<td>Lacks frequent Tutorials</td>
<td>11</td>
<td>36</td>
</tr>
<tr>
<td>Expensive internet access</td>
<td>10</td>
<td>33</td>
</tr>
<tr>
<td>Low quality</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Poorly developed modules</td>
<td>5</td>
<td>16</td>
</tr>
</tbody>
</table>

Response in Table 4.9 reveals that most students (66%) saw the weaknesses of the
Marsabit Centre in terms of time and the hectic schedules. The responses should
be interpreted against the background of students who had been admitted to the
centre. These were those that were working as teachers and given the expansive
Arid and Semi-Arid Land regions, they had to travel to the centre for
consultations, tutorials and to pick modules. Indeed, the 10% of the students who
focused lack of transport provision and lack of frequent tutorials (36%) may have
been capturing the same sentiments. The other weaknesses noted had to do with
poorly developed modules (16%) and the fact that the centre did not admit students straight from high school (20%). Some students also felt that the manner in which the Centre was organized made it expensive for them as they had to buy internet access (33%), and the perception that the initiative was of low quality compared to higher education offered in the formal university system (10%). For example, during Focus Group Discussions, one student noted: ‘*it is a weak mode that sometimes discourages one and makes her to feel that she is not schooling at all, especially due to delays in result release...*’ The other opinions proffered by students during Focus Group Discussions which made them consider the initiative as a low quality alternative included the following:

a) Some course materials are not easy to follow;
b) the centre offered only one course, education;
c) fixed subject selection;
d) lack of variety of reading materials and lack of adequate study time;
e) lack of reading materials apart from modules;
f) the frequent problem of missing marks.

Given the above concerns, students at the centre made various proposals that could be implemented to make the centre more successful in providing access to higher education for female students from Arid and Semi-Arid areas. The students’ proposals are summarized in Table 4.10 below:

**Table 4.10 How Kenyatta University Open Distance and e-Learning Centre can be improved to assist female students in need of university education**

<table>
<thead>
<tr>
<th>Suggestions</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide detailed course outlines on time</td>
<td>26</td>
<td>87</td>
</tr>
<tr>
<td>Organize frequent tutorials and mentoring sessions between lecturers and students at the centre</td>
<td>27</td>
<td>90</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------------------</td>
<td>----</td>
<td>----</td>
</tr>
<tr>
<td>Frequent communication between students and university</td>
<td>23</td>
<td>77</td>
</tr>
<tr>
<td>Provide students with adequate support services such as library and tutorials</td>
<td>19</td>
<td>63</td>
</tr>
<tr>
<td>Giving adequate time to complete assignments</td>
<td>23</td>
<td>77</td>
</tr>
<tr>
<td>Provide adequate time for examination preparation</td>
<td>20</td>
<td>67</td>
</tr>
</tbody>
</table>

Note: Percentages total to more than 100% due to multiple responses

It seems to be clear from Table 4.10 that students preferred frequent face-to-face interactions with lecturers (90 per cent) and detailed course outlines and materials (87 per cent). All the other responses point to the need for more time between lecturers and students and a broad base of reading materials from libraries. Evidently, what the students thought should be improved was a pointer to what they thought was missing in the programmes. It can also be argued that students, such as the sample for this study, are a unique group because the only way of taking higher education to them, given the community culture that limits them not to leave their homes for residential education especially when they are married is through Open Distance and e-Learning. In this case, it should not be seen as a low cost substitute but a convenient model of offering quality higher education to marginalized students who cannot leave their localities for residential tuition. However as the responses to this study indicate, the design and implementation of the Marsabit Open Distance and e-Learning Centre has been the low cost approach, where few lecturers are allocated the students, face-to-face meetings are
limited and course materials restricted to one hand-out per unit which is hardly
enough to provide students with adequate knowledge.

Discussion

The findings on challenges that faced the implementation of the initiative confirm
other similar studies in Kenya which have established that the universities in
Kenya which offer higher education through Open Distance and e-Learning rely
mainly on print materials. Computing resources, both hardware and software,
which are crucial in Open Distance and e-Learning, are difficult to afford in
reasonable quantities and quality. Production of high-quality Open Distance and
e-Learning materials for the programmes is also far more expensive because the
cost would include the design of the curriculum and the course authors’ fee,
remuneration of reviewers and assessors, and the tremendous effort devoted to the
presentation of the final product using graphics language and layout style. Hence,
more often the institutions opt to use curriculum and study materials meant for the
residential model of education, which cannot effectively communicate to learners
separated from their tutors (Nyerere and Gravenir, 2012). Our study also confirms
the findings of other studies (see Mafa, Mpofu and Chimhemnga, 2013; Olusola
and Alaba, 2011; and Akinade 1998) which argue that open learning initiatives
especially for women are bound to encounter challenges that are both technical
and structural. These challenges include the multiple roles of female students,
non-supportive spouses, time constraint, financial challenges, the issue of
transport to and from tutorials which affects rural women students more than
their urban counterparts. There are also the issues of affordability and accessibility of Information and Communication Technology and technophobia. These challenges were confirmed in this study.

4.5 Suggestions on how Open Distance and e-Learning can be improved to increase Access of Female students from Arid and Semi-Arid regions to universities In Kenya

Students were asked through two items in the questionnaire to make suggestions on how Open Distance and e-Learning could be improved in terms of its design to provide greater access to female students from Arid and Semi-Arid Land areas to universities in Kenya. They were also asked to suggest ways through which retention and completion of female students from marginalized regions in higher education institutions in Kenya can be improved. Tables 4.11 and 4.12 below summarize students’ responses to the two particular items:

Table 4.11 Students’ suggestions on how Open Distance and e-Learning could be improved for female students from Arid and Semi-Arid areas

<table>
<thead>
<tr>
<th>Suggestion</th>
<th>Frequency</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase financial support and scholarships to female students taking higher education courses</td>
<td>27</td>
<td>90</td>
</tr>
<tr>
<td>Improve educational infrastructure and ensuring security in Arid and Semi-Arid areas</td>
<td>25</td>
<td>83</td>
</tr>
<tr>
<td>Widen affirmative action for female students from Arid and Semi-Arid areas</td>
<td>24</td>
<td>80</td>
</tr>
<tr>
<td>Establish Universities in Arid and Semi-Arid</td>
<td>25</td>
<td>83</td>
</tr>
</tbody>
</table>
Table 4.11 indicates that most students felt that financial related interventions were critical to improving the design and delivery of Open Distance and e-Learning for female students from Arid and Semi-Arid areas (90 per cent). This was followed by suggestions that more Open Distance and e-Learning institutions should be established in Arid and Semi-Arid regions (87 per cent). The third priority was the improvement of the infrastructure and establishment of higher education institutions in Arid and Semi-Arid areas (83 per cent). The suggestion to increase the number of Open Distance and e-Learning institutions in Arid and Semi-Arid areas can be appreciated given that the Marsabit Centre is situated almost at the edge of an expansive Arid and Semi-Arid region which is not served by any higher education institutions. Given the fact that the entire Arid and Semi-Arid region tends to have a similar culture that restricts female mobility, this response must have been meant to underscore the fact that such female students can still be reached by higher education if more Open Distance and e-Learning institutions were established closer to their homes.

Respondents who mentioned affirmative action suggested that the government should adopt the following measures: that area where school attendance is low such as in the Arid and Semi-Arid areas can be given special consideration in

<table>
<thead>
<tr>
<th>Areas</th>
<th>26</th>
<th>87</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase use of Open Distance and e-Learning by having more centres at different regions in Arid and Semi-Arid areas</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Percentages add to more than 100% due to multiple responses
terms of university admissions. For example, lowering cut-off points for girls from these areas and the qualifying girls ought to be provided with full financial support. During Focus Group Discussions, the respondents mentioned that this could be implemented through sensitizing parents and community on the importance of girl-child education and encouraging female adults who have succeeded to go and work in these areas to act as role models for the young female student. The community should also be sensitized to do away with cultural practices such as early marriages which hinder girls’ education.

**Table 4.12 Students’ Suggestions on how Retention and Completion Rates of students from the Marsabit Open Distance and e-Learning Centre can be enhanced to reduce dropout rate**

<table>
<thead>
<tr>
<th>Suggestions</th>
<th>Frequency</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide financial support for students to attend tutorials by creating a kitty for that</td>
<td>5</td>
<td>16.7</td>
</tr>
<tr>
<td>Increase variety of courses on offer and creating a flexible subject selection</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Guidance and counselling</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Simplifying course materials, having equipped library, having laptops and modems that are functional</td>
<td>5</td>
<td>16.7</td>
</tr>
<tr>
<td>Increasing tutorial time to ensure more face-to-face interactions with lecturers and who should put more effort to teach during tutorials and ensure timetables are well arranged to avoid collisions; provide a place where studies can take place during holidays</td>
<td>9</td>
<td>30</td>
</tr>
<tr>
<td>Provide boarding facilities for students especially during examination period to allow for more discussions.</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Sensitizing community on early marriages</td>
<td>2</td>
<td>6.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>30</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

The responses of students regarding expanding financial mechanism and availability of course materials is also supported by international literature
regarding support for and increasing higher education opportunities for marginalized (first generation) students. Marcucci and Johnstone (2010), for example, argue that financial related barriers associated with low family income, manifested through the inability to pay tuition and other fees or the inability to cover the costs of student’s survival or both are important in understanding the low participation in higher education of students from low income groups. Low family income is also associated with other factors such as completion of academic secondary school, rural or remote location, ethnic and linguistic minority status, and even interest and higher educational aspiration, all of which are more central to higher educational accessibility than simply the income of the family.

Interview sessions with the centre coordinator and lecturers from Kenyatta University suggested that the following needed to be undertaken to improve the viability of the centre as an alternative for girls’ access to higher education:

a) Improvement and stocking of the centre library.

b) Need to prepare study modules in time and distribute them to students at the time of registration.

c) Increase the contact time between students and lecturers to 2-3 weeks.

d) Increase number of computers accessible to students and replace modems with functional ones.

e) Establish a university liaison office at the centre.
f) Provide antenatal and post natal facilities to students who happen to be mothers.

g) Provide baby sitter facility during exam period.

h) Offer meals, accommodation and transport to students.

i) Provide guidance and counselling to students.

j) Improve on the time that funds from Kenyatta University are released to the centre to facilitate operational efficiency.

k) Design affirmative action that specifically addresses the unique needs of females from Arid and Semi-Arid regions.

Discussion

Generally, the responses on how best to improve female access are more towards financial interventions accompanied by a broadened affirmative action. The responses are similar to opinions that have been expressed by various researchers regarding the achievement of equity in higher education. Munene and Otieno (2007), for example, argue that the policy of providing financial aid to all students may not necessarily lead to equity if the other barriers they encounter to access higher education such as poor examination performance due to poor quality schools or lack of learning resources are not addressed. In any case financial interventions which do not take into account the backgrounds of students make higher education an elitist privilege (Hughes: 1989 and 1994; Hughes and Mwiria 1990; Migot-Adholla 1985).
The suggestions by the various respondents concur with other studies as shown in the literature review. The studies argue for the student support systems to improve Open Distance and e-Learning programmes, especially for women from marginalized areas (Carnwell, 2000). This would include practical support, for example, with child care or domestic arrangements; technical support, for example, how to word-process; academic support in terms of writing skills, referencing, literature searching; and emotional support. Koumi (1995) also shows that the professional experience of course developers is an important input in course development and a major determinant of the quality of course materials. One of the main tasks of a course developer is to ensure that the curriculum is sufficiently and systematically presented using print or non-print course materials.

4.6 Conclusion

The data presented and analysed in this Chapter has shown that, if well designed, Open Distance and e-Learning is the most suitable approach to increasing access to higher education for female students from marginalized regions where culture restricts their mobility to attend tuition far from their homes. The Kenyatta University Marsabit Centre is such one initiative. Though the centre was at its pilot phase during the time of this study, responses from students and interviews with the project coordinators affirmed that a sponsored Open Distance and e-Learning has a greater potential for broadening access to university education for female students from Arid and Semi-Arid and marginalized areas. This was because the targeted number was attained within three years and other qualified students were locked out due to lack of sponsorship. However, Open Distance and
e-Learning initiative has now become acceptable to both the students and the community. The fact that among the students who had registered were those who were already married indicated that Open Distance and e-Learning can address the cultural barriers in the community which restricts women generally. It also restricts married women’s mobility outside their homes in search for higher education without the permission of their husbands or male guardians. The fact that married women had enrolled showed acceptability from their husbands. However, in terms of actual implementation, the study has shown, especially based on questionnaire responses and Focus Group Discussions with students, that the implementation is not proper. Students felt that Kenyatta University ought to streamline issues such as administration and processing of examinations. There were also indications from the students that the manner in which the centre is operated creates the impression that they are subjected to an inferior higher education programme compared to those who attended residential regular programmes. They further interest in having a wide variety of courses instead of the one Bachelor of Education (Arts) degree that was on offer.
CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This Chapter presents a summary of the main research findings of the study, conclusions, policy recommendations and recommendations for further study. The summary is presented according to the research objectives that guided the study. These were:

a) To explore how the Kenyatta University Marsabit Open, Distance and e-Learning Centre had been designed and implemented as a strategy to increase access of female students from marginalized areas to universities in Kenya.

b) To find out the perceptions of the female students and local community regarding Open, Distance and e-Learning as a strategy for increasing access of women in marginalized areas to Universities.

c) To establish the challenges of adoption of Open, Distance and e-Learning to increase access of females to higher education.

d) To find out how Open, Distance and e-Learning could be improved as a strategy to broaden access of female students from Marginalized areas to Universities.
5.1 Summary of Main Findings of the Study

The main findings of the study based on the research objectives are as follows:

5.1.1 Design and Implementation of the Kenyatta University Marsabit Open Distance and e-Learning Centre as a strategy to increase access of female students to higher education

Data presented in this study shows that the design of the Kenyatta University Marsabit Open Distance and e-Learning Centre was based on the integration of Information and Communication Technology in Distance Education. The centre was designed a distance education model, with reliance on self-study given the limited teacher/student interactions. The Centre had already attained the targeted number of 40 female students and even others could not continue with their studies at the Centre due to lack of funding/sponsorship. About 35 female students (27 1st years and 8 2nd years) qualified but could not continue with their studies at the Centre due to logistical limitations at the Centre. The study established the following to be key features of the project:

a) Improvement of quality through the integration of Information and Communication Technology.
b) Revision of existing modules to ensure that they were interactive, learner-friendly, and that they provided self-assessment and feedback to students electronically.

c) Introduction of new electronic assessment and examinations for students at Open Learning Centres (this was not yet done by the time this study was conducted).

d) Provision of access to internet and digital library resources to learners. The students at Marsabit were to have individual access to the e-learning resources and e-books using affordable laptop computers. Though provided, most modems were not functional and the laptops for most students lacked power.

e) Access to e-learning by students was majorly done by visiting computer laboratory of the school, which was equipped by the project.

f) A collaborative partnership involving Kenyatta University, Women Educational Researchers of Kenya and Kenya Education Network Trust were behind the project. The partners had undertaken training of different levels of staff to boost the success of the project.

g) There were plans to transform traditional lecture notes and print modules developed for Kenyatta University Institute of Open Learning, first at the Open University from November 2008. The content was then mounted onto modules, taking into account the multiple rates of women educators’ intermediation in the realm of language literacy, dress, employment and social context for which the teaching materials were being developed.
h) At the time of fieldwork for this study, it was established that Kenya Education Network Trust had undertaken training of student assistantships and multimedia content development. This was confirmed during the interview with the centre coordinator who indicated that there was a student assistant who had been trained to help students in the operations and accessing modules electronically, although at the time of study she had left the centre for marriage.

i) The project had tried to address issues related to instructional design capacity development, development of learning resources (Focusing on Faculty members), providing technical and administrative support (for e-components), supporting the operational costs for the Marsabit Centre (for example, salary for the centre coordinator and stocking the library) and installing E-resources and computers at Marsabit Girls Secondary School.

j) The programme addressed the financial limitations of the students and their families by sourcing for financial sponsorships for them. However, this dependency on sponsorships through the Ford Foundation through Higher Education Loans Board meant that the initial intake targeted fewer students (80 female students but later reduced to 40). The catchment area was restricted to just targeting women in Marsabit and the neighbouring districts.

k) Also, the university, through Kenya Education Network Trust, had developed online materials based on local content and their relevance to the local cultures. The search for relevance has for example made the
university to re-brand the institute of Open Learning to include e-Learning. This effectively makes it The Institute of Open, Distance and e-Learning (ODeL).

Based on the above, this study concluded that the Marsabit Open Distance and e-Learning Centre had a greater potential to increase female students in these region access and participate in higher education. The Centre had also tried to address the basic logistics related to the design and implementation of an Open Distance and e-Learning programme for female students from marginalized communities.

5.1.2 Perception of the female students and local community regarding Open Distance and e-Learning as a strategy for increasing access of women in marginalized areas to Universities

This study established that Open Distance and e-Learning mode as a strategy to offer higher education to female students within Marsabit and neighbouring Arid and Semi-Arid communities seemed to be more acceptable. This was because:

a) Open Distance and e-Learning to some extent addressed cultural barriers, thus allowing female students to attend even when they were married and their families were mostly of the traditional livestock keepers.

b) The design and implementation of the programme which allowed females to attend learning at the centre while not going away from their traditional homes for long periods proved to be very convenient. This was also found acceptable to community elders.
5.1.3 The challenges that hindered the effective adoption of Open Distance and e-Learning to increase access of females to higher education

Generally, data gathered for the study indicates that though the Open Distance and e-Learning concept was positively received by the students and the community, its successful implementation and adoption faced a number of challenges. These were frequently identified by the students, Kenyatta University lecturers, Kenya Education Network Trust and the centre coordinator. For example:

a) There was a general perception among students that the Open Distance and e-Learning model lacked conducive study places and yet there was too much work that the students were given to undertake on their own.

b) Issues related to funding to provide adequate scholarships for the number of female students who were in need.

c) Slow internet connectivity due to the poor infrastructure and the high cost of procuring internet equipment.

d) Inadequate physical and human resources such as library, and relevant learning materials.

e) Low or poor Information and Communication Technology skills by both students and lecturers.
f) Few computers at the centre and students’ laptops and modems didn’t function optimally.

g) Late preparation and availability of study modules at the centre.

h) The few courses on offer at the centre limited the of students in course selection.

i) Communication policy—due to high international tariffs and lack of circuit capacity, obtaining sufficient international bandwidth for delivery of web pages over internet was cited as a general problem in Kenya.

j) High cost of producing quality materials.

k) Lack of transport facilities: the centre used hired vehicles which at times due to the high costs involved, led to disagreements with the University management.

l) Long distances that lecturers from Kenyatta University Main Campus had to travel to attend to students at the centre meant that there was no sufficient time for consultations.

5.1.4 Suggestions on how Open Distance and e-Learning could be improved as a strategy to broaden access of female students from Marginalized areas to Universities

The following suggestions were provided:
a) Increase financial support and scholarships to female students attending universities.

b) Improving educational infrastructure and ensuring security in Arid and Semi-Arid areas.

c) Widening the scope of affirmative action for female students from Arid and Semi-Arid areas.

d) Establishing more universities within Arid and Semi-Arid Counties and effect Open Distance and e-Learning as one of the modes of delivery.

e) Increasing tutorial time to ensure more face to face interactions with lecturers. Also, the lecturers should put more effort to teach during tutorials and ensure that timetables are well arranged to avoid collisions. In addition, provide places where studies can take place during holidays.

f) Simplify course materials, have an equipped library and laptops and modems that are functional.

g) Provide boarding facilities for students especially during examination period to allow for more revision work.

h) Sensitize the community on early marriages.

i) Ensure sustainable connectivity of internet.

5.2 Conclusions
Based on the above findings, this study concludes that a sponsored Open Distance and e-Learning have a greater potential of broadening access to university education for female students from Arid and Semi-Arid and marginalized areas. This study also concludes that though the Kenyatta University Marsabit Centre was at a pilot phase, the concept was acceptable to both the students and the community. The fact that among the students who had registered were those who were already married indicated that Open Distance and e-Learning would address the cultural barrier in the community which restricted women generally. Eve married women’s mobility outside their homes in search of higher education depended on the permission of their husbands or male guardians. The fact that married women had enrolled showed acceptability from their husbands. However, in terms of actual implementation, the findings show that much needed to be done to address quality related concerns. These included providing students with broad course selections, a variety of reading materials, increasing the frequency of face to face interactions and streamlining issues such as administration and processing of examinations. There were also indications from students that the manner in which the centre was operated created the impression that they were subjected to an inferior higher education programme compared to those who attended residential regular programmes.

5.3 Policy Recommendations
The success of Open Distance and e-Learning will depend on the country developing a legal framework to guide Information and Communication Technologies and the other to guide the operations of open learning. Based on these observations, this study makes the following policy recommendations:

1. To the Ministry of Education, Science and Technology:

   a) Evidence from this study shows that Kenya does not have a clear policy for the development of Open Distance and e-Learning. Instead, this has been left up to individual and institutional initiatives to determine its role in providing higher education. There is a need for pursuing policies and programmes to develop Information and Communication Technology as well as Open and Distance Education to wide access to quality educational opportunities. There is general recognition of the potential for Open Distance and e-Learning to meet the needs of some groups of women. This study proposes the development of Information and Communication Technology and Open Distance and e-Learning policies to exploit the advantages of the mass media while at the same time putting in place the development of supportive electronic networks. Also, a strong national framework is required to support a national quality assurance network in order to guide student assessment systems at all levels of Open Distance and e-Learning.

   b) A policy needs to be developed by relevant authorities in Kenya to regulate the operations of open learning centres for marginalized
communities to ensure they are not offered an inferior or low quality education. There is need to look for the possibilities of having community centres and libraries which are equipped and mobilised to provide access especially for women who are home-bound because of family commitments and responsibilities. This is because whereas a policy exists for the provision of basic education to Arid and Semi-Arid areas especially for girls, no policy exists for the provision of tertiary education.

c) Higher education policy in the country should be reviewed to broaden the affirmative measures that are used to admit female students from marginalized communities in Kenya. Since this group of students goes through low quality primary and secondary education, a limited affirmative practice only admits very few of these girls to universities.

d) The most effective way to ensure access by women to Information and Communication Technologies for Open Distance and e-Learning is to use appropriate technology. Open Distance and e-Learning should be learner-centred and the medium should be selected based on an assessment of the learners’ needs, taking into account the desired knowledge and skills as well as the broader technical environment. There is need for effective strategies which use multi-media, multi-faceted approach which sometimes combines the traditional with the modern approaches. Despite the fact that for people in rural areas print packages are still the best mode of learning, with modern technology tele-centres and mobile phones may provide isolated populations (rural and marginalised) with access to
Information and Communication Technologies. Since women prefer a mixed mode of learning, online delivery and communication need to be blended with face-to-face delivery. This is because print media with audio support may be more acceptable mode of delivery since it is cost effective and easily accessible to students scattered throughout rural and marginalized areas.

e) Kenyatta University Marsabit Centre graduates should be given teaching jobs immediately after graduation and work at the grassroots to act as role models to young girls.

f) The Basic Education Act as a policy need to be reinforced in marginalized areas to ensure girls goes to school. This can be done by the County Government through County Director of Education offices’.

2. Kenyatta University:

a) Advertisement about the university Open Distance and e-Learning facility in marginal areas (the Kenyatta University Marsabit Centre did not have a bill board at the time of study)

b) Source for financial support /sponsorship from the Government to ensure the Marsabit Centre continuity.
c) Provide broad course selections, a variety of reading materials, increasing the frequency of face to face interactions and streamlining issues such as administration and processing of examinations.

5.4 Recommendations for Further Research

The findings of this study are centred on the Kenyatta University Marsabit Open Distance and e-Learning Centre. Given the limitations in terms of generalizations, the study makes the following recommendations for further research:

a) A study needs to be carried out to establish the potential of adopting Open Distance and e-Learning and associated Information Communication Technologies to deliver different levels of education to female students in different regions of the country. This is because whereas female students in Arid and Semi-Arid areas are disadvantaged, there are equally other female students, outside this region, including those in informal settlements who are not accessing any form of education. Open Distance and e-Learning can be used to deliver education to girls in different circumstances of exclusion in order for them to realize greater access.

b) Even for female students in this region and enrolled in Open Distance and e-Learning, evidence from this study shows that they still face various obstacles to access higher education. It is important for studies to be conducted to establish the most promising package of interventions which
should be implemented to ensure greater access, high enrolment and completion rates and success rates of students enrolled in these centres.

c) Since the students in this study identified poorly developed modules as among the problems they face, it is important for feasibility studies to be conducted to establish the most cost-effective and efficient ways of developing relevant teaching and learning materials for females from Arid and Semi-Arid areas. The same approach has been used to design materials and delivery channels for basic education in Arid and Semi-Arid areas. It is important that the same be done for tertiary education.
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APPENDICES

Appendix A: Students Questionnaire

Introductory Letter

Dear respondents,

I am currently a post-graduate student at Kenyatta University pursuing a Masters Degree in Education. I am required to conduct a research on ODeL as a strategy for female students from ASAL areas access to and participate in higher education at Moi Girls Secondary School-Marsabit.

You can greatly contribute towards the attainment of this goal by giving your honest responses. Any additional information will be highly appreciated and you may write them in spaces provided and behind the questionnaire or use additional paper.

I would like to thank you for accepting to participate and facilitate the study by filling this questionnaire. All the information given shall be exclusively confidential and will only be used for the purpose of this study. You do not have to write your name anywhere in this questionnaire.

Please answer all questions by putting a tick in the brackets and/or giving explanations where necessary.

Thanks a lot in advance,

Yours faithfully,

Juliet Kyutha

Post graduate student.
INSTRUCTIONS:

The questionnaire will guide you on the information required from you. You are supposed to tick ( ) or give your opinion where applicable

A. Background information on the respondent:

1. Province and District of Birth: Province: District:

2. Year of Study: (Please tick one) 1( ) 2( ) 3( ) 4( )

3. Course of Study:

4. Subject specialization

B. Background information: (Please tick one as appropriate)

What type of family do you live in (Tick where appropriate)

Nuclear family ( )

Extended family ( )

What is your parent’s major occupation? (Tick where appropriate)

FATHER:

• An employee with the Government ( )

• An employee with the private sector ( )

• An employee with an NGO ( )

• Business person ( )

• Keeps livestock ( ) If yes, state the type ............... and number .......

• Others specify...........................................................

MOTHER:
• An employee with the Government(  )

• An employee with the private sector(  )

• An employee with an NGO(  )

• Business person(  )

• Keeps livestock ( ) If yes, state the type............. and number............

• Others specify..........................................

What is your parent’s highest level of education? Tick where appropriate.

Father: Non-formal ( ) Primary ( ) Secondary ( ) Post Secondary ( )

Mother: Non-formal ( ) Primary ( ) Secondary ( ) Post Secondary ( )

How many of your siblings have gone beyond Secondary level of education? Show the breakdown in terms of gender.

Female.............................................

Male.................................................

Are you married? (Tick where appropriate) Yes ( ) No ( )

If yes, what type of marriage? Monogamous ( ) Polygamous ( )

How many children do you have? Boys ( ) Girls ( )

How many are in school? ....... At which level? Pre-primary ( ) Primary ( ) Secondary ( ) Post- secondary ( )

Do you get any assistance towards your HE from your spouse? Yes ( ) No ( )

If yes, indicate the type........................................................................................................................

C. Access and admission to university for undergraduate courses:
1. How did you get to know course(s) offered by KU Marsabit ODeL centre?

2. What are your perceptions on ODeL as a mode of delivery of HE, in terms of strengths?

3. In your own views, how can ODeL be improved to be more suitable to women from marginal areas?

4. State student support programmes that are in place at KU Marsabit centre?

5. How can the student support programmes be improved to enhance female from marginal areas participate in HE and increase completion rates of enrolled students?

6. State challenges your face in attempts to pursue HE and how do you the challenges can be addressed?

7. Why do some students from ASAL regions fail to meet the cut-off points for university undergraduate admission after KCSE? Please state reason(s)

8. How do the following limit female students from ASAL student’s access to university professional degree courses?
   i) Distance to university:
   ii) Socio-economic factors
   iii) Availability of courses
   iv) Culture
v) KCSE performance

vi) Lack of information about opportunities available for HE

vii) Marriage and family responsibilities

Other (specify):

6. In your own opinion how can the government increase the number of female students qualifying for university education from ASAL communities under the following?

   i) Financing assistance to students qualifying for HE, YES [   ] NO [   ]

   ii) Improvement of infrastructure such as roads, electricity, network? YES [  ] NO [  ]

   iii) Having a specific affirmative action for female students from ASAL areas,
       NO [  ] YES [  ] If yes, specify the areas the affirmation action should address

7. In which ways can universities expand the number of ASAL female students qualifying for professional courses? (Please tick as appropriate).

   Financial support: YES [   ] NO [   ]
   Lowering cut-off points: YES [   ] NO [   ]
   Having institutions of HE closer to female students in ASAL areas; YES [   ] NO [   ]
   Using strategies such as ODeL which overcome socio-cultural and religious barriers to female access to HE; YES [   ] NO [   ]
8. How do the following factors affect access of students from ASAL areas to university: social, economic, culture, mode of delivery, admission process, curriculum

9. State the reason(s) for dropping outs.

10. Who determines the number of units taken per semester in your course?
SELF [ ] UNIVERSITY [ ]

In whichever case how do you manage your course work and other family and social responsibilities?

11. What challenges do you face and how do you overcome them?
D. Interventions to widen access to university:

1. Explain how KU Marsabit ODeL centre assists female students from ASAL areas to access their studies
   - Lowering cut-off points YES [ ] NO [ ]
   - Bringing course closer to students YES [ ] NO [ ]
   - Using ICT to remove barriers of access YES [ ] NO [ ]
   - Providing information about courses to students YES [ ] NO [ ]

2. Explain how KU Marsabit ODeL centre assist enrolled female students complete their studies
   - Giving course outline, course materials/notes YES [ ] NO [ ]
   - Organising for interaction with lecturers through tutorials YES [ ] NO [ ]
   - Providing two way communications between students and university/lecturers YES [ ] NO [ ]

Tick where applicable

Providing students support programmes e.g. library services ( ),
Boarding facilities (during CATs and Exams, tutorials) ( )
Antenatal and postnatal care ( )
Giving assignments and provide adequate time to do them YES [ ] NO [ ]

Giving exam dates when there is adequate time for preparation YES [ ]
NO [ ]

3. Which of the following causes drop-outs and discontinuity at university professional courses for ASAL female students? [Tick where applicable]
   [ ] marriage                           [ ] medium of instruction
   [ ] inability to cope with courses    [ ] financial problems
   [ ] high fee                           [ ] job

4. What else, in your own opinion can be put in place /done to enhance completion rates of enrolled students?

5. In your own opinion, how can universities reduce the dropout rate among ASAL female students university?

6. What linkages can universities establish to widen access for female students from ASAL communities in Kenya?

7. Suggest ways in which the university can widen access to the female students from ASAL regions.

E. Financing course

1. Who meets the other financial needs of your HE in terms of?
   Tuition fees SELF [ ] PARENTS [ ] SPOUSE [ ] SPONSORED [ ]
   Transport and internet access costs SELF [ ] PARENTS [ ] SPOUSE [ ]
   SPONSORED [ ]

2. Do you face any financial challenges on your pursuit for HE? YES [ ] NO [ ]
   If yes, how do you overcome the challenges?
F. Strengths and challenges

1. In your own opinion, what are the strengths of ODeL as strategy of enabling female students from ASAL areas access HE.

2. What challenges do face in your attempts access HE and how do you overcome them?

Appendix B: Interview Schedule for Project Coordinator at Marsabit

A. Background information

1. What was the main reason for starting this ODeL centre and why is it purely female students only unlike other ODeL centres.

2. Why was it established at Marsabit?

B. Designing, implementation and management practices of ODeL and challenges

1. How is ODeL designed, implemented and managed in ASAL area?

2. How are the institutional mission defined and review for adequate allocation of human and financial resources?

3. How does the management and administration organise, direct, coordinate, and utilize the resources?
4. How does the management harness both the human and material resources to achieve institutional goals?

5. How is selection, appointment, training and monitoring of teachers and technical support staff done to ensure quality service delivery?

6. How is control of ICT use and material production?

7. How does the centre ensure that the ODeL students are not isolated, though they are at a distance?

8. How does the centre ensure there is two-way communication between the students and management including tutors?

9. How does the centre ensure there is a functional and responsive system to students offering counselling, advice on courses, information on programs details, and tuition, tutorial and assessment programs?

10. How is the centre grappled to address barriers of tradition (socio-cultural, religious and economic) and distance?

11. Give the specific challenges encountered during designing, implementation and management of the centre and provide recommendations to address the challenges. How can ODeL be improved to increase female students from ASAL areas access and participate in HE?

C. Access of information and admission criteria for students to the centre and content delivery.
1. How is the information about courses offered at Marsabit ODeL communicated to potential candidates/students?

2. How do the potential students apply for the course?

3. What is the mode of admission to the centre for undergraduate courses done? (KCSE grade, previous qualification, cut-off points). Does this ensure flexibility as it is a characteristic of ODeL?

4. How is learning of the students done/organised/coordinated at a distance (print, e-mail etc) and by which mode of ICT- synchronous/asynchronous.

5. How is the quality and integrity of education maintained? What is mode of testing and evaluation-;

   I) CATs-% and mode of administration

   II) Exam -% and way of administration

6. Give the specific challenges encountered during implementation and provide views on how ODeL can be improved / how can these challenges be addressed to increase female from ASAL areas access and participation in HE?

7. Which are the specific challenges the students face and do these challenges affect the quality of learning and completion rates of enrolled students. Provide ways of solving the students challenges

8. Which student support programmes are in place and how do they make learning friendly to students? How can they be improved?
9. What are the ways in which the Government can chip in to enhance female participation to higher education in ASAL areas?

10. Give any other input, in your view you think can help improve access and participation of female from ASAL areas to HE.

D. Strengths and potentials of ODeL as a strategy to increase female students from ASAL areas to HE.

1. In your own opinion, what are some of the strengths of ODeL as a strategy to increase female students from ASAL areas access HE. Do these strengths have an impact on general trends on girl-education in ASAL areas?

2. Do ODeL has potential of increasing female participation from marginal areas HE?, How can these potentials be harnessed to other ASAL areas?

Appendix C: Interview Schedule for Executive Director of KENET.

1) What are some of the considerations in terms of content of course to be delivered and culture do you put in place when designing culturally relevant learning materials and programs for Marsabit ODeL Centre.

2) How are the programs delivered in this remote rural set-up whose culture is receptive to female education and ICT?
3) What are some of the challenges faced in delivering the contents and programs?

4) What need to be done to improve the program, its delivery to enhance female access and participation to HE?

5) What is the implication of having other similar programs/projects in other ASAL areas in attempts to increase female participation to HE in marginal areas?

Appendix D: Interview Schedules for Project Coordinator at K.U
i. How are the instructional materials developed at K.U for Marsabit ODeL Centre?

ii. What are the considerations made to develop culturally relevant materials for Marsabit ODeL Centre.? 

iii. How is the program at K.U Marsabit Centre done and what are some of the challenges faced?

iv. How in your opinion can the challenges of implementing delivery of content and designing K.U be resolved to increase female participation to HE from ASAL areas?

v. What can be done to improve the program and ODeL to increase female access and participation from ASAL areas to HE?

vi. How is quality of learning ensured at ODeL, How tutorials organized, and assessment of Learning?
Appendix E: Interview Schedule for Lecturers who interact with the Student at Marsabit Centre.

a) What is your perception in terms of strength of the centre as a way of increasing female access and participation from ASAL areas to HE?

b) What are the specific challenges do you face as you carry out your duties? What are the possible solutions to these challenges?

c) As you interact with the female students at Marsabit Centre, identify any specific challenges the female students face and how such challenges affect quality of learning, how do you think, the challenges can be resolved/addressed?

Appendix F: Guide for FGD’S Local Community.

- What is their perception of the project and view on women’s access and participation to HE?

- What support do you give to the project and female students in attempts to increase their participation and access to HE?

- What can be done to increase female access and participation to HE?
APPENDIX G: Map of Marsabit County