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EVOLUTION OF INEQUALITIES IN ACCESS TO SECONDARY SCHOOLING IN UGANDA

Par Christian KAKUBA

Thèse de doctorat de Socio-démographie

Dirigée par Marc PILON

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LIST OF ACRONYMS

A-Level-Advanced Level

CEDAW - Committee on Elimination of Discrimination against Women

EFA- Education for All

EMIS - Education Management Information Systems

GER - Gross enrolment rate

LRA- Lord's Resistance Army

MDGs- Millennium Development Goals

MoES - Ministry of Education and Sports

NAPE -National Assessment of Progress in Education

NER - Net enrolment rate

O-Level- Ordinary Level

P1-Primary One

PCR- Pupil Classroom ratio

PLE- Primary Leaving Examinations

PTA-Parent-Teachers' Association

PTR - Pupil Teacher ratio

S1-Senior One

UBOS - Uganda Bureau of Statistics

UNDP -United Nations Development Program

UNEB - Uganda National Examinations Board

UNESCO- United Nations Educational, Scientific and Cultural Organization

UNHS- Uganda National Household Survey

UPE - Universal Primary Education

UPPET- Universal Post Primary Education and Training

USE - Universal Secondary Education

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ABSTRACT

While access to basic education is at the heart of development, the fact that sustained and meaningful education is critical for emancipation of the individual and entire society is no longer a matter of debate. Indeed, the myriad of advantages associated with sustained and quality mass education presuppose that it should be enjoyed by all as espoused in Education for All Goal 2 and Millennium Development Goals 2 and 3. Since Uganda was one of the first countries in Sub-Saharan Africa to introduce universal primary and secondary education in 1997 and 2007 respectively, this study endeavored to understand the extent to which the said democratization of education has eclipsed inequalities in accessing secondary schooling. This study largely used Uganda National Household Survey data for 2005/6 and 2009/10 that had information on schooling profiles of the household population and other characteristics that have been found to explain schooling outcome differentials. Through appropriate multivariate models, it was possible to map the evolution of inequalities in accessing secondary schooling for all children aged 13-24, making a transition for the ones that completed primary and accessing boarding facilities. Universalizing education at both levels has failed both to enhance completion of primary and dampen inequalities in accessing secondary schooling. Indeed, completion of primary and transition to secondary remain a prerogative of largely children from better socio-economic backgrounds, urban areas and the central region. Children in households below the 25th top percentile of household income, those in the rural, East, West and North, and those under household heads with less than secondary education, remain largely excluded from secondary schooling. Besides, whereas boarding schools (some of which are government schools) are known to offer better quality education that would enable social mobility for disadvantaged children, they are largely inaccessible to the poor as a matter of policy and this exacerbates inequalities in accessing quality secondary schooling. While inequalities in accessing secondary education for all eligible children have largely persisted, making a transition by children from poorer socio-economic backgrounds seems to be more difficult in the recent past than before implying that most children previously entangled in a vicious cycle of disadvantage, are most likely to remain so.

RÉSUMÉ

Alors que l'accès à l'éducation est au cœur du développement, le fait qu'une éducation soutenue et de qualité soit un facteur critique pour l'émancipation d'individus et de sociétés entières ne fait plus l'objet de débats. En effet, la myriade d'avantages liés à une éducation de masse soutenue et de qualité présuppose qu'elle soit à la portée de tous, comme il est décrit dans l'objectif 2 de l'Education pour tous et les buts 2 et 3 des Objectifs du millénaire pour le développement. L'Ouganda étant l'un des premiers pays d'Afrique Subsaharienne à introduire l'éducation primaire et secondaire universelle, respectivement en 1997 et 2007, cette thèse s'attache à comprendre jusqu'à quel point ces politiques de démocratisation de l'éducation ont permis de réduire les inégalités d'accès à l'école secondaire. Ce travail utilise principalement les données des enquêtes nationales de ménages de 2005/2006 et 2009/2010 qui procurent des informations sur le profil éducatif des membres du ménage ainsi que d'autres caractéristiques qui selon les études préalables influent sur les parcours scolaires. Par le moyen de modèles multivariés pertinents, il a été possible de décrire l'évolution des inégalités d'accès à l'école secondaire, de transition du primaire au secondaire, et d'accès aux internats, ce pour l'ensemble des enfants de 13 à 24 ans. L'universalisation de l'éducation au niveau primaire comme secondaire n'a ni pu améliorer l'achèvement du cycle primaire ni réduire les inégalités d'accès au secondaire. En effet, achever le cycle primaire et accéder au secondaire demeurent principalement la prérogative d'enfants issus de milieux socio-économiques privilégiés, de zones urbaines et de la région centrale. Lorsque le chef de ménage n'est pas lui-même allé au secondaire, ou que le ménage se situe en deçà du 25e percentile de revenus, lorsqu'il est en milieu rural, ou situé dans l'Est, l'Ouest ou le Nord du pays, ses jeunes membres demeurent largement exclus du cycle secondaire. En outre, alors que les internats (dont certains sont des écoles publiques) sont connus pour offrir une éducation de meilleure qualité qui permettrait la mobilité sociale pour les enfants défavorisés, ils sont généralement inaccessibles aux pauvres selon la politique sur les internats ce qui accroît les inégalités d'accès à l'enseignement secondaire de qualité. Alors que les inégalités d'accès au niveau secondaire pour tous les enfants persistent, la transition du primaire au secondaire, pour les enfants de milieux socio-économiques les moins aisés, semble plus difficile dans le passé récent qu'auparavant, ce qui implique que la plupart des enfants qui se trouvaient dans un cercle vicieux du désavantage, très probablement y demeureront.

INTRODUCTION

While access to basic education lies at the heart of development, sustained and meaningful access to education is critical for, *inter alia*, long term improvements in productivity, expansion of the tax base, reduction in inequality and intergenerational cycles of poverty, demographic transition, preventive health care, women emancipation and democratisation (Charbit & Kébé, 2006; Cremin & Nakabugo, 2012; Henaff, 2006; Lewin, 2007c; Majgaard & Mingat, 2012; Pilon, 2006; Wilkinson & Pickett, 2009).

Today, human development perspectives are increasingly redefining development away from the view of the neo-classical economists that often tended to emphasize economic growth and thought that once this was achieved, then the problems of humanity would be solved. The concept of development is no longer equated to growth but rather seen as an all-encompassing phenomenon (Cremin & Nakabugo, 2012).

Indeed, achievement of growth in the 1970s and 80s did not stop an increase in misery and this was due to persistent inequality and unevenness between and within regions (Cremin & Nakabugo, 2012) but also the effect of structural adjustment programs especially in Sub-Saharan Africa (Henaff, 2006). There was increased realisation that development was bigger than growth and needed to be seen through a multidisciplinary angle.

It is in light of this reconfigured definition of development that UNDP initiated the production of Human Development Reports. According to these reports, human development is seen from a larger perspective that encompasses, *inter alia*, human rights and social development indicators. By using the Human Development Index (measuring life expectancy at birth, educational attainment and income per capita), the approach has moved from measuring economic development in form of GDP per capita to social related indicators (Cremin & Nakabugo, 2012) that may imply better distribution of income and "spread" benefits of growth.

This evolved conceptualisation of development partly explains the redefinition of other concepts like education (and its role) that is increasingly seen not only as for increasing individual productivity and income but also as a precursor to a wider range of advantages that are beneficial to the individual and society. This view is echoed by Henaff when she states

that « l'éducation est donc aussi une condition indispensable sinon suffisante au développement de l'individu et de la société » (Henaff, 2006 p.69).

It is this reformed definition of development that was behind the global development agenda espoused in Jomtien in 1990, reaffirmed in Dakar in 2000 and in New York through the adoption of the Millennium Development Goals. Indeed the centrality of education saw world leaders emphasize in 2008 at a high level meeting to set out concrete plans for action, that although the eight MDGs were quite interdependent, investment in education (and health) would play a major role in achievement of all the rest (Cremin & Nakabugo, 2012).

In the context of the new definition of development therefore, if education is to cause changes in society, it must be spread to include even the ones that are most often excluded (that happen to be the majority in poor countries) as is unambiguously espoused in Education For All goal 2 and Millennium Development Goals 2 and 3. It thus implies that development is not only inextricably linked to equity (or equality), but that any definition of development, especially sustainable development must exhibit equity dimensions.

While the notion of education being "**a right for all**" was clearly put in the preamble of the EFA founding document as cited by Pilon (2006), the post Dakar period has witnessed greater prominence of "rights based approaches" to educational service provision. Otherwise failure to redress inequalities is likely to lead to a situation where conflict will become more likely, capabilities will be underutilised and the tragedy of the commons (as espoused by Hardin Garret, an American human ecologist) will act to generate individually desirable outcomes for some, but collective disadvantages for many (Lewin, 2007c). Indeed more recent work by Wilkinson & Pickett (2009) has shown that more unequal societies are more likely to manifest with, *inter alia*, low levels of trust, more cases of mental illness, increased crime, lower life expectancy, higher cases of obesity and lower social mobility that tend to affect all.

Despite the long held view by the World bank that the highest social returns of education are with regard to primary education (although this is not a matter of unanimity as evidenced by works of some scholars; (Cremin & Nakabugo, 2012), this study is particularly interested in access to secondary education as the advantages of education like its impact on productivity of individuals and the entire economy, income redistribution and intergenerational social mobility, the demographic dynamics, most of the health indicators, women emancipation and democratic governance tend to be associated with secondary, if not higher levels of education, than with primary education.

Globally, secondary education is of increasing interest to academia, policy makers as well International organizations. It is in this spirit that the 2011 Edition of Global Education Digest by UNESCO Institute of Statistics is entitled *"Focus on secondary education: the next great challenge"*

Uganda is one of the first countries in Sub-Saharan Africa to introduce Universal Primary Education in 1997 and Universal Secondary Education in 2007. Indeed the main emphasis of the 2004-2015 Education Sector Strategic Plan was not only to improve access to quality education at primary but also ensure that primary school graduates go on to access post primary education and progress in the school system.

The role of secondary schooling in a country's development was best summarised by Lewin (2007a), at a Commonwealth conference in Uganda, thus:

- Universal Primary Education depends on adequate flow of secondary school graduates into primary teaching and this is hard to ensure where secondary school enrollments are low.
- HIV/AIDS and conflicts have decimated labor force that needs to be replenished through secondary and probably higher levels of schooling.
- Secondary schooling that generally excludes the poor and vulnerable is one of the opportunities at the hands of policy to redistribute wealth and enable social mobility out of poverty.
- Competitiveness in the modern era depends on knowledge, skills, competencies associated with abstract reasoning, analysis, language communication skills and application of science and technology that are most efficiently acquired through secondary education and finally.
- Failure to satisfy increased demand for secondary schooling is likely to be source of social and political unrest.

Access to secondary schooling remains one of the challenges of policy despite efforts by government as already seen. Indeed, while at primary the net enrolment rate improved from 86% to 96% between 2000 and 2012, at secondary level the equivalent indicators for the two data points were 13% and 23% respectively, based on Ministry of Education data (MoES, 2013). Secondary schooling continues to be a "no go area" for more than three-quarters of children in the relevant age group.

Besides, there are other structural challenges that militate against universalising secondary schooling as elucidated: first, pupils have to pass a competitive Primary Leaving Examination to go to secondary in which better performance has been an almost exclusive privilege of children from private and or boarding (expensive) primary schools. Secondly, about 70% of all schools at the secondary level are privately owned. Thirdly, some government schools, especially the old prestigious schools are boarding schools whose costs (largely exorbitant) are by policy borne by parents. Fourthly, selection to join these old prestigious schools is so discriminative in favor of children whose parents have better social, political and religious connections and finally, there are still a number of sub counties without a secondary school despite government commitment to construct a secondary school per sub-county.

This study largely bases on Uganda National Household Survey data collected in 2005/6 and 2009/10 to map the evolution of inequalities in accessing secondary schooling before and after the Universal Secondary education Policy of 2007. These surveys collected information on schooling profiles of the household population and several other individual, household and community level variables that are hypothesized in this study like in many others to influence schooling outcomes.

The study of inequalities in accessing education (secondary schooling in this case) has previously been a preoccupation of many scholars in various domains. These have largely studied household level factors (broadly speaking) and their effect on access to basic education and or retention in the school system. The interest in this kind of study can be traced to the work of economists when they coined the term “demand for education” to determine factors outside the school confines, and especially at the household but also community levels that affect several schooling outcomes. The work of economists has since been greatly enriched by, *inter alia*, sociologists or anthropologists, demographers and educationists.

The following brief overview is to explore the contributions of different professions to this subject in order to put into perspective this study but also with an aim of judiciously blending these perspectives in explaining the research findings. The place of interdisciplinary research in providing a holistic understanding to most of social science phenomena is increasingly more of a norm than an exception. The approaches seen are those by economists, sociologists, demographers and educationists in that order.

The term “demand for education” that is now popularly used to refer to household level factors as correlates of schooling outcomes is borrowed from economics where the notion of demand is used to refer to the willingness and ability to buy goods or services at a given price. The contribution of economists is rooted in the Human Capital theory that was started by Schultz in 1970 and expounded upon by Becker and others in the mid-seventies and thereafter (Becker & Lewis, 1973; Becker & Tomes, 1976). This was after the realization that growth of physical capital had little impact on growth of income hence interest in improving skills and training. Education is regarded as an economic good because it is scarce and needs to be apportioned. It is a consumer good and offers utility, as well as, a producer good that is used to produce other goods. As a capital good, it can be used to develop human resources necessary for economic and social transformation. Indeed, the wholesome adoption of education in development policies is strongly rooted in the Human Capital theory (Olaniyan & Okemakinde, 2008). Education is for the purpose of improvement of one’s human capital in terms of knowledge, skills and social capital and is thus an investment for future benefits in form of income. An individual thus consumes part of his time and other goods to go to school in anticipation of economic benefits.

At the household level, parents make economically rational decisions in investing in children, i.e. they look at the net present value of costs and benefits from such investment. They would preferably invest in children with higher academic promise or more of boys as they may expect better income opportunities for the boys than the girls. The theory is premised on altruism of parents whereby they invest in their children to improve their lifetime income, but also that the children may help them in their old age. The theory assumes perfect markets that denote free entry into the market and wage as a function of human capital. The altruism of parents is hampered by resource constraints and in this case, quality and quantity tradeoffs come in whereby an increase in quality is more expensive if there are more children and an increase in quantity (number of children) is harder if children are of higher quality. This then leads to the fact that a higher number of children, implies, less capacity by the household to educate them in which case they may educate few of them as a coping strategy.

The theory by economists has been criticized for assuming the perfection of markets that is not common in Africa where access to credit is limited, ignoring the fact that a child can work and study, underestimating the uncertainty of future salaried employment, downplaying the connection between benefits of education and one’s background,

disregarding the role of the extended family in cushioning the effects of having many children and above all, ignoring cultural and religious considerations that have been found to affect schooling decisions (Buchmann, 2000; Kobiané, 2006; Olaniyan & Okemakinde, 2008).

The work of sociologists indeed shows that the theories of economics have some weaknesses. The contribution of sociologists is with regard to their unit of analysis, more interactive methods like observations and focus group discussions and theories of sociology of education. Demand for education is also related to norms and values in society. It is true that the constraints to education may be monetary but they are quite often also social or cultural and examples in Africa show how economic and cultural factors combine to explain the choice to send children to school and keep them there. While economists, demographers and statisticians have come up with figures to explain the "what" of situations, the questions of "why" and "how" have been answered better by sociologists and anthropologists. The following examples vindicate the role of socio-cultural factors in children's education:

In the northern part of Nigeria that is largely Muslim, education of the girl child has lagged behind because of the Islamic fundamentalist laws that promote early marriages and discourage the mixing of boys and girls (Lincove, 2009). In some cultures in Uganda, where bride price is a preliquisite for marriage, some parents have exhibited more interest in the "pay" from the girls than their education after all "they will end up in the kitchen" and this explains why in some communities, the girl child is still disadvantaged (Tumushabe, Barasa, Muhanguzi, & Otim-Nape, 1999). In India (Siddhu, 2011), the fear for the safety of girls negatively affected access to secondary schooling by the girls while in Indonesia, Takahashi (2011) talks of "peer and neighborhood effects" in which case children were likely to be enrolled if they were in areas with high enrollment, something related more with social behavior than costs and benefits of education.

Whereas in terms of theory the contribution of demography is so little, recently especially in the francophone world, education is increasingly of interest to demographers. In traditional Demography, that had since emphasized the three population dynamics of fertility, mortality and migration, education was of interest in as far as it impacted nuptiality, morbidity, mortality, fertility and migration. Recently, with increasing realization of the importance of interdisciplinary research and following the 1994 International Conference on Population and Development that brings to the fore, interactions between population,

education and development and the impact of education on sustainable development, education is increasingly looked at as a standalone topic of study by demographers.

One novel and noble contribution of demographers is the pioneering into the use of Household Survey and Census Data (hitherto underutilized) to investigate correlates of access to schooling as these datasets include information on the schooling status of children and other factors that have been found to impact children's schooling outcomes (Pilon, 1995; UIS, 2004 ; Marcoux & Pilon, 2003). This comes after the realization that the traditionally collected statistics at the school level, i.e. enrolment, sex and age of child by class, in Education Management Information Systems (EMIS) data of most countries were shallow and ignored the role of household related factors in sending children to school and keeping them there. Indeed, one of the reasons why the traditionally used enrolment statistics have not been able to measure the progress towards EFA and MDGs is the fact that measurement is in school and on limited variables (Gérald & Pilon, 2005). It is indeed true that school factors are key, although household factors are not, in any way, less critical. In this vein, despite free education initiatives, some households have not been able to enroll their children in school but, most importantly, households have reacted differently in the face of universalized education to the extent that factors at the household level remain critical in measuring the aptitude with which households can react and the extent to which children that enroll progress in school and or transit to subsequent levels. In addition, demographers have come up with retrospective studies that are longitudinal and help overcome the challenges of cross sectional data. Studies in this line are: « Scolarisation et travail des enfants à Ouagadougou » carried out in 1993, « Dynamiques familiales et éducation des enfants à Bamako » done in 1996 « Dynamiques familiales et éducation des enfants au Mali » of 1999, all as cited in Kobiané, (2006), and more recently, a study on parental death and children's schooling in Burkina Faso (Kobiané, Calvès, & Marcoux, 2005).

The work of educationists can be seen through the creation of the Consortium of Research on Educational Access, Transition and Equity (CREATE) at the Centre for International Education , University of Sussex whose mandate was to investigate into issues of access, equity and transitions in the aftermath of EFA and MDGs. These have endeavored to link the issues of enrolment with the indicators of internal efficiency and hence emphasizing and redefining access in the context of real learning and achievement but not just physical access (Lewin, 2011b). These scholars are emphasizing not only enrolment but meaningful learning that should translate into access to the subsequent levels. They have

come up with a model on “zones of exclusion” (to be seen in detail later) that illustrates how typically, enrolments decline steeply through the primary grades in poor countries and how children attending irregularly and or achieving poorly fall into the “at risk” zones. Zone 1 looks at children that never enroll in school, zone 2 is about children that enroll just only to drop out before the end of primary, zone 3 concerns children in primary but silently excluded i.e. likely to drop out due to overage entry, absenteeism and recurrent repetitions, zone 4 is about children who complete primary and do not transit to secondary school, zone 5 describes children that drop out of secondary, and zone 6 looks at children that are in secondary but at the risk of drop out due to “silent exclusion”.

In addition to being interested in issues of equity, transition and the impact of real learning at the lower levels on access to subsequent levels, this framework is a guide to researchers that may conduct studies in respect to any one or several of the exclusion zones, but most importantly, scholars increasingly interested in access to secondary schooling.

Having looked at the contributions of various scholars in studying access to schooling, it may be important to see in a greater detail what has been done in this regard in especially Sub-Saharan Africa and this is the main subject matter of the first chapter.

In this chapter, literature on factors impacting access to basic education, retention at primary, and or access to secondary in largely greater Sub-Saharan Africa is extensively reviewed. The review of factors related to primary schooling is justified because all children must go through primary to access secondary. Besides, some children may not be enrolled at secondary because they never enrolled at primary in the first place or they never completed primary or simply because they did not make a transition to secondary that discussing inequalities in accessing secondary without understanding inequalities at the lower level would be missing the point.

Chapter two presents the problematic, data and methods to be used as well the demographic and economic context on Uganda.

In chapter three, evolution of education policy since independence is explored. Besides, an attempt is made to examine the impact of education policy on both demand and supply of education at primary, but most importantly, secondary level.

Chapter four is an exploratory chapter in preparation for multivariate analysis in the subsequent chapters. It maps education profiles of the household population aged 13-24 by individual, household and community level factors for 2006 and 2010.

In chapter five, this study investigates the role of individual, household and community variables on impacting the probability of ever accessing secondary schooling for all children aged 13-24 years and their evolution after the USE Policy of 2007. It is called a global multivariate model because it is preoccupied with ever accessing secondary school as opposed to (i) never being enrolled at primary, (ii) ever being enrolled but dropping out of primary, (iii) still being enrolled at primary despite attaining the age for secondary and (iv) completing primary but never making a transition to secondary.

In chapter six, emphasis is laid on making a transition to secondary schooling for children that may have completed primary. Here, the effect of individual, household and community levels variables on ever making a transition to secondary and their evolution between 2006 and 2010 is explored.

It is one thing to access secondary schooling and yet another to access quality (as defined by performance) secondary schooling. It is in this spirit that the last chapter (seven) investigates the role of individual, household and community level factors on impacting access to boarding facilities (some of which are government schools) that generally provide better quality education although policy dictates that their costs be borne by parents.

CHAPTER ONE: THE ROLE OF DEMAND AND SUPPLY FACTORS IN INFLUENCING SCHOOLING OUTCOMES

This chapter explores into studies done on inequalities in accessing school, retention in the school system and progression to secondary level in largely Sub-Saharan Africa. In line with the work of economists and later other scholars, these have taken the appellation "demand and supply factors" and have been tackled at the individual, household and community level.

In Sub-Saharan Africa, literature on education and especially with regard to access, equity and educational attainment in general, has largely focused on primary education in line with the 1990 Education For All commitments at Jomtien, reaffirmed in Dakar in 2000 and the Millennium Development Goals (Nakabugo, Byamugisha & Bithaghalire, 2008). In other parts of the developing world like Asia and South America, academics, policy makers and researchers are increasingly getting interested in access or transition to secondary education after the realization that attrition at the primary level is high and that survival rates to the end of the primary cycle are low (Lewin, 2011a ; Ahmadi, Hussain & Bose, 2005; Siddhu, 2011).

Generally, universalizing education has been characterized by dampening quality due to bourgeoning school-age going cohorts on one hand and increased costs on the part of governments on the other hand, which in turn explain overcrowding of classes, reduced numbers of trained teachers and overburdened school infrastructure (Ssewamala, Wang, Karimli & Nabunya, 2011; Lewin & Akyeampong, 2009; Somerset, 2011; Akyeampong, 2009; Somerset, 2011;Chimombo, 2009 ; Deininger, 2003; Oketch & Somerset, 2010) that have led to increasing inequalities (Zuze & Leibbrandt, 2011) which are exacerbated at the secondary level (Akyeampong, 2009; Henaff & Lange, 2011; Lewin, 2011b; Rolleston, 2009; Oketch & Rolleston, 2007).

Looking at access to secondary, in a way, involves looking at issues of internal efficiency and wastage at the primary level for primary education is a cost to governments (MoES, 2004) who invest colossal sums of money in buildings, scholastics, teacher education, teacher salaries and capitation grants. It is also a cost to parents that would hope to reap a lot from their children once they have completed and are working. It is equally a cost to the children that invest a lot of time and energy. Besides, an inefficient school system

would be a great cost to society in general as an increase in the proportion of children out of school may have negative social, economic and political consequences (Lewin, 2007c; Pilon, 2002a).

Issues of access to the secondary cycle should be appreciated in the context of the current education indicators of Gross and Net (Attendance or Enrolment) rates used to date, to monitor milestones towards the attainment of MDGs and EFA commitments, that have been found to have numerous deficiencies (Gérald & Pilon, 2005; Lewin, 2011b; Marcoux & Pilon, 2003; Pilon, 2005 ; Bernard, 2010).

It flows from the foregoing that the review of literature on access to secondary schooling cannot be done in isolation of factors related to accessing primary, retention and or dropouts at that level and completion of the primary school cycle. This is true because: (i) some children may not access secondary since they did not enter primary but also because; (ii) access to secondary may be determined by a multiplicity of factors that impact retention (or dropouts) at the primary level. While some authors have found out that the factors explaining access to primary, completion of primary and access to secondary are only slightly different (Kabubo-mariara & Mwabu, 2007; Bajracharya, 2010), it would be wrong to assume that they are always so, over time and space. Besides, the pathways through which these factors operate to impact access and or retention may also vary in time and space.

For this reason, factors related to equity, access, dropout, and grade attainment at the primary level and access or transition to secondary level shall be reviewed separately and those common to both cycles highlighted while different ones and the extent of their difference explored. These are largely factors that explain demand for education and are therefore tackled from the perspective of the consumers (parents and children). They can be categorized as individual (child related), household, household head, other household members and community level factors or characteristics (Marcoux & Pilon, 2003; Pilon, 2002b; UIS et al., 2004).

1.1 Child factors and primary schooling

The factors explored here are sex and age of the child, his/her relationship to the household head and orphanhood status.

1.1.1 Sex of child

Several studies have found out that female children were more disadvantaged with regard to primary schooling as compared to their male counterparts. This was found to be true in Ghana (Fentiman, Hall, & Bundy, 1999; Rolleston, 2009), Peru (Ilon & Moock, 1991), Kenya (Kabubo-mariara & Mwabu, 2007), Burkina Faso (Kobiané, 2006) and its capital Ouagadougou (Pilon, 2002a) as well as Nepal (Bajracharya, 2010). In the case of Kenya, while girls were more disadvantaged at enrolment, grade attainment was not gender selective, once enrolled.

On the other hand, other studies in Uganda (Kakuba, 2012) and Bangladesh (Maitra, 2003) have found no gender gaps with regard to initial enrolment and retention at primary.

Important to note is that where gender parity has been achieved at national level, this has continued to mask inequities for the poorer strata of society (Henaff & Lange, 2011) in the countries of the South in general, and at regional, district or even lower levels in Uganda, in particular (UNICEF, 2005). Indeed, recent literature shows that the gender gap with regard to accessing and completion of primary has greatly narrowed in Uganda (Deininger, 2003); Kakuba, 2006; UBOS and Macro International Inc, 2007 ; UNICEF, 2005) although gender inequities still remain in the for-long unstable regions of the north, pastoralist communities of the north-east and especially the Karamoja region as well as the far southwest, particularly Bundibugyo (MoES , 2011; UNICEF, 2005). In these areas, girl child education was found to be affected by child labor in households, early marriages and teenage pregnancies (UBOS, 2010) all exacerbated by the low value attached to the girl child in the cultures of the concerned communities (Roach, 2009). Over and above the mentioned challenges, other scholars also point out lack of female teachers to work as role models in most of the rural schools, skepticism by some parents about labor market possibilities for their daughters and some cultural and religious beliefs (Nassali, 1998; Buchmann, 2000; Fentiman et al., 1999; Lincove, 2009) as some of the other challenges that stand in the way of girls' education.

Other concerns that are increasingly interesting scholars are gender differentials in achievement (performance) and age appropriate enrolment at the subsequent level. In this case, Wells (2009) found out that girls were more likely to be enrolled later at secondary level than the official age in Uganda, and that this was associated with dropouts and less success in their secondary schooling, for those that remained.

1.1.2 Age of Child

Besides being introduced in many models as a control variable, age is a critical determinant of enrolment because it may impact the ease with which a child may; do the learning, progress in school and conversely, the probability of dropout. In most countries, age at enrolment is fixed, although in most of the developing world, children start later than scheduled for various reasons.

Most children were found to enroll in school later than the officially prescribed ages in Uganda (Wells, 2009; Tumushabe et al., 1999; Uganda Bureau of Statistics, 2010b), Kenya (Kabubo-mariara & Mwabu, 2007), Tanzania (Ainsworth, Beegle, & Koda, 2005), Ghana (Fentiman et al , 1999), Burkina Faso (Kobiané, 2006), Malawi (Chimombo, 2009) and Madagascar (Lewin & Sabates, 2011). In Uganda, the reasons for late entry included long distance to school, school being too expensive, bad terrain in hilly areas and in areas with rivers, need for labor at home, illness and a child being too young given poor feeding at home and in school where a young child could not withstand the hunger (UBOS, 2010a; UBOS & ORC Macro, 2001).

In Ghana, while girls were likely to enroll at the right age as compared to their boy counterparts, old age entry into school led to dropouts as the value of a child's time increases with age and this was more true in the rural and poorer households. Equally, children were found not to enroll on time because of ill health, poor nutrition and long distance to school in some regions. A good number of respondents said their children were not enrolled because they were too young (despite having the right age), because they (the children) lacked the social or cognitive skills to enroll or had poor physical development due to poor nutrition. Variations in age at entry were found to be bad as this impeded learning since older children tended to harass younger ones.

On the basis of the literature reviewed, it was found that age at enrolment exhibited a curvilinear pattern i.e. the probability of enrolment increased with age at a decreasing rate and this was true in Kenya (Kabubo-mariara & Mwabu , 2007), rural India (Siddhu, 2011), Uganda (UBOS & Macro International Inc, 2007), Bangladesh (Maitra, 2003), Ghana (Akyeampong, 2009), and Burkina Faso (Kobiané, 2006), among other countries.

While underage children may not easily cope because of older children that may harass them (Fentiman et al., 1999), children who enroll late are most likely to drop out

(Akyeampong, 2009; Ohba, 2009) because the value of their labor appreciates with age. For the girls, an additional challenge is that they reach puberty while still in primary and this coupled with long distance to school, peer pressure and wrong attitudes to girl education in some communities (UNICEF, 2005), often explains sexual harassment from both peers and teachers, teenage pregnancies, elopement, early marriages and hence dropouts (New Vision, 2011).

The effect of overage enrolment on learning outcomes and the possibility of dropout is best summarized by Lewin & Sabates, thus:

> First, children who enroll above the normal age will miss learning experiences at a time when they are most receptive to learning basic skills, and establishing secure foundations for subsequent cognitive development. Secondly, the more overage a child is for a grade, the more it is likely that they will underachieve. Thirdly, where children are taught with older children, there are likely to be psycho-social issues (self-esteem, bullying, sexual harassment) and challenges in learning more so since these children are mostly in monograde teaching systems. And lastly, overage children will be the last to arrive at the end of the primary cycle and in many societies, these are the ages of entry into labor or marriage (Lewin & Sabates, 2011 p.12).

1.1.3 Relationship to household head

In the African context, children do not exclusively live in households of their biological parents for some reasons. Some may be orphaned and taken over by relatives, some often live in other households that are closer to better schools in search for better education while others go to work as maids or houseboys in other households, especially in the urban areas in the context of increased female labor force participation and the demands of salaried employment.

Most studies that have largely used secondary census or survey data are increasingly getting interested in the relationship between children surveyed in households with the household head and its implications for schooling outcomes.

Studies have found that a child that is a biological offspring of the household head is more likely to enroll and progress in school than relatives, non-relatives and other children and this was true in Kenya, (Kabubo-mariara & Mwabu 2007), Uganda (Kakuba, 2012), Burkina Faso (Kobiané, 2006) and its capital Ouagadougou (Wayack-Pambè & Pilon, 2011), Togo (Pilon, 1995), Tanzania (Ainsworth et al., 2005), Ghana (Rolleston, 2009) and several countries [Burkina Faso, Cote d'Ivoire, Ghana, Guinea, Mali, Niger, Senegal and Togo] in West Africa (Pilon, 2005).

What seems to come out from the relationship between foster hood and schooling was summarized by Pilon following several studies in several countries in West Africa. Generally, children fostered in other households in villages, indicative of rural-urban differentials in school supply, were more likely to be enrolled in school compared to children of household heads while in towns, foster hood tended to disfavor more of girls than boys and was more prevalent in richer households where girls were often employed as house helpers (Bruyninckx & Pilon, 2010; Pilon, 2005, 1995, 2002a). This however does not preclude that some children in the urban areas would indeed come to get education but end up performing badly, repeating classes and dropping out of school due to much domestic work in the receiving households (Bruyninckx & Pilon, 2010; Pilon, 2005, 1995, 2002a).

The effect of the relationship between the child and the household head on schooling was found to be moderated by, *inter alia*, the financial involvement of the sending household in the upkeep of the fostered child, the degree of closeness between the two households, the place of the child in the new home (Pilon, 2005) and the motive for the coming of the child into the receiving household as elucidated by Pilon (1995) in the case of Togo. In the latter case, if a household had its own children (children of the head), then fostered children were less likely to be enrolled than children of the head. On the other hand, children fostered in households with no children of the household head, were more likely to be enrolled and this points to some children coming in as house helpers while others come in to get better education.

1.1.4 Orphanhood status

Orphans are expected to be disadvantaged with education following the death of the bread winner but also because they take on more responsibilities during sickness, especially if it is long sickness, and after the death of one, and worse still, both parents.

In seven countries in Sub-Saharan Africa (Lloyd & Blanc, 1996) and North Western Tanzania (Ainsworth et al., 2005), orphanhood did not affect school enrolment although in the case of Tanzania, loss of a mother, and worse still, both parents affected the number of hours of school attendance during sickness and within the few months following the death of either mother or both parents.

Some scholars have gone ahead to look at the effect of maternal, paternal and double orphanhood on school enrolment in the urban and the rural areas and or for boys and girls, separately. In Burkina Faso, Kobiané et al. (2005) found out that double orphans were more disadvantaged in the rural than urban areas and that orphanhood tended to affect girls more than boys. The effect of orphanhood on education was generally found to be ambivalent given the role of the extended family and NGOs in cushioning the otherwise detrimental effects. It also varied by place of residence, type of orphanhood, sex of the orphan and the willingness and ability of the relatives to care for the orphans.

1.2 Household level factors and primary schooling

These factors include household wealth or income, parents' education, family size, sex, religion, ethnicity, marital and employment status of household head as well as household size and structure.

1.2.1 Household wealth or income

In situations where there is no readily available data on household expenditure or income, principle component analysis and or multiple cluster analysis (Filmer & Pritchett, 2001; Kobiané, 2004) have been devised to categorize households according to various wealth or poverty levels.

Household wealth seems to be a very strong factor explaining access to basic education, progression in school and educational attainment, in most of the developing countries. The relationship between the level of household wealth and access to basic education was found to be consistently positive as vindicated by studies in Uganda (Balihuta & Semogerere, 1995; Roach, 2009; UBOS and Macro International Inc, 2007; UBOS, 2011; UNICEF, 2005), Tanzania (Ainsworth et al., 2005), Kenya (Kabubo-mariara & Mwabu, 2007), Peru (Ilon & Moock, 1991), Cameroun (Wakam, 2003), Malawi (Chimombo, 2009), Ghana (Rolleston, 2009; Fentiman et al. 1999), Conakry in Guinea (Glick & Sahn, 2000), Nepal (Bajracharya, 2010), Burkina Faso (Kobiané, 2006), Ouagadougou, the capital of Burkina Faso (Wayack-Pambè & Pilon, 2011), Nigeria (Lincove, 2009), the Democratic Republic of Congo (Mabika Mabika & Shapiro, 2012) and seven countries in Sub-Saharan Africa (Kenya, Tanzania, Cameroun, Niger, Malawi, Namibia and Zambia) (Lloyd & Blanc; 1996).

Recent literature, in the aftermath of various universal education initiatives, seems to indicate no improvement since household wealth remains the strongest predictor of access to basic education as found out in six Anglophone (Kenya, Malawi, Nigeria, Tanzania, Uganda and Zambia) and seven francophone countries (Benin, Burkina Faso, Cameroun, Madagascar, Mali, Niger and Senegal) in Sub-Saharan Africa (Lewin & Sabates, 2011), while comparing the pre and post universal primary education implementation years.

The effect of household wealth on education can be tackled from two perspectives: (i) the ability (or inability) to foot direct costs like fees and indirect costs like feeding of children, scholastic materials, uniforms, transport to school, building fund, among others but also (ii) opportunity costs i.e. the labor of children missed if they are to enroll in school, which largely affects poorer, rural based and peasant households but more disproportionately the girls as was the case in Kenya (Kabubo-mariara & Mwabu, 2007), Uganda (UNICEF, 2005), Burkina Faso (Kobiané, 2006), Nigeria (Lincove, 2009) and Ghana (Akyeampong, 2009).

To expound on the effect of costs, despite the existence of universal primary education in Uganda since 1997, the Uganda Eddata Survey documents that “monetary reasons” stood out as the main factor why children had never been enrolled and for dropouts, four years into the implementation of the program (UBOS and ORC Macro, 2001). The situation seems not to have improved in the recent past since again “school being too expensive”, was advanced as the main reason for school dropouts in 2005/6 and 2009/10,

following a panel study of the same households at two data points by the Uganda Bureau of Statistics (UBOS, 2011).

In Uganda, costs on books, other supplies and uniforms (UBOS, 2010a), other fees charged by some schools to cover salaries of teachers since the government often delayed to pay (Zuze & Leibbrandt, 2011) as well as lack of interest in school (Ssewamala et al., 2011(Deininger, 2003; Kalule, 2000) were still some reasons for non-enrolment and poor retention of some children. Studies elsewhere have in addition made mention of building fund, sports and water bills, costs on clothing, accommodation, feeding and PTA fees, still being charged by some schools as posing a challenge to education of mostly the very poor household population as was reported in Ghana (Akyeampong, 2009), Kenya (Kabubo-mariara & Mwabu, 2007; Somerset, 2011), Malawi (Chimombo, 2009; Kadzamira & Rose, 2003), rural Madagascar (Deleigne & Kail, 2010) and Burkina Faso (Pilon, 2010). This is despite great efforts to subsidize primary education through either provision of registration fees and school kits to all children, provision of capitation grants and school facilitation grants or the removal of fees thereby making primary education "universal and free" in these countries. To illustrate this point, Kabubo-mariara (2007) points out that despite introducing free primary education in Kenya in 2003, high levels of poverty and other expenses on uniforms, books and transport were still affecting enrolment of close to 10% of the eligible age-group.

1.2.2 Parents' education

Education of both father and mother, have an impact on the enrolment status of children but also their progression in school. Generally, the level of education of parents/household heads has been positively associated with higher chances of enrolment and attainment for children and this was found to be true in Uganda (Deininger, 2003; Kakuba, 2006), Tanzania (Ainsworth et al., 2005), Nepal (Bajracharya, 2010), Guinea (Glick & Sahn, 2000), Togo (Pilon, 1995), Ouagadougou (Pilon, 2002b ; Wayack-Pambè & Pilon, 2011), Burkina Faso as a whole (Kobiané, 2006), Nigeria (Lincove, 2009) and in seven countries in Sub-Saharan Africa (Lloyd & Blanc 1996).

Some authors have gone ahead to look at the differential effect of paternal or maternal education on schooling outcomes of girls, boys and both girls and boys.

In rural Peru (Ilon and Moock 1991), Bangladesh (Maitra, 2003) and six countries in Sub-Saharan Africa (Pilon, 1996), mothers' education was found to be a bigger factor than fathers' education with regard to school participation and had a bigger impact on children's education, even for the next generation. In the case of Sub-Saharan Africa, Pilon illustrates this point thus:

> La configuration "père non instruit/mère ayant été scolarisée" procure dans la plupart des cas des chances de scolarisation un peu plus élevées que la situation inverse "père ayant été scolarisé/mère non instruite". Cela se vérifie dans tous les pays pour les garçons, et dans trois des six pays pour les filles (au Kenya, à Madagascar et au Malawi) (Pilon, 1996, p.30).

On the contrary, in Kenya (Kabubo-mariara & Mwabu, 2007), father's education was more important for children's enrolment than mothers' education and in Kinshasa, (Shapiro, 2003), increased paternal education was associated with increased education of especially the daughters. It is evident that education of parents, in the same capacity as the wealth status of households is a key factor in children's education. It is therefore important that the mechanisms through which parental education operates to impact children education be hypothetically explored. In the first place, there is a strong correlation between education and wealth status so that the positive effect of parents' education on children's education may be confounded by the effect of income on education. Secondly, an educated parent is more liberated from backward attitudes that down play the role of education and more so that of the girl child. An educated parent has the cognitive abilities and can mobilize time (because of the importance they attach to education) to help the children with class work (Deininger, 2003), which enhances learning, retention and progression in school. Since educated parents will most likely be engaged in off farm activities, their children are, most likely, not to engage in constraining domestic work, that may lead to lack of time for revision, absenteeism, poor performance and ultimately, dropouts.

The differing effects of paternal and maternal education on both boys and girls could be linked to the real and perceived market value of the labor for both sexes on the market, the expectations of the parents about the probability of being looked after in their old age (Buchmann, 2000) and the cognitive abilities of the children in question.

1.2.3 Family size

According to studies in the West (Blake, 1981;Booth & Hiau Joo Kee, 2009), there seems to exist a negative effect of family size on children's education. In other countries, especially in the developing world, the relationship ranges from being nonexistent to sometimes positive.

This relationship has been found to be non-existent in Uganda (Kakuba, 2006; Roach, 2009) and Kenya (Buchmann, 2000). In Cameroun, it was generally nonexistent in the rural but existent and negative in the central region and urban areas (Eloundou & Williams, 2006). In Indonesia, it was nonexistent in the rural areas for the older and younger cohorts while positive for older cohorts and negative for younger ones in urban areas (Maralani, 2008).

On the other hand, in a more recent study in Kenya, Kabubo-mariara & Mwabu (2007) found the relationship to be negative whereby an increase in the number of children and working adults reduced the probability of enrolment implying competition for resources. In the same reasoning in Ghana (Lloyd & Gage-Brandon,1994), high fertility had a negative impact on the education of girls, in terms of, dropout rates and grade attainment.

In a study in Botswana (Chernichovsky, 1985) and a prior study in Kenya (Gomes, 1984), there was a positive relationship between family size and children's schooling and in the case of Kenya, this was attributed to the role of elder children in supporting the education of younger ones.

It appears from this literature that these studies did not clearly differentiate family size from household size and that the relationship is ephemeral and ambivalent both in one country at any one point and overtime as well as across countries. Important to note is that increasing urbanization seems to be moderating the effect of family size on education as time goes by, to the extent that in more urbanized communities, it is increasingly tending to be negative while in the rural, it is largely nonexistent.

1.2.4 Sex of household head

Sex of the household head is a big determinant in the schooling of children. Female headed households are hypothesized to be less advantaged since traditionally, mothers lack

adequate resources like land, enough education as compared to their brothers, and social capital hence less ability to invest in the education of their children.

Contrary to this long held view, recent literature seems to present that children under female heads were more likely to be enrolled in school than those under male household heads as vindicated in Uganda, (Kakuba, 2012), rural Burkina Faso (Kabore, Lairez, & Pilon, 2003), Ouagadougou (Wayack-Pambè & Pilon, 2011), Togo (Pilon, 1995), Ghana (Rolleston, 2009) and in seven countries in Sub-Saharan Africa (Lloyd & Blanc, 1996).

Several studies have justified that mothers are known to budget better than fathers and invest more in education and welfare of children. Besides, they can invest more time, love and attention in children, all of which enhance academic achievement and attainment. Female heads also expect more from their children in old age, given their prior vulnerability in terms of poor education and limited access to resources (Lloyd and Brandon as cited in Kabore et al., 2003; Lloyd & Gage-Brandon, 1994; Pilon, 1996 ; Kobiané, 2006).

Kobiané nuances better management of household resources by female heads thus : « ...Ce résultat suggère que c'est particulièrement dans le contexte de pénurie des ressources économiques que les femmes chefs-de-ménage font preuve d'un meilleur investissement dans la scolarisation des enfants» (Kobiané, 2006 p.139).

1.2.5 Household size and structure

Recent research is increasingly concerned about the effect of the size and demographic structure of the household on children's education. In this case, the proportion of the under-fives/six in the household, the number of male and female adults, the proportion of children of school going age and the total size of the household and their impact on education of children have been explored.

Studies have found a negative relationship between the proportion of children (below five or six years) in a household and education of children in that household. This was found to be true in Uganda (Kakuba, 2012), Cameroun (Wakam, 2003), Nepal (Bajracharya, 2010), Guinea (Glick & Sahn, 2000), Ougadougou (Wayack-Pambè & Pilon, 2011), Ghana (Rolleston, 2009), Nigeria (Lincove, 2009) and among the poor in Burkina Faso (Kobiané, 2003).

While in Peru (Ilon & Moock , 1991) the presence of a young child had no impact on enrolment, attainment and dropout, in Bangladesh (Maitra, 2003) an increase in the proportion of children aged 0-5 was associated with higher probability of enrolment.

Presence of old men and women has been found to have differing effects on education of both boys and girls. In this case, Wakam (2003) found out that the presence of old females enhanced enrolment of boys and girls while that of old males tended to disfavor enrolment of the girl child in Cameroun. In this case, while the old women would help in household chores and free time for the girl child to enroll and progress once enrolled, men would tend to depend on family labor of women and girls hence a negative relationship.

In Kenya Kabubo-mariara & Mwabu (2007) found that an increase in the number of adult females increased enrolment for boys but not for girls.

While in Bangladesh (Maitra, 2003) and Kenya (Kabubo-mariara & Mwabu, 2007), the relationship between household size and enrolment status of children was not significant, in Cameroun (Wakam, 2003) and Burkina Faso (Kobiané, 2006), there was a positive relationship between household size and children's enrolment status, more so in the urban areas, indicative of employment of house helpers of school going age to help in household chores. In Nigeria, while the proportion aged 6-14 was not associated with enrolment of boys, it enhanced the enrolment of girls (Lincove, 2009).

1.2.6 Religion and ethnicity

These may be put together because they are both cultural factors that may affect schooling decisions. For reasons related to history, geography or even internal politics of a country, education supply and demand factors may vary from one region to another or one district to another, hence affecting ethnic groups differently.

In Uganda, between 1877 and 1925 , when the Church missionary society of England and the White Fathers from France introduced Christianity, education was run and controlled by missionaries (Nkata, 1999). This led to the creation of catholic schools alongside protestant schools and in light of indoctrinatory ideologies imparted by missionaries that each of those faiths was superior to the other, some rivalry developed among the two faiths. While the colonial government tried to weaken the influence of churches in education, laxity of

government in the Amin era of 1971 to 1979, enabled churches to regain control of the education system. This implies that there were religious inequities in access to education since children would mostly attend schools of their faiths to the extent that two different schools belonging to two different faiths, would be each 30% full and children of one faith would walk long distances to attend a school of their faith (Tiberondwa, 1999). In the meantime, Muslims were almost out of the education equation. Not only did religion impact supply of education and hence differing access by different faiths, it was also a form of ideology and the role of ideology in shaping attitudes about things like demand for education cannot be underestimated.

Studies elsewhere have found that children of Christians were more likely to be enrolled in Togo (Pilon, 1995), Kinshasa (Shapiro, 2003), Ouagadougou (Wayack-Pambè & Pilon, 2011) and Burkina Faso as a whole (Kobiané, 2006), as compared to those of Muslims, animists and other religions. In Nigeria (Lincove, 2009), while Christian children were not necessarily more likely to be enrolled, boys and girls from Muslim households and girls from traditionalist religions were less likely to be enrolled.

In Bangladesh (Maitra, 2003) on the contrary, Muslim children were more likely to be enrolled than those of all the other religions.

Ethnicity is also a determinant of children's schooling. Following a retrospective study in Kinshasa, Shapiro (2003) found out that, Bakongo women were more likely to have been educated in their childhood days than all the other ethnicities. In Burkina Faso, children of Peul and Lobi were less likely to be enrolled than those of other ethnicities while those of Samo and Gouronsi were more likely to be in school (Kobiané, 2006). The Peul are largely cattle keepers, and this as seen elsewhere, has negative implications for schooling. They also were at the forefront of resisting colonialism and any foreign (especially western) influence including christianity and this resulted in less provision of schools in their areas in the colonial era. This has continued to haunt the education of children in the concerned communities. The reverse was true for the Samo and Gouronsi.

1.2.7 Employment of parents

Employment of parents, impacts type and quality of income, is influenced by level of education and has a bearing on things like the opportunity cost for schooling of children. It

dictates the socio-economic status of the household and this has an impact on children's education.

Literature in Africa and other parts of the developing world seems to present a negative effect of agriculture (largely labor intensive peasant farming) and conversely, a positive effect of salaried employment, as the main occupation of the household head on schooling of children. This was found to be true in rural Peru (Ilon & Moock, 1991), Mexico (Camarena Cordova, 2003), Uganda (Roach, 2009), Togo (Pilon, 1995), Ouagadougou (Wayack-Pambè & Pilon, 2011), Burkina Faso as a whole (Kobiané, 2006), Ghana (Rolleston, 2009) and Nepal (Bajracharya, 2010).

In Kenya, maternal employment (salaried) was found to increase children's (boys and girls) enrolment while paternal employment increased enrolment for boys and not for girls (Kabubo-mariara & Mwabu, 2007).

Peasant agriculture impacts negatively on schooling because it is labor intensive and the labor from the children is much needed to sustain these mainly poor and large households. Children are found to be engaged in tilling the land, cattle rearing, firewood collection, fetching of water and other indoor household chores all of which may affect the age at enrollment, regularity of attendance, concentration in class, the time to do home revision and hence learning, retention and progression in school. In addition to being related to higher incomes, salaried employment is source of cultural and social capital that is not only critical for the schooling of children but also for their holistic growth and development.

1.2.8 Marital status

Marital status is hypothesized to affect education in which case widowhood is associated with the family being robbed of the bread winner, psychosocial effects and increased work for children in the household. Separation or divorce may equally be associated with psychosocial effects on the children which affect learning and retention in school. In Uganda, a statistical analysis of Demographic and Health Survey data for the western region revealed no relationship between marital status of parents or caretakers and children's education (Kakuba, 2006). On the other hand, the qualitative module of the national household survey done recently and over the whole country pointed out that divorce of parents led children to engage in small businesses and girls to be married off at an early

age, hence affecting their education (UBOS, 2010c). Other studies in this regard have looked at the effect of polygamy on education of children and in this case, in Kenya children from polygamous marriages were less likely to be enrolled than those from monogamous ones and this was found to be the worst scenario of the resource dilution effect (Buchmann, 2000).

1.3 Community factors and primary schooling

The community factors looked at here are: place of residence (rural-urban), region and distance to school.

1.3.1 Place of residence

Place of residence dictates differences in school quality and distribution, the supply of teachers, the types and sources of household incomes and other cultural factors that affect education of children. Children in the urban areas were found to be at an advantage with regard to primary schooling in Uganda (Roach, 2009; UNICEF, 2005), Kinshasa (Shapiro, 2003), Malawi (Chimombo, 2009), Ghana (Fentiman et al., 1999) and Togo (Pilon, 1995).

This urban-rural dichotomy seems not to have been eclipsed by the numerous universal education initiatives that were undertaken by several countries in Sub-Saharan Africa, in the spirit of the 1990 Education for All commitments and the Millennium Development Goals. Following a study of thirteen countries of which six were Anglophone (Kenya, Malawi, Nigeria, Tanzania, Uganda and Zambia) and seven (Benin, Burkina Faso, Cameroun, Madagascar, Mali, Niger and Senegal) francophone at two data points, i.e. before and after the implementation of Universal primary education initiates, Lewin & Sabates

(2011) arrived at this conclusion:

> In all Francophone countries, we found that children living in rural areas are more likely to be out of school relative to children living in urban areas. But this was not the case for Anglophone countries. Only in Malawi we found that children living in rural areas were 7.9% more likely to be out of school relative to those living in urban areas. In fact, in two Anglophone countries (Kenya and Uganda) we found that children living in rural areas were less likely to be out of school than those in urban areas and in the rest of these

> Anglophone countries (Nigeria, Tanzania and Zambia) we did not find significant differences in the likelihood of children being out of school by location (Lewin & Sabates, 2011 p.35).

These findings imply that far from reducing location related inequalities with regard to retention in school, completion of primary and continuation to secondary, children from the rural areas in the studied francophone countries were worse off with regard to being enrolled than they were a decade before. In addition, more Anglophone countries had not improved despite the basic education universalizing initiatives that have continued to take relatively significant proportions of government expenditure and preoccupy international donors. This may also point to the fact that, at the secondary level, the situation may not be better.

Urban areas have more evenly distributed schools than rural areas and it is not uncommon to find good and experienced teachers concentrated in the urban areas where returns to their investment seem to be highest leaving the villages with very few and often less experienced teachers as was the case in rural Madagascar (Deleigne & Kail, 2010). In addition, urban dwellers tend to be more educated, have better jobs and higher incomes than rural dwellers. In the recent past, studies are now linking this to the "neighborhood and peer" effect (Takahashi, 2011) where children in affluent milieus and with many schooling young people, are more likely to be in school for their parents would feel out of place if their children were not enrolled. The challenge here is whether these children are enrolled because they are in affluent environments or they are in affluent environments in order to be enrolled and requires further investigation.

The hitherto acclaimed urban advantage should however not mask the existence of problems of access to education in urban areas, especially in the periphery and slums. In Ouagadougou (the Capital of Burkina Faso), Pilon (2002a) brings to the fore, enrolment differentials linked to sex of child, socio-economic status and relationship to the household head, as well as, the nature of employment. Children, whose parents were mainly in agriculture, were still disadvantaged. In the same vein, distance to school was still a factor exacerbated by traffic jams, pollution and accidents in the context of a poorly organized public transport system and the fact that some of the geographically nearby schools were

private and therefore unaffordable to some households. The privatization of education and its implications for access to education by especially the poor, are reechoed in a recent study in the same capital (Baux, 2010).

It should be noted that the private sector attracts better teachers, pays them better and has better infrastructure and more manageable numbers of students per teacher, all of which enhance learning, retention and progression in school for those who can afford. Conversely, the majority in the public school system are left to learn in a largely crowded environment, with few learning aids, and unskilled or even demoralized teachers. All these subsequently lead to a decline in quality not only affecting achievement (true learning) but is also a precursor for dropouts.

1.3.2 Region of residence

Due to reasons related to history, geography (Uitto, 1989), the nature of economic activities as well as insecurity in some areas, some regions are more disadvantaged with regard to schooling of children than others. In Ghana, the northern region was more at a disadvantage than other regions although disparities were diminishing over time (Rolleston, 2009). In Uganda, children in the northern region were less likely to be enrolled than those in other regions (Deininger, 2003) and this was more true for the rural areas (Kakuba, 2012). UNICEF (2005) links disparities in access to education to pastoralist and fishing activities and conflict in some areas. Indeed the north-eastern part of Uganda is inhabited by the pastoralist Karimajong for whom the opportunity cost of schooling seems to be higher than grazing cattle and whose nomadic nature seems to be incompatible with formal schooling. Besides, a bigger part of northern Uganda was plunged into a civil war for more than 20 years and this affected the supply of schools and other scholastics but also household incomes as almost all people were confined in camps and could not engage in meaningful agriculture (main economic activity) for a long time. The supply and demand for education were thus greatly hampered.

In Malawi, children in the southern region were more disadvantaged than those in the northern region (Chimombo, 2009) while in Nigeria, those in the north-east and north-western regions were more likely to be disadvantaged (Lincove, 2009). In the latter two scenarios, both authors talk of historical factors as being the main reason for the differences

as was seen, with regard to the question of ethnicity. The regions that were at a disadvantage had access to fewer schools and infrastructure in the colonial times because Christian missionaries (who were the vanguards of education then) did not target them for reasons of proximity. In the case of Malawi, the missionaries intentionally designed a curriculum that emphasized morals and religious education for the southern regions as opposed to the one that emphasized literacy, numeracy, agriculture and artisan skills in the northern areas. For Nigeria, the locals (in the affected regions) were hostile to westernization and by implication Christianity that they closed doors to all western influence including formal education in favor of traditional systems or Islam that had come earlier. While it would be wrong to continue to blame colonialism and Christianity on these differences half a century after independence, it would not be appropriate either to downplay these historical perspectives while looking at spatial differences in supply and demand for education today.

1.3.3 Distance to school

Distance to school negatively affects school participation for children although the effect may vary by sex of the child. In the first place, it may be a disincentive to enrolment but may also affect the age at enrolment which has a bearing on the frequency of attendance and the level of concentration in class all of which may in turn affect learning and progression in the school system.

An increase in distance to school has been found to negatively affect access to primary school in rural Ghana (Fentiman et al., 1999), Kenya (Kabubo-mariara & Mwabu, 2007), Uganda (UBOS, 2010a ; Zuze & Leibbrandt, 2011), Burkina Faso (Kobiané, 2006) and rural Madagascar (Deleigne & Kail, 2010). In all these studies, distance was not only a factor for different enrolment patterns of children but also for late enrolment because children found it hard to access distantly located schools in some regions.

In North Western Tanzania, distance to secondary school was associated with less probability of enrolment at the primary level (Ainsworth et al., 2005) and in the same vein in rural Peru, absence of a secondary school in the community adversely affected progression of children in school and this particularly discouraged enrolment of girls at the primary level (Ilon & Moock, 1991).

In other studies, time to school has been used to measure access and in this case, Lincove (2009), found out that an increase in the time to primary and secondary school negatively affected the probability of enrolment for all children (boys and girls), but more so girls in Nigeria.

1.4 The role of demand and supply factors in secondary schooling

As discussed in the previous sections, these factors at the individual, household and community levels shall be tackled in this section.

1.4.1 Individual factors and secondary schooling

As already stated, researchers are increasingly interested in access to secondary schooling and this serves to understand better concepts of wastage and internal efficiency at the primary level. In this vein, although much work has not been done on correlates of access to this level, the literature that follows looks at what has been done by the few authors. In line with the literature review at the primary level, individual, household and community factors are reviewed, in that order.

1.4.1.1 Sex of child

In Uganda access to secondary education was found to be equitable for boys and girls and this was true for urban and rural areas (Kakuba, 2012). To expound on this, while the survival rate to primary seven (end of the primary cycle) was 31% for boys and 30.3% for girls as per 2011, the transition rate to senior one was 67% for boys and 64.2% for the girls in the same year (MoES, 2011b). This is indicative of near gender parity not only in completion of the primary cycle but also transition to the secondary level. In Indonesia (Takahashi, 2011), the gender gap that existed in the recent past has equally disappeared.

On the other hand, in Ghana (Rolleston, 2009), Dakar (Moguérou, 2011) the capital of Senegal and Rural India (Siddhu, 2011), girls were less likely than boys to be enrolled in

secondary school. Reasons for the disadvantages against the girls are summarized by Siddhu in the case of rural India as: puberty that was associated with early pregnancy and increased protectionism on the part of parents, exacerbated by distance to school and poverty in households. The fear of parents for the safety and reputation of their girls, increased as the girls grew older. In this case, late age at entry in school and subsequent late completion of primary as well as long distance to school in some rural areas compounded the problem of girls' access to secondary education.

As was the case with primary schooling, even where gender parity has been achieved, this is likely to be masking gender differences in performance at the end of primary that may dictate the quality of secondary school to be accessed. It may equally conceal gender differences at lower levels like regions and districts and among marginalized groups like the poor, small ethnic groups and migrants. Indeed, a recent study in Uganda shows that girls enroll at secondary later than boys and that this negatively impacts their performance at lower secondary and subsequent progression in school (Wells, 2009).

1.4.1.2 Age of child

It was earlier remarked that most children start school late in Uganda (Uganda Bureau of Statistics, 2010), Kenya (Kabubo-mariara & Mwabu, 2007), Ghana (Fentiman et al., 1999), Burkina Faso (Kobiané, 2006) and in many other countries in Sub-Saharan Africa. While late entry into school was likely to increase dropouts at primary level in Uganda (Grogan, 2009), Burkina Faso (Kobiané, 2006) and India (Siddhu, 2011), it was also found to be negatively related with accessing secondary schooling in rural India (Siddhu, 2011), Indonesia (Takahashi, 2011), Uganda (Wells, 2009) and Burkina Faso (Kobiané, 2006), but more particularly on the part of girls in the case of Uganda and Burkina Faso.

1.4.1.3 Relationship to household head

Similar to the findings at the primary level, children of the household head were more likely to access secondary schooling than other children in Kenya (Kabubo-mariara &

Mwabu, 2007), Ouagadougou (Wayack-Pambè & Pilon, 2011), Ghana (Rolleston, 2009) and Uganda (Kakuba, 2012).

1.4.2 Household factors and secondary schooling

These factors at the household level are presented in the following sections.

1.4.2.1 Household wealth or income

Like at the primary level, literature consistently shows a strong positive relationship between the level of household income/welfare and the probability of accessing secondary schooling. This is corroborated by studies in Uganda (Kakuba, 2012; Kakuba, 2006; Tumushabe et al., 1999; Wells,2009; Nishimura, Yamano, & Sasaoka, 2008; Ssewanyana, Okoboi, & Kasirye, 2011), Kenya (Kabubo-mariara & Mwabu, 2007; Ohba, 2009, 2011; Ngware, Onsomu, Muthaka, & Manda, 2006), rural India, (Siddhu, 2011), Bangladesh (Ahmadi et al., 2005), Indonesia (Takahashi, 2011), Dakar (Moguérou, 2011), Ouagadougou (Wayack-Pambè & Pilon, 2011), Ghana (Akyeampong, 2009; Rolleston, 2009) and Sub-Saharan Africa in general (Lewin & Akyeampong, 2009). This implies that the poor are most likely to be excluded from secondary schooling and the situation is not necessarily better even where secondary education has been made free, as vindicated in the case of Uganda (MoES, 2011b) and illustrated by Ohba in the case of Kenya:

> The costs for sending a child to the first year of day secondary school are about eight times the monthly income for employed parents, 12 to 17 times for self-employed parents and 19 to 20 times for peasant parents engaged in casual work. In the case of boarding schools, the costs for sending a child to the first year of boarding secondary school are 15 times the monthly income for employed parents, 23 to 33 times for self-employed parents and 38 to 40 times for peasant parents engaged in casual work (Ohba, 2009 p.30).

While it is true that in less-monetary economies, households do depend on other sources of income other than the salary or have other businesses to live on, it should be noted that paying school bills is one of the very many responsibilities of households, that most

households have several children in school and that income from the main occupation greatly determines the consumption patterns of most households.

1.4.2.2 Education of Parents

Education of parents/household heads was strongly associated with enrolment of children at secondary as documented in Ouagadougou (Wayack-Pambè & Pilon, 2011), Bangladesh (Ahmadi et al., 2005), Indonesia (Takahashi, 2011) and Africa in general (Otieno & K'Oliech, 2007). In Kenya (Kabubo-mariara & Mwabu, 2007; Ngware et al., 2006), while an increase in maternal education favored enrolment of girls than that of boys at secondary level, better paternal education favored more of boys' than girls' secondary school enrolment implying same sex gender bias.

1.4.2.3 Household size and structure

In Thailand, Knodel & Wongsith(1991) found out that a larger family size negatively affected enrolment at secondary level hence vindicating the quantity-quality tradeoff theory

In Ghana (Rolleston, 2009) and Uganda (Kakuba, 2012), an increase in the proportion of children aged less than 6 and 5 years, respectively, reduced the probability of enrolment at secondary level. Similarly in Indonesia (Takahashi, 2011), an increase in the number of dependants defined as the proportion of the household population aged 6 and below and 65 and above, negatively affected access to senior secondary but not junior secondary.

In Indonesia (Takahashi, 2011) and Kenya (Kabubo-mariara & Mwabu, 2007), the number of school aged household population had no effect on access to secondary education by children in that household.

In Bangladesh (Ahmadi et al., 2005) an increase in the population aged 1-14 in a household increased enrolment at secondary level and this was equally true in Cameroun (Wakam, 2003) and Ouagadougou (Wayack-Pambè & Pilon, 2011), where an increase in the number of children of school going age increased the probability of enrolment at secondary level, hence contradicting the quantity-quality tradeoff theory.

1.4.2.4 Religion of head

Children from other religions other than Muslims were more likely to be enrolled in secondary school in Bangladesh (Ahmadi et al., 2005) and rural India (Siddhu, 2011). In Indonesia , religion was not a factor (Takahashi, 2011).

1.4.2.5 Employment of parents

As was the case in primary schooling, agricultural workers were less likely to enroll their children at secondary level as was found out in Bangladesh (Ahmadi et al., 2005), Ghana (Rolleston, 2009) and Ouagadougou (Wayack-Pambè & Pilon, 2011). This could be related to high opportunity costs of sending the now older children to school and low returns to peasant farming in the context of heightened costs of school at the secondary level (Ohba, 2009; Rolleston, 2009) and hence inadequate capacity to cater for school requirements. It is the children of salaried parents that were most likely to be enrolled in secondary school as compared to the children of parents in agriculture, other businesses and those engaged in casual labor. In Kenya, parental employment had no impact on the probability that children would access secondary school (Kabubo-mariara & Mwabu, 2007)

1.4.3 Community factors and secondary schooling

These factors are place of residence and distance to school.

1.4.3.1 Place of residence

Place of residence dictates the supply of schools by both government and the private sector, the quality of infrastructure in the schools, distribution of teachers, distance to school to be covered by children and teachers, the level and quality of parental involvement in children's affairs, the age at enrolment and many factors that place children in the urban areas at an advantage as compared to their rural counterparts.

In this vein, in Uganda (Kakuba, 2012), Kenya, (Kabubo-mariara & Mwabu, 2007), Tanzania (Bonini, 2011), Ghana (Rolleston, 2009) and Bangladesh (Ahmadi et al., 2005) rural children were found to be more disadvantaged compared to urban children, with regard to access to secondary education. An earlier study in Kenya using 1997 data found that urban children were less likely to access secondary education than the rural ones (Ngware et al., 2006). They attributed this to higher opportunity costs for schooling in towns given the existence of many non-formal jobs, inadequacy of supply of schools due to an increase in the urban population and challenges of child labor in towns. In the case of Bangladesh, most secondary schools were private and established according to demand (higher among the urban elite) and this affected access for the rural poor.

1.4.3.2 Distance to school

In Africa in general (Otieno & K'Oliech, 2007) and in rural India (Siddhu, 2011) long distances to secondary schools especially in underdeveloped remote areas, were an impediment to accessing secondary education for both boys and girls . In Kenya, distance to school negatively affected access to secondary school but this factor was less important for girls than for boys (Kabubo-mariara & Mwabu, 2007).

1.5 Emerging issues from the review of Literature

The post 1990 Universal education initiatives that were undertaken by many governments especially in Sub-Saharan Africa resulted in increased enrolments of the

relevant age groups and greatly reduced the gender, rural-urban and wealth gaps at enrolment. Indeed, the Net and Gross Enrolment rates have continued to exhibit impressive milestones in this regard. That many children got enrolled in school was not a mean achievement given that many children of school going age had never stepped in school (Easterly, 2009).

The increase in enrolments after the free education initiatives was closely related to the enrolment of especially the hitherto marginalized groups like females, the poor and rural populations who were generally overage for entry into school (Lewin & Sabates, 2012), which in turn impacted their retention in school and progression to higher levels. In addition, increased enrolments cannot be explained outside the context of bourgeoning populations of many countries in the south, rooted in high population growth rates, that explains, increasingly bigger successive cohorts of school age populations.

In the context of high fertility, high adulthood mortality, and a small, poorly trained / skilled and largely peasant labor force, the tax base is small and the states may not mobilize enough revenue to sustain the ever growing school age population cohorts.

The effect of increasing school age cohorts and inability of the states to mobilize enough resources have partly been responsible for uneven distribution of schools, high pupil teacher ratios, congested classrooms, inadequacy of scholastics, demoralized teaching staff, lack of libraries and laboratories amidst increasing non-involvement of most illiterate parents on one hand, and too much involvement of “better off” parents that have shifted their children to private schools, on the other hand. The increased numbers thus caused “enrolment shocks” to which parents and caretakers have responded differently and their aptitude to respond remains closely linked to their socio-economic background and several other factors at the household level.

While enrolment greatly increased and continues to increase, universalizing education has not answered questions as to why some children of school age do not access the otherwise “free education” and why the majority, ranging from about 50% to 70%, continue to drop out of primary in much of Sub-Saharan Africa while some sizable proportions fail to transit to the secondary level. Surprisingly, in some countries, not only did survival to the end of the primary cycle fall in relative terms (i.e. from 74% in 2000 to 31% in 2011) after universalizing education like in Uganda (Ministry of Education and Sports, 2011), but also in

absolute terms like the case of Malawi (Chimombo, 2009), in the context of ever increasing populations and hence school age going cohorts.

While the fact that completion of the primary cycle was unequivocally stated as the indicator for measuring the goal on primary schooling and education of good quality was pointed out as what all nations should strive for as per goal 2 of the EFA Goals, the indicators of Gross and Net enrolment rates used to measure the progress were neither bringing to the fore the proportions of children that were not enrolled, the quality of education dispensed and the proportions that would survive to the end of primary. These indicators, especially the GER were so confusing to the extent that a higher GER (100 % and above), despite being a sign of an inefficient system because of repetitions and overage enrolment (strong predictor of dropouts), paradoxically portrayed that all was well to the semiliterate, the literate but non-professionals in education, the political leadership and the donor community. It is in this vein that some scholars are now embarking on indicators that look at the proportion of children in grade one that survive to the end of the cycle (Gérald & Pilon, 2005), completion rates that incorporate the age aspect in both progression and completion, thereby talking of the "on schedule completion rates" (Lewin, 2011b) or indicators that incorporate performance at the end of the cycle and survival hence "taux de validation[1]" (Bernard, 2010), that can be applied jointly.

A critical analysis of enrolment patterns and trends brings out the fact most children enroll in school, albeit late, but the majority drop out of school before completion of the primary cycle. It thus logically follows that investigation into the correlates of enrolment of the corresponding age group at secondary level, cannot be done in isolation of the factors for non-enrolment and those for non-completion or dropouts. In other words, the children aged 13-18 in Uganda, may most likely not be in secondary school because they did not enroll at primary, but most importantly, because they : dropped out of primary or are still enrolled in primary and lastly because they did not transit from primary to secondary school.

In this context, very little has been done on factors affecting access to secondary schooling especially in Sub-Saharan Africa and where attempts have been done, the focus has been on transition to the secondary level partly because survival rates to end of the primary are relatively high, like in the case of Asia. Besides most of the studies have remained silent

[1] This indicator looks at the proportion of children that enroll in the first grade of primary that is able to reach the last grade of primary but also pass the end of primary examinations. It thus combines survival and quality learning outcomes.

on the factors that explain exclusion from secondary because of dropouts or just failure to make a transition and the extent to which each of these two exclusion dimensions is a reality in any one country.

A perusal of the factors affecting primary and secondary schooling brings to the fore that indeed, they are not very different. The individual, household and community factors that stand out as determinants of enrolment at primary are similar to factors that explain access to secondary in general and transition, in particular. Despite universal primary education efforts, most of these factors have continued to determine enrolment overtime in any one country and across countries and are even stronger at secondary level implying that while they may be similar between levels, the degree of their effect on enrolment may vary significantly in time and space. In addition, some factors may be stronger than others with regard to transition and not so with regard to general access (when incorporating dropouts) and others may operate through various pathways to impact access that may be context determined.

The reviewed factors, approached from the unit of analysis, i.e. individual, household and community can also be categorized as economic (wealth, education, employment of parents etc.), demographic (sex and age of children and household head, household size and structure etc.), socio-cultural factors(religion, marital status of household head) as well as community factors (region, rural-urban residence, distance to school). At the national level, a community factor like place of residence stands out as a strong variable in determination of access to school and this together with other factors like region and distance to school are used as proxies to measure the supply of education.

At the household level, economic factors such as, household wealth, parents' education, especially that of the mother and nature of employment remain strong predictors of not only enrolment in school before and after "universal education" but also completion of the primary cycle and progression to the secondary level. Demographic factors such as sex of child and head, age of child, household size and structure seem to be other strong predictors of schooling after the economic factors. Cultural factors like religion and marital status and school factors seem to play a less critical role. For the latter case, this may be because most of the studies reviewed are household-based and little is collected at school level other than using proxies at an aggregate level, like pupil teacher ratio, pupil classroom ratio for a district, etc.

In most of the countries, gender gaps at enrolment have greatly reduced but are exacerbated at the secondary level. Besides, where gender parity has been achieved, differences continue to manifest in some subpopulations and at lower geographical units, but also in terms of performance and age at enrolment that has an inverse relationship with not only progression to the secondary level but also the possibility of continuation with studies thereafter.

Old age entry into primary school has continued to characterize most of the countries in Sub-Saharan Africa, largely due to long distances to school, need for child labor, costs of school and arguments that children "are not of age". Important to note is that this phenomenon largely explains dropouts at primary as demand for child labor increases with age and entry into puberty sets in. This impedes most of these children from entering secondary school hence the observed consistently inverse relationship between age and access to secondary school.

Although many governments and donors have invested heavily in the construction of schools, this has not eclipsed the rural-urban dichotomy in the distribution and quality of schools. In this vein, many rural children remain disadvantaged and this, in Uganda, is exacerbated by a disproportionately bigger increase in private schools at secondary level as compared to the primary level and high costs of boarding fees, even in public or universal secondary schools that, far from complementing efforts of government in provision of education, have increased inequalities in terms of access and quality of learning.

Demographers like Pilon (1995) and others were among the pioneers in studying access to education through analysis of secondary data sources like census and household surveys. Since these sources did not collect data on child work or labor, these scholars endeavored to estimate the extent of child labor from variables on (i) relationship to household head (ii) proportion of under-fives (iii) proportion of older adults and (iv) main economic activity of household. Many more studies have since adopted these variables to indirectly measure the extent of child labor.

Among the demographic factors, a high proportion of children (lower than 5 or 6), stands out as one factor that consistently explains less probability of enrolment at the primary level and progression to the secondary level. This, in the context of children from agricultural households and those unrelated to household head being disadvantaged with regard to schooling, points to child labor that may be a reality in households in Sub-Saharan Africa.

While the effect of family size on schooling has largely been ambivalent, some of the ambivalence was more of a methodological creation related to the definition of a family and a household. More recent studies by demographers are looking more at household size given the importance of extended family living arrangements, the practice of child fostering and employment of maids in the wake of female labor force participation and increased urbanization, in Sub-Saharan Africa. These studies, which use census or Household Survey data, have studied issues related to household size, membership and relationship to head and come up with different conclusions that largely point to an increase in household size being associated with an increase in chances of enrolment. This is true because largely, other people come in to do work, within and outside the household that not only improves household income but also liberates time for the children of the household head to enroll and progress in school.

Also, female household heads appear to be more likely to educate their children than male household heads at all levels, and most interestingly even where resources seem to be inadequate.

Some other factors like access to land, type of school attended (whether boarding or day or even public or private), cost of school and birth order are less discussed. Cost of school has been found to present confusing results. In Nigeria (Lincove, 2009), cost of school was not a significant factor explaining enrolment while in Kenya it was positively associated with accessing secondary schooling (Kabubo-mariara & Mwabu, 2007). All in all, no study has been done on Uganda about determinants of accessing secondary schooling, leave alone looking at the temporal aspect, in the context of the Universal secondary education Policy of 2007.

In conclusion, while free education policies have enabled the majority to enroll, progression in school and access to secondary remain not only selective and eliminative but more so, highly selectively eliminative to the extent that children of the poor, illiterate, peasants and those from remote rural communities are more likely to remain entangled in their viscous cycle of disadvantage, notwithstanding “universalizing” education.

CHAPTER TWO :THE PROBLEMATIC, METHODOLOGY AND COUNTRY CONTEXT

As we approach the year 2015, when all countries ought to take stock of what has been done in view of both the EFA and MDGs, it is increasingly pertinent that steps towards attaining the goal of "Ensuring that by 2015 all children, particularly girls, children in difficult circumstances and those belonging to ethnic minorities, have access to, and complete, free and compulsory primary education of good quality", be reexamined and the progression of primary school graduates to the secondary cycle be studied as most of the advantages of education like its impact on human capital and labor productivity, fertility, morbidity, mortality and social behavior, are a result of secondary, if not higher education.

Indeed secondary education[2] is critical as summarized by Lewin (2007a), at a Commonwealth conference in Uganda, thus:

- Universal Primary Education depends on adequate flow of secondary school graduates into primary teaching and this is hard to ensure where secondary school enrolments are low. It also depends on sustained demand for secondary schooling that may falter if transition rates into secondary are low.
- HIV/AIDS and conflicts have decimated labor force that needs to be replenished.
- Poverty alleviation will stall unless growth and distribution are considered and while access and completion of secondary education have become major mechanisms of allocation of life chances in developing countries, secondary school excludes the lowest 20 percentile of income in low enrolment countries and this must be avoided to enable social mobility out of poverty.
- Competitiveness in high value added knowledge sectors depends on knowledge, skills, competencies associated with abstract reasoning, analysis, language communication skills and application of science and technology and these are most efficiently acquired through secondary education and finally

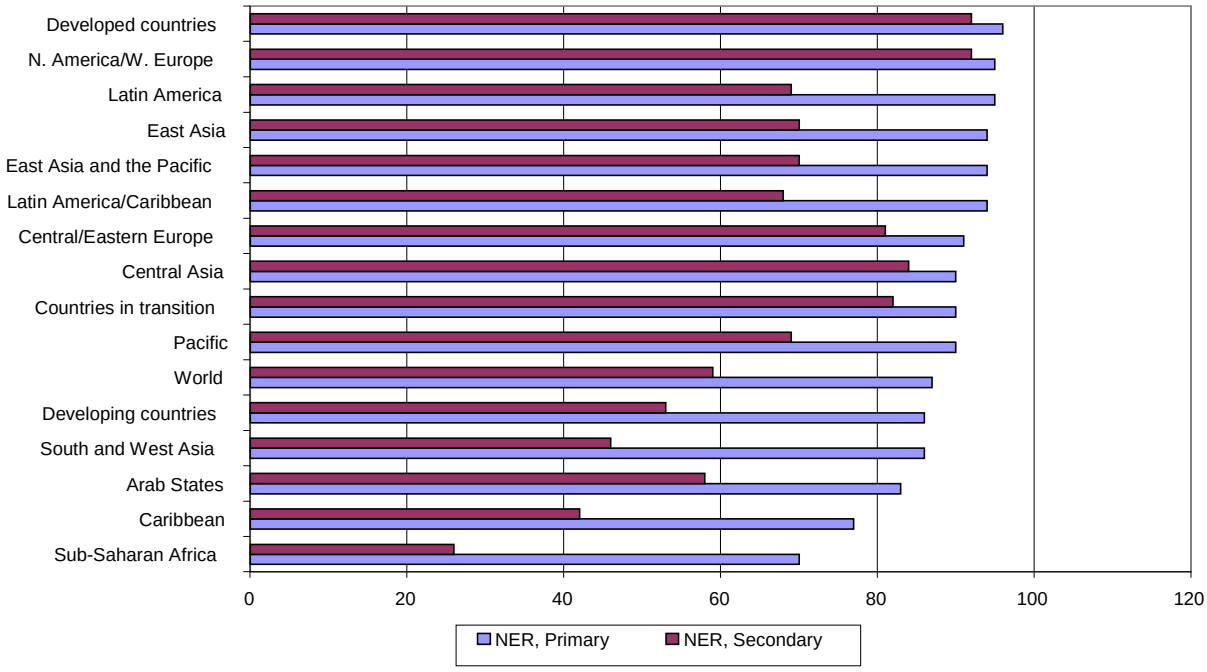
[2]The Ugandan Education System involves 7years of Primary education, 6 years of Secondary education and 3/5years of University education, with most courses at University ranging between 3 and 5 years. At the end of primary, a Primary Leaving Examination (PLE) is done while after the first four years of secondary and the next two years of upper secondary a Uganda Certificate of Education (UCE) and Uganda Advanced Certificate of Education (UACE) examination respectively, is done to enable successful candidates progress to the next level.

- If the increased demand for secondary education is not met, those excluded may be source of social and political unrest and greater equity will prove elusive.

In the same spirit, the increasing interest in secondary education is vindicated by a recent publication of the 2011 edition of *Global Education Digest* by UNESCO Institute of Statistics entitled « *Focus on secondary education : the next great challenge* » (UIS, 2011).

World over, there are more children of the relevant age group enrolled at primary than at secondary level. According figure 1, for most countries above the world average, there are slightly less children enrolled at secondary than at primary but for Sub-Saharan Africa, the Net enrolment rate that is about 70% at primary level, falls to a dismal 26% at the secondary level, with of course great variations between and within countries. It thus implies that indeed many children enroll in school but for some reasons do not remain in school and progress to the secondary level. Why then do most children, not enroll at secondary?

Figure 1 : Net enrolment rates at Primary and Secondary by Region of the World for 2005



Source: Constructed from Statistical tables of UNESCO EFA Monitoring Report of 2008 (UNESCO, 2007)

At the global level, there seems to be a relationship between the level of development of a country and the probability that most of its children will be enrolled at secondary as Developed countries top the list of high secondary school enrolment (figure 1) and Developing countries, top the list of those that fall below the world average. Could this

hypothesis then be brought to the national level in which case variations in secondary school enrolment could be tagged to the economic strength of countries? Is the problem more to do with lack of political commitment, deficient policies, inappropriate institutional and legal frameworks, budgetary constraints, fast growing populations or challenges at the household, school and community levels?

This thesis therefore attempts to understand the reasons why most of Ugandan children do not enroll at the secondary level through, *inter alia*, a secondary analysis of household level survey data. In order to respond to some of the questions posed previously, the national context in form of policies in place, its economy and demography, the level of political commitment, the extent of funding of education etc., shall be seen as a way to provide a background to the issues to be studied.

Uganda was among the first countries in Sub-Saharan Africa to implement Universal Primary Education (UPE) in 1997 in the spirit of Education for All goals and Universal Post Primary Education and Training (UPPET) or Universal Secondary Education (USE) as it has come to be popularly known in 2007, in order to absorb graduates of UPE implemented ten years earlier.

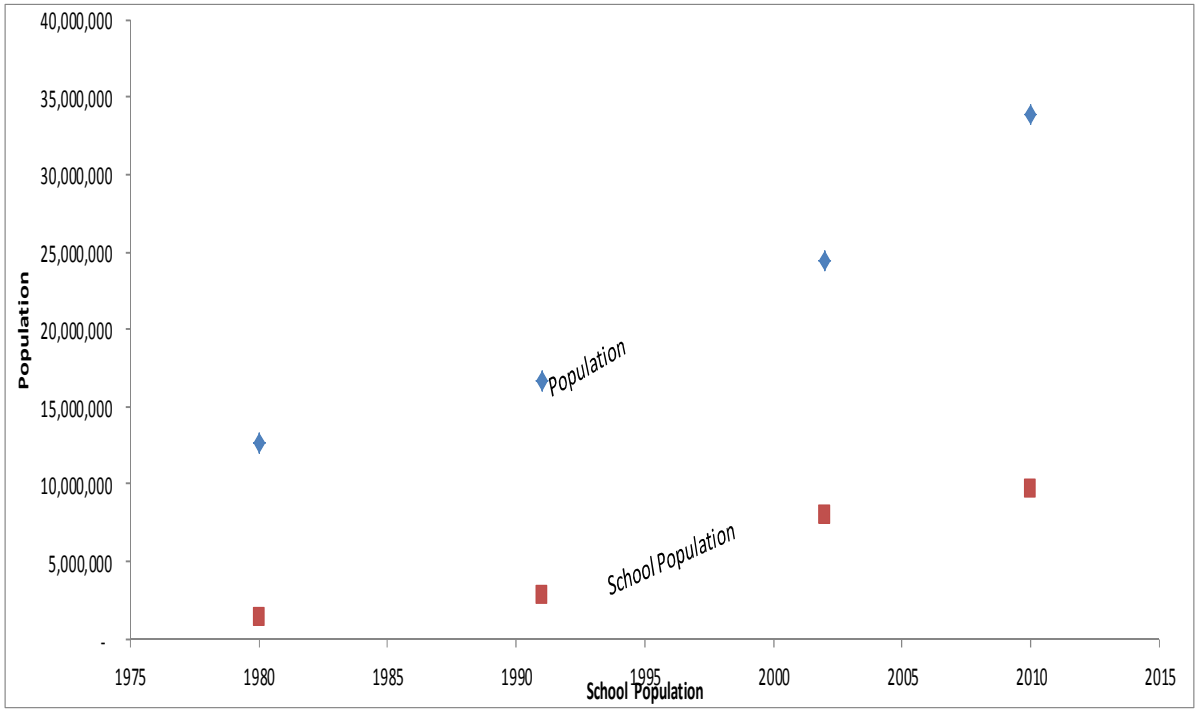
According to article 30 of the Ugandan Constitution, "All persons have a right to education" and as per article 34(2), "A child is entitled to basic education that shall be the responsibility of the state and parents of the child" (Government of Uganda, 1995). Again in terms of policy and legal framework, Uganda is signatory to the Committee on Elimination of Discrimination against Women (CEDAW), that calls for equal rights to education in article 10. Other Ugandan Policy documents like: The 1992 Government White Paper on education, Vision 2025, Education Sector Strategic Plan 2004-2015, Poverty Eradication Action Plan 2004/5 to 2007/8 and the National Development Plan 2010 recognize education as key in fighting poverty.

Indeed as can be seen, the challenge of Uganda cannot be lack of policies, for not only has it put in place polices and or ratified international covenants, it has also gone ahead to enact policy and strategic frameworks to implement the agreed upon commitments. It should be noted that being signatory to the covenants legally obliges member states to implement the requirements of the agreements according to the principle of pacta *sunt servanda,* a known principle in International Law.

2.1 Growth of schooling populations

The challenges of schooling in Uganda cannot be explained outside its population growth. In this case, population grew at a rate of 3.2% between the 1991 and 2002 inter censual period and at this rate, 1.2 million people are added per year (Ministry of Finance Planning and Economic Development, 2011). Given a total fertility rate of 6.7 children per woman, this is largely a young population with about 56% of the population below the age of 18 (Uganda Bureau of Statistics, 2002). This, as an underlying factor and universalisation of education, as a proximate factor have led to the bourgeoning of the schooling population in Uganda as can be seen in figure 3.

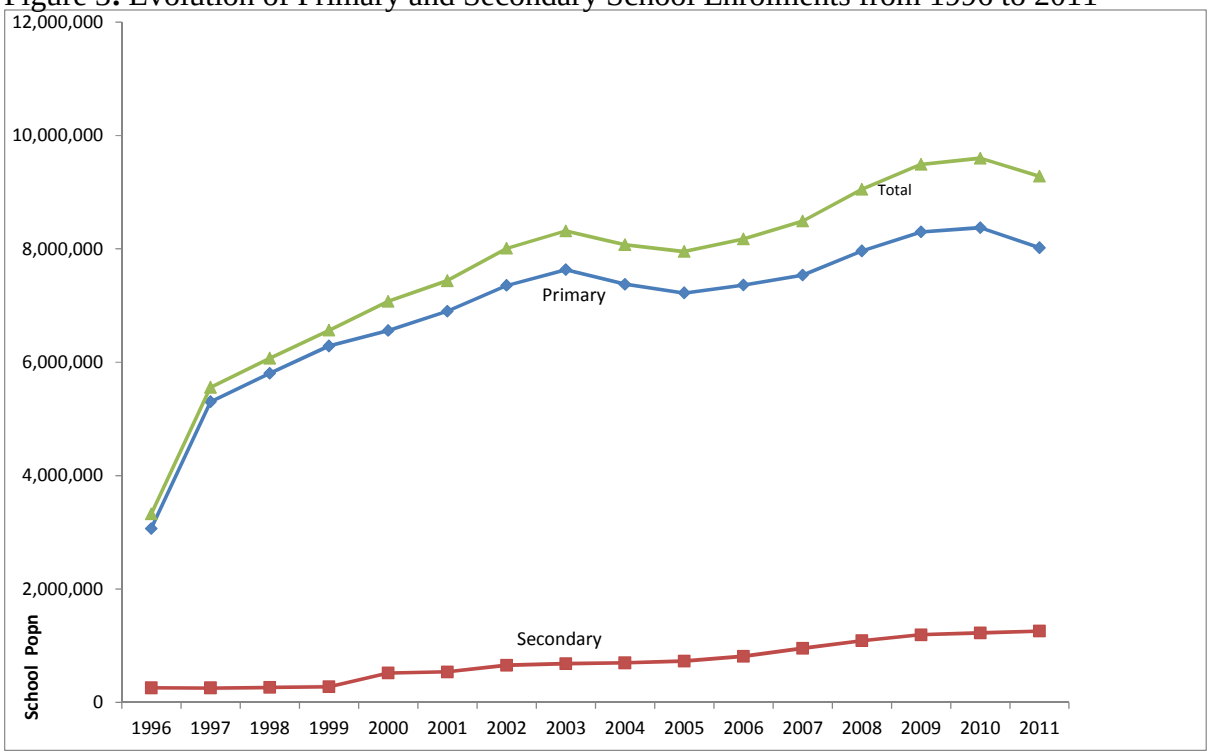
Figure 2 : Population and School Enrolments at primary and secondary from 1980 to 2010



Source: Constructed using EMIS, Census and World Population Prospects data

Indeed, this study has found the statistical association between the growth of the total population and that of school population (figure 2) to be very high (correlation coefficient=0.93).

Figure 3**:** Evolution of Primary and Secondary School Enrolments from 1996 to 2011



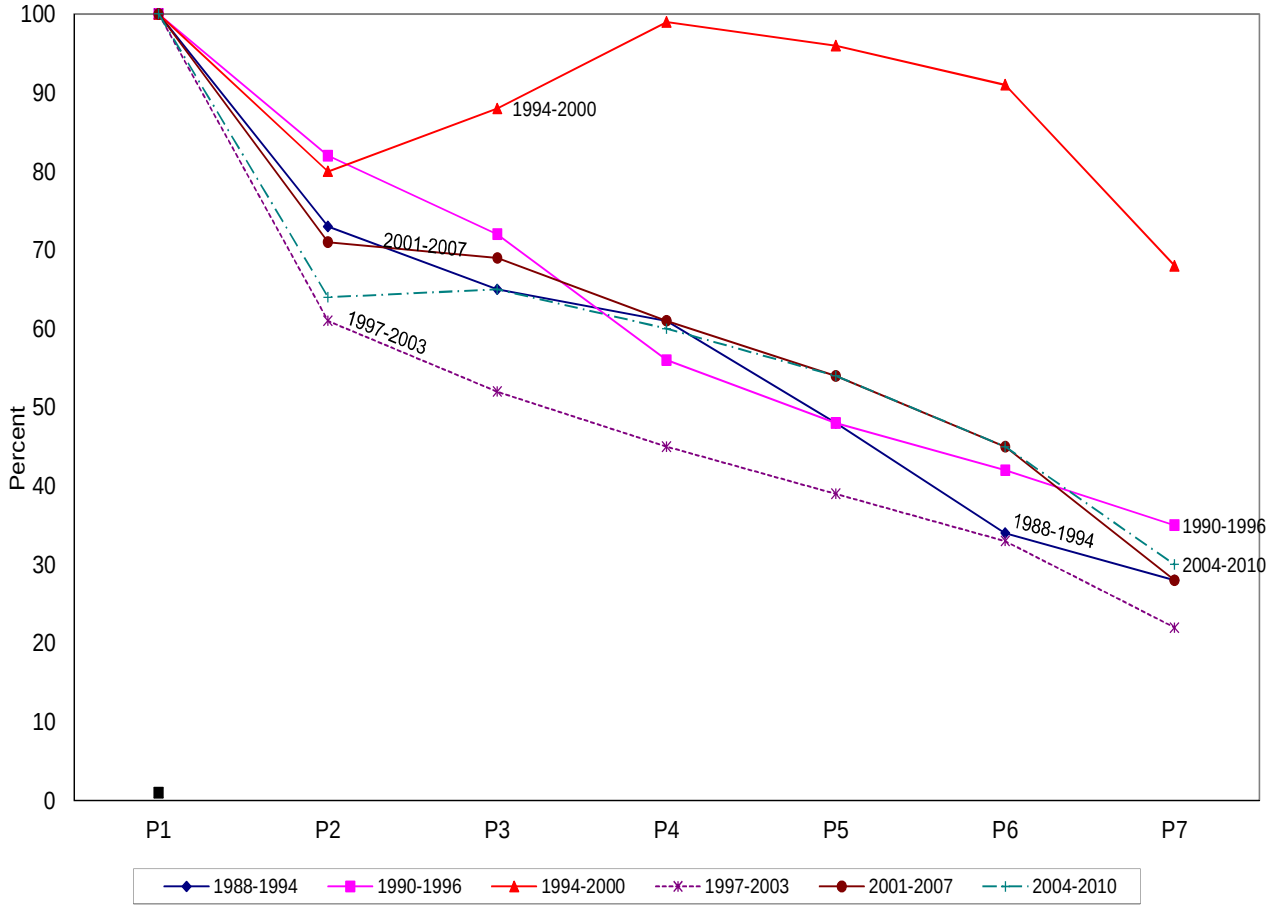
Source: Constructed using EMIS Data from Ministry of education

Total school enrolments have continued to grow over the past two decades and the overall growth is more linked to growth in primary school enrolments than in enrolments at the secondary level (figure 3). With the introduction of Universal Primary Education, primary school enrollments increased from slightly over 3 million in 1996 to close to 5.3 million in 1997 and this figure continued to grow steadily until 2003. Interestingly, around this time (2003) when the first cohort of UPE had gone through the cycle, enrolment experienced a slight decline and picked up after the introduction of USE in 2007, probably implying that free education at the secondary level motivated retention at primary. It should be noted that the hitherto excluded children like the girls, those from remote and peasant homes and older children (Deininger, 2003) responded to the call for universal education and this caused what has been referred to as “enrolment shocks”. Intriguingly, the overall enrolments at secondary level are generally much lower and the introduction of USE in 2007 did not translate into an upsurge in enrolments like the case at the primary level, with the increase being only 17%. Where then is the problem, is it that most children do not complete the primary cycle or that they do not transit to secondary or both and to what extent?

2.2 Survival to the end of primary and transition to secondary

It looks then that the challenge is not mere transition but failure to complete the primary cycle. Figure 4 puts into perspective the survival patterns to the end of the primary cycle, for children enrolled in grade I (P1) and how these have evolved in the pre and post universal education initiatives at the primary and secondary level.

Figure 4 **:** Survival cohorts at primary level between 1988 and 2010



Source: Constructed from EMIS Data for Uganda

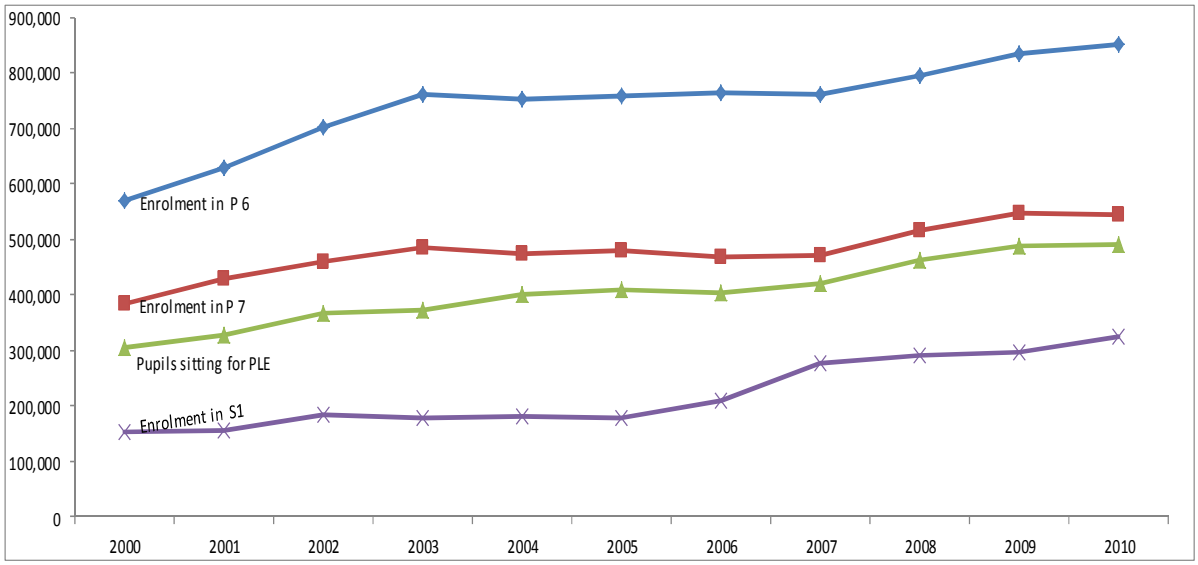
A quick look at figure 4 brings out three main observations: The first is that for the two cohorts, that is 1988-1994 and 1990-1996 that started and completed before UPE in 1997, enrolment in school was low as per actual numbers enrolled but survival was generally fair with about 35% of the children for the 1990-1996 cohort reaching the end on the primary cycle. Secondly, for the cohort that was enriched by UPE, that is 1994-2000, enrolment was relatively better, boosted by UPE midway and the survival rate was above 60% (Ministry of Education and Sports, 2011). Thirdly, the more recent post UPE period is characterized by

very high enrolments, with about twice as many children enrolling in grade 1 as those aged 6 (official age at entry) in the population (Lewin & Sabates, 2012) but also high attrition with survival rates averaging 30% between 2004 and 2011 (Ministry of Education and Sports, 2011). According to this pattern, Uganda fits in group two of countries in Sub-Saharan Africa that are characterized by "very high initial enrolment rates in primary, but high dropout and repetition with low completion rates, falling transition rates into secondary and low participation at secondary" (Lewin, 2007b)

It can thus be said that the Ugandan government is investing more in terms of building schools, teacher training and salaries, scholastic materials, capitation and school facilitations grants etc. due to high enrolments today and reaping much less than in the past. Where then is the problem?

Indeed the challenges with completion of the primary cycle have persisted and at worst, worsened overtime. How then are these linked to transition before and after the introduction of Universal Secondary Education?

Figure 5 : Enrolment in Upper primary & transition to Senior 1 from 2000 to 2011



Source: Constructed using data from Ministry of Education

Figure 5 shows that the problem is not only completion of the primary but also transition to secondary and that this has persisted over the past decade and only improved dismally after universal secondary education in 2007. There is a big gap between the number of pupils enrolled in primary six and those enrolled in primary seven and this is partly

explained by queuing, to prepare better for Primary Seven Leaving Examinations (MoES, 2010). In addition, about 50% of children enrolled in primary six have continued to drop out or repeat to prepare better and hence not sitting for PLE between 2000 and 2011. The proportions that enroll in senior one have averaged about one quarter of those in primary six, improving slightly, to over one- third, after 2007. Similarly, about one half of the pupils that sat PLE would transit to secondary and this slightly improved to about two thirds after 2007.

Two general remarks can be made here: first, improvement in enrolment at secondary level in 2007 seems to have motivated higher enrolment in primary six and seven ; secondly but most importantly, the challenges to expanding secondary schooling are more to do with combating high attrition at the primary level and less of encouraging transition between the two levels. In other words, if the children aged 13-18/24 are not enrolled at secondary, it is more because they did not enroll in school in the first place, but more so because they did not complete primary (survival rate to end of primary is 30%) and less because they did not transit to secondary (transition rate averaged about 65% after 2007).

Where then could the problem be? Could it be at the school level in terms of the quality of education dispensed, at the government level in terms of financing of education, or at the household level, if not at all the levels?

2.3 Quality of Education

With the introduction of UPE, an upsurge in enrolments led to shortages in classrooms, teachers' accommodation, furniture, instructional materials, teachers and other challenges like the need to equip teachers with skills and techniques to handle multi-aged pupils in a situation of scarcity of facilities (Tumushabe et al., 1999 ; Tiberondwa, 1999).

While the pupil-teacher and pupil-classroom ratios at primary have slightly improved between 2000 and 2013 (MoES, 2013), they remain above the Internationally recommended standards of 40:1 in all government schools but are within comfortable ranges in all private schools. In government schools, the situation should be worse than portrayed because the numerator (number of pupils) reduces greatly in the upper classes due to attrition, thus giving an underestimate of Pupil Teacher Ratio or Pupil Classroom Ratio especially for the lower

classes. It should be noted that high PCR or PTR may negatively impact retention for most of the children in the lower primary classes.

An upsurge in enrolments combined with a demotivated but overstretched teaching staff (vindicated by incessant threats to strike and absenteeism) have led to a decline in the quality of education as evidenced by poor numeracy and literacy levels in, especially government schools. Indeed as observed by Oketch & Rolleston (2007), the results of the National Assessment of Primary Education (NAPE) between 1996 and 2000 suggest that performance deteriorated following the introduction of UPE. With regard to numeracy, Kasirye summarizes the situation thus:

> Based on test scores of National Assessment of Progress in Education in 1999, 46% of males and 36% of female grade six pupils obtained the desired level of proficiency in numeracy. By 2006, the corresponding rate had declined to 26% and 15%, respectively according to Uganda National Examinations Board (Kasirye, 2009 p.6).

The decline in quality affected children in the northern (Saito, Ssenabulya & Lubega, 2011) and eastern (UWEZO-Uganda, 2010) regions more than those in the central region, more of those in the rural than in urban areas and those from poorer households (Byamugisha & Ssenabulya, 2005).

A more recent study on proficiency in English and numeracy affirms the continued decline in quality thus: “Only three out of ten (29.7%) pupils of all classes (P3-P7) could both read and understand an English story text of P2 level difficulty as well as solve numerical written sums of P2 level difficulty correctly” (UWEZO-Uganda, 2011 p. 17). Intriguingly, these statistics remained unchanged one year later as reported in a follow up survey (UWEZO-Uganda, 2012).

Decline in quality has several implications for retention in school and exacerbating inequalities in both progression and transiting to secondary schooling. With the majority of children in especially public schools not being able to master basic skills after some years of primary education, this predisposes them to dropping out as school becomes a “burden” to them. This is compounded by the fact that parents, largely semi-literate and engaged in labor intensive peasant agriculture, are discouraged by the fact that their children are “learning nothing” and yet their labor is urgently needed to sustain their households of origin, that

becomes more of a reality as children grow older (Govinda & Bandyopadhyay, 2010). This and other factors have led to high dropouts by the end of primary and of course much fewer children proceeding to secondary level.

All these indeed show that the quality of education has greatly declined and the decline has affected more of the rural folk than the urban, the north-eastern regions than the rest of the country and pupils from worse off socio-economic backgrounds than those from the middle class. In the face of increased demand for education and declining quality, how did the population react?

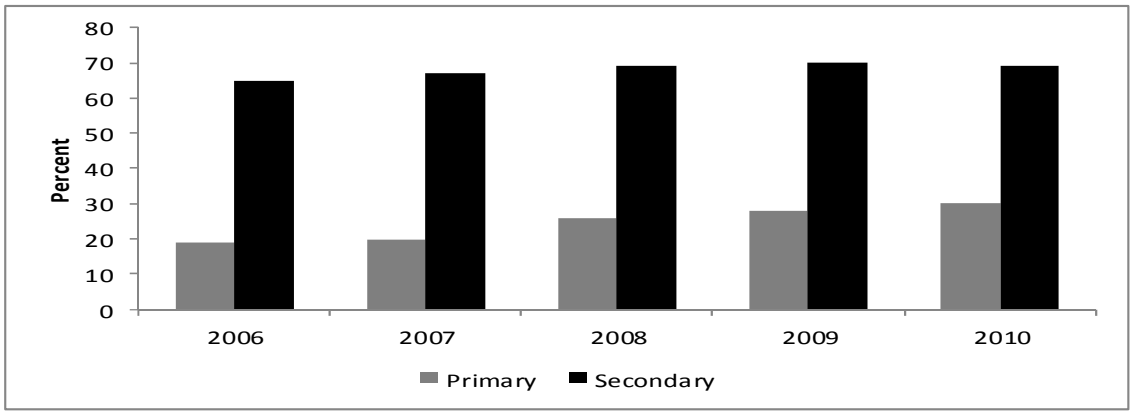
2.4 Privatization of Education

In response to increased demand for schooling on one hand and declining quality on the other as was the case in India (Bangay & Latham, 2013) and Bangladesh (C. Sommers, 2013), private entities (private individuals and less of community and religious institutions), have slowly but steadily been involved in the provision of education. It should be remarked that right from the beginning, UPE was largely a rural phenomenon and least embraced by urban dwellers. At the Primary level as can be seen from figure 6, private involvement has grown from about 20% in 2006 (i.e. 20% of all the schools were privately owned) to 30% in 2010. On the other hand, secondary schooling that was largely in private hands has continued to remain overwhelmingly so. While private schooling may come in to absorb some of the children that government alone would not take on and has been associated with better quality education (Colclough, 2012) elsewhere, it is likely to exacerbate inequalities in access to education for the following reasons.

First, private entities are for profit and unlikely to be accessed by pupils with financial constraints (Bangay & Latham, 2013; Henaff, Lange, & Martin, 2009; Woodhead, Frost & James, 2013); secondly, most of the competent and experienced teachers are increasingly taken over by the private sector to the detriment of standards in public schools; third, the better off parents that used to be on School Management Committees and part of Parents Teachers Associations (PTAs) and hence contribute to public schools in terms of ideas and finances, are now shifting their attention to the private schools as seen elsewhere (Lewin & Little, 2011); fourth, the poor parents may refuse to enroll their children in the first place or be discouraged to keep them in school for fear that they may never access “quality education”

(Bennell, 2002) anyway; fifth, faced with high costs of private schooling and increasing demands of modernizing economies, less and less affluent parents may be willing to assist in educating children of their less privileged friends or relatives (Eloundou-Enyegue & Davanzo, 2003) and finally; in a country where issues of social justice are merely on paper and taxation regimes are largely retrogressive, the public-private school dichotomy may engender, perpetuate and exacerbate social class cleavages.

Figure 6 **:** Proportion of Privately Owned Primary & Secondary schools from 2006 to 2010



Source: Constructed from Statistical Abstract Data for 2006-2010.

Recent Ministry of Education reports that have looked at quality issues in the light of private schooling and USE have found out that, in universal primary (UNEB, 2010a) and universal secondary (UNEB, 2010b) schools most children were less proficient in the competences tested than in government and private non USE Schools.

Besides, there are by far more primary schools than secondary schools and some sub-counties still lack secondary schools. In such a situation, parents may be obliged to send their children to relatives that may be located closer to secondary schools or resort to placing them in boarding schools. In both cases, it may have implications for access in which case in the first option, the receiving households may engage the received child into household work or not provide a favorable environment for learning and in the second case, boarding costs that are normally high (Ohba, 2011) may be prohibitive thus excluding most households that may be financially disadvantaged. It should be remembered that quality education is almost synonymous with private schooling and an almost exclusive privilege of students in boarding schools.

2.5 The Role of Government

As already remarked, not only are private schools increasingly gaining ground, good performance is also increasingly equated to private schooling especially at the primary level. This means therefore that the majority of children in public schools are subject to a largely disproportionate share of the declined quality. In the meantime, government has partnered with private schools to implement the USE and the latter have always grumbled about the fact that the capitation grant of 47,000 shillings (14€) per student given to private schools per term is not enough and always comes late. In this spirit, the owners of private schools have agreed to levy an extra 50,000 shillings (15€) per child and this, was likely to lead to the dropping out of about 200,000 students (Walubiri, 2012).

The role of government can be seen in form of the share of government budget committed to education, the partitioning of the budget across the levels of education and the extent to which it performs its other duties like support supervision, policy implementation etc.

In terms of government funding, public current expenditure on primary education as a percentage of GDP has averaged 2% and expenditure on primary as a percentage of total public education expenditure has oscillated between 60% and 70% from 2000 to 2011 (Ministry of Education and Sports, 2011). This indeed is serious commitment of government to education in general and primary education, in particular. Why then does it not translate into tangible results in form of increased enrolments, retention and transition to secondary school?

The complex relationship between government funding and its effects on quality and probably retention in school can be seen through this macro-economic equation as espoused by Lewin (2006):

$$GER = \frac{X}{A * C}$$

Where GER= Gross enrolment rate

X=Public expenditure on primary/secondary education as a % of GDP

C= Public recurrent expenditure on primary/secondary school per student as a % of GDP /capita.

A= Proportion of the population of primary/secondary age

On the basis of this formula, Lewin comments about funding the Ugandan education system thus:

> If the current education system is projected to a configuration where GER at primary is 100%, Senior 1 to Senior 4 is 100% and Senior 5 to Senior 6 is 50%, then 13% of GDP would be needed, equivalent to the entire government domestic revenue and with demography and cost structure, that would be unattainable (Lewin, 2006 p. 19).

It should be noted that as of 2011, the proportion of the school age children was about 28 %, among the highest in Sub-Saharan Africa, GER at primary was 117% and 28% at secondary and the proportion spent on schooling as a percent of GDP was less than 4%. It implies therefore that the high population of the school age children, rooted in high population growth rates has an impact on how much government will spend per pupil and the total amount government will commit to schooling.

On the basis of the equation one can talk of an increase in the number of school age cohorts that is closely related to a high dependency burden explained by many young people on one hand (figure 11) and an increasing proportion of older people (Antoine & Golaz, 2010) on the other that pose great challenges at household and national level (Lam & Marteleto, 2008). At the household, there is less productivity as most children are in school and not "contributing meaningfully", hence less incomes. On the part of government, it has a reduced tax base from the perspective of quantity and quality. With regard to quantity, the labor force is numerically smaller while in terms of quality, the Ugandan labor force is largely semi-literate and generally engaged in non-taxable and poorly remunerating ventures and a combination of these plus the existence of a weak tax administration system explain why Uganda collects only 13.7% of its GDP in taxes (Ssewanyana et al., 2011).

As a result government can only get less revenue in form of income and indirect taxes and consequently, its ability to invest in this largely young and demanding population is greatly compromised. In other words reducing quality may be explained by bourgeoning schooling populations that imply, less funding per student and generally, in terms of, *inter alia*, scholastic materials, buildings, furniture, teacher training and adequate teacher remuneration. This assertion is unambiguously reechoed by Uitto when he states that "the provision of social services like education becomes an insupportable burden for governments of the poor countries under conditions of high population increase" (Uitto, 1989 p. 10), in

reference to Kenya then. It should be understood against the backdrop of less and less aid from the developed world (Bennell, 2002) and corruption and embezzlement of funds in most countries in Sub-Saharan Africa. The inability of government to adequately fund education; leads to structural challenges that still pose a threat to universalizing education and addressing issues of social justice as seen in the next section.

2.6 Other structural challenges to accessing secondary schooling

Uganda was the first country in Sub-Saharan Africa to introduce Universal secondary education in 2007 and this was a good gesture as it encouraged retention of some children who would otherwise have failed to make a transition. However, at the secondary level, there are several structural challenges that may affect access to secondary schooling as elucidated:

- Pupils have to pass the Primary Leaving Examination to go to secondary and yet better performance at this level has been an almost exclusive privilege of children that have largely attended private and or boarding primary schools in the urban areas.
- About 70% of all the schools at this level are privately owned.
- Government schools, especially the old prestigious schools are boarding schools and given that all costs especially, the costs of boarding are borne by parents, these schools are often almost as expensive as private schools.
- Selection to join these old prestigious schools is so discriminative that it is children of the middle class that have largely attended urban private and or expensive boarding primary schools and performed well that join these schools.
- Finally, there are still some sub-counties (smaller local government units in a district) without a secondary school.

In the face of universalized education but of declining quality, which households educate their children at the secondary level, which children, and in which schools (day or boarding)? Is their reaction to declining quality tagged to socio-economic status of households, does it vary by region and do some households enroll some children in secondary and leave out others? Has universalized secondary education since 2007 reduced inequalities in accessing secondary schooling? Was universalizing education more beneficial through

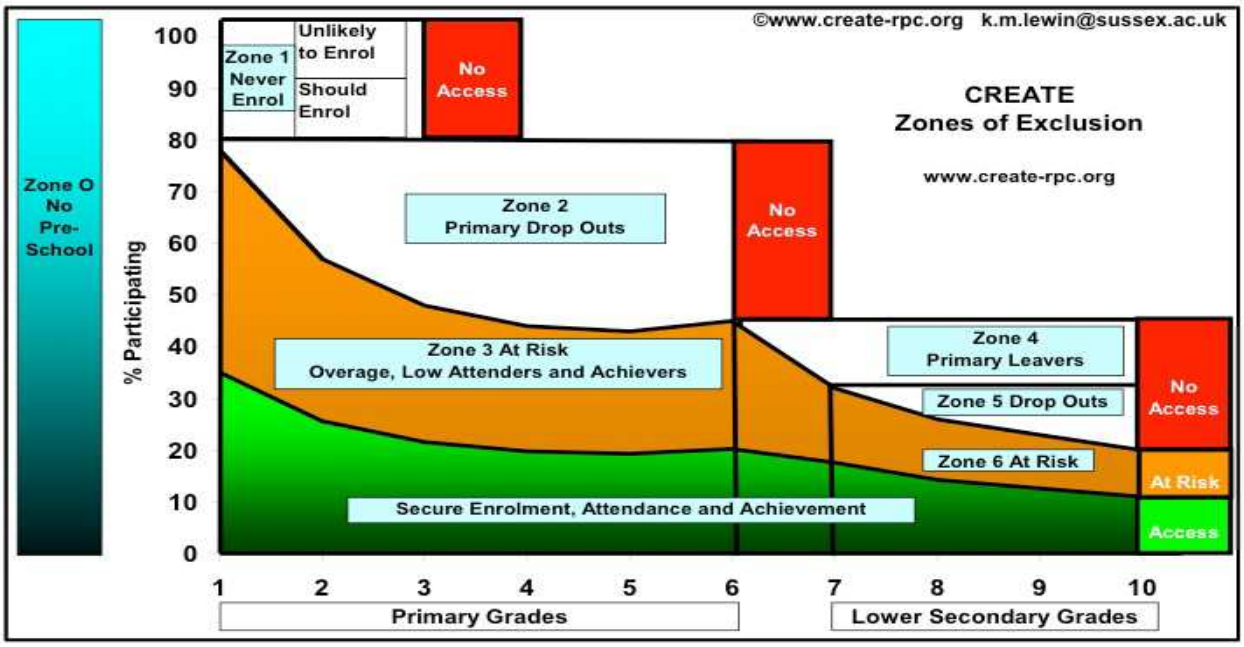
encouraging retention at primary or improving transition? These, and several others, as to be seen shortly, are some of the questions that triggered interest into this kind of study.

The contribution of this study to the body of knowledge is that, in the first place it is, to the best of my knowledge, the first study to investigate into equity issues in accessing secondary schooling in Uganda, before and after USE. In addition while other studies have either investigated factors explaining transition and or general access to secondary, this study investigates general access and transition concurrently. An attempt is made to justify to what extent attrition at primary and or inability to make a transition are responsible for low rates of secondary schooling. Besides, factors that are more associated with any of the two exclusion categories as well as the pathways through which they operate to impact access are studied. Finally this study is among the pioneer studies into the phenomenon of boarding schools and its implications for access and equity.

2.7 Conceptual Framework

This study adopts the CREATE conceptual framework on access, equity and transitions. It illustrates how enrolments decline through the primary grades especially in low enrolment countries and how those attending irregularly and achieving (performing) poorly fall into the “at risk” zones. It is a cross-sectional model that locates children who are losing or have lost access to conventional education systems (Lewin, 2007c)

Figure 7 **:** Access and Zones of exclusion from primary and secondary schooling



This framework maps 6 zones that are called "zones of exclusion" and provides insights into the probability that irregular attendance, repetitions and low achievement (poor performance) at a given level do not only impact retention at that level but negatively affect progression to the next level.

Zone 1 comprises children who never attend school. It includes those who could attend existing schools but do not, and those who are excluded by livelihoods, location, civil status, disability, social stigma or other vulnerabilities. **Zone 2** includes the majority of children who are excluded after initial entry, who drop out of school and fail to complete a full cycle. **Zone 3** includes those in school but at risk of dropping out, most obviously as a result of; being overage for grade, low achievement and poor attendance. These children can be described as "silently excluded" since they are enrolled but may learn little, attend irregularly, and/ or are overage. **Zone 4** contains those who fail to transit to secondary education as a result of failing to be selected, being unable to afford costs, or located far from a secondary school, or otherwise excluded. **Zone 5** includes those dropping out of secondary grades. **Zone 6** contains those at risk of dropping out from secondary school for reasons given under **Zone 3**. **Zone 0** captures those excluded from pre-school.

This framework seems to be relevant to this study as it approaches access to secondary schooling not as a one-time event affected by factors at that time but as a result of

several other factors at the lower levels that may be related to, *inter alia*, age at initial access for those who manage to enroll, regularity of attendance, meaningful learning, retention etc. This framework does resonate with the literature reviewed in most of Sub-Saharan Africa and greatly guided the methodology used in this study.

With regard to the selection of variables, this study was guided by the framework in the work coordinated by UNESCO Institute of Statistics (UIS et al., 2004) entitled *Guide to Analysis and Use of Household Survey and Census Education Data*. It hypotheses characteristics of the child, household head, other household members, the household itself and community factors as correlates of schooling in general. I have adopted this to my study in line with the availability of the variables in the datasets to be used. The dependent variable was enrolment of a child at secondary. This framework presents the following categories of factors as correlates of access to education in general and by implication secondary schooling, in particular.

Characteristics of Children

These include: age, sex, orphanhood status, child work, relationship to household head, migration status and disability status.

Characteristics of Household head

These are age, sex, education level, type of employment, marital status and religion.

Characteristics of other Household Members

Here, the Guide mainly presents characteristics of the spouse i.e. - level of education and type of employment of spouse to household head.

Characteristics of Household

These include: household income or wealth status, land ownership status, expenditure on schooling, frequency of meals, household size, household structure, age and household sex composition.

Characteristics of the community

These include region of residence, rural-urban residence, distance to school, school ownership status (public or private) and type of school (boarding or day).

While the categories of the characteristics used in this study are similar to those presented in the conceptual framework by UNESCO, in the present study the variables used under each category were presented on the basis of their availability in the datasets used. In general, community factors operate through household factors that in turn operate through child factors to influence access to secondary schooling in Uganda. The framework by UNESCO is a comprehensive tool to study determinants of accessing education while using secondary data sources although it is not explicit on possible interactions between independent variables themselves.

Decisions to send and keep children in school may affect different children differently i.e. some household may decide to educate more of boys than girls, more of their own children than relatives, more of talented children than average ones, etc. These inequalities at the individual level may also exist between households i.e. richer households are more likely to keep their children in school than poorer ones, households headed by females may be more likely to educate their children than male headed ones, households with educated parents may be more likely to educate their children than those with less educated parents, etc. At a higher level differences may exist between regions, rural-urban residences etc. In conclusion, while inequalities in accessing secondary schooling may vary by child, household and in turn region, the net effect of all these factors brought together would give a bigger picture on the subject understudy.

2.8 Objectives and hypotheses of the Study

This study was guided by a general objective that translates into specific objectives thus:-

General Objective

The general objective of this study was to map the evolution of inequalities in accessing secondary schooling before and after the introduction of Universal Secondary Education in 2007.

Specific Objectives

i. To establish how individual, household and community factors impact the probability of ever accessing secondary schooling and their evolution between 2006 and 2010.

ii. To examine the effect of individual, household and community factors on the probability of making a transition from primary to secondary and how they evolved between 2006 and 2010.

iii. To investigate the role of individual, household and community factors on the probability of accessing a boarding facility and their evolution between 2006 and 2010.

iv. To establish whether inequalities related to ever accessing secondary schooling for all children of the relevant age group were similar to those related to making a transition.

v. To map pathways through which inequalities operate to impact general access and or transition.

vi. To document the evolution of inequalities in accessing secondary schooling by sex.

To focus the analysis better, these objectives were further developed into hypotheses, which are tentative postulations based on available literature, that may be accepted or rejected following the analysis.

Hypotheses

i. Inequalities in accessing secondary schooling based on individual, household and community factors are more likely to have disappeared following Universal secondary education.

ii. Most children are more likely to have made a transition to secondary in 2010 than before irrespective of their differences by individual, household and community level characteristics.

iii. Most children are more likely to access all types of schools including boarding schools irrespective of their differences at individual, household and community levels.

iv. Inequalities related to ever accessing secondary schooling for all children of the relevant age group are more likely to be similar to those related to making a transition.

v. Inequalities related to accessing secondary schooling for children of the relevant age group and those related to making a transition are more likely to operate through similar pathways.

vi. Evolution of inequalities between 2006 and 2010 is more likely to be different for boys as compared to girls.

2.9 Data and Methodology

The study used three sources of data i.e. the Uganda National Household survey data, Education Management Information Systems (EMIS) data and qualitative data collected largely from Northern Uganda. The three data sources are briefly described in the sections that follow.

2.9.1 Uganda National Household Survey data

This study largely used data from the nationally representative Uganda National Household Surveys (UNHS) carried out by Uganda Bureau of Statistics in 2005/6 and

2009/10. The UNHS is a multi-purpose survey modelled along the lines of the World Bank's Living Standards Measurement Surveys (LSMS). It is normally conducted every three years to track changes in household welfare status.

The 2005/6 Uganda National Household Survey data had been collected from 43,624 individuals found in 7,400 households, spread over the Central, Eastern, Western and Northern regions of Uganda. The 2009/10 Uganda National Household Survey collected data from 36,432 individuals found in 6,800 households, again spread over all the regions as mentioned already.

While the main objective of the surveys was to gather data on socio-economic profiles of households for better planning, the data collected was found to be useful to this study. The Surveys collected data on "current and previous education status" of all household members especially those aged 5 years and above. In this case the ages considered were 6 (for all possible models run) as this is the official age for entry into school and 24 as the latter is the age when children are expected to have completed tertiary education. Current education status and educational attainment were combined to come up with a dependent variable that comprised three categories, i.e. (i) children aged 6 to 24 that never enrolled in school (ii) children in the same age slab that had dropped out of school and (iii) those that were enrolled in school as at survey time.

Because the interest of this study was to look at children's access to secondary schooling, data was filtered to comprise all children aged 13 (the minimum age for entry into secondary) to 24(the maximum age by which official schooling has been completed), in which case they fall under these categories: (i) never enrolled, (ii) ever enrolled but dropped out at primary, (iii) ever enrolled but dropped out at secondary, (iv) completed the desired level of education, (v) "currently" enrolled but still at primary and (vi) "currently" enrolled at secondary level and above. The dependent variable therefore ought to have been, "current" enrolment status at secondary level for children aged 13-18. Due to the small number of observations for children "currently" enrolled at secondary, the dependent variable (at least for the general model) was made to comprise all the children aged 13 to 24 that ever and or were "currently" enrolled at secondary level and above as opposed to all the other children aged 13-24 in the dataset. These same surveys provided data on child, household and community level factors (variables), which this study, like prior studies, hypothesises, will

make possible the mapping of inequalities in accessing secondary schooling. These are presented in the section that follows.

2.9.2 Independent Variables as used in Modelling

The analysis (at all levels) used the following variables that were arrived at after a careful review of literature about factors associated with access to education, in general and secondary schooling, in this particular case. These are categorized under individual, household head, other household members and household as well as community level factors. They are explained hereunder in that order.

Individual/Child level factors

These are age of child, sex and relationship to the household head.

Age

For the purpose of this study a household member aged 13-24 was defined as a child as they were still expected to be in school and or under the care of their parents/caretakers. In Uganda where education is largely not free, most of the individuals that are still in school are indeed dependent on their parents or other caretakers. For this reason, the word child and individual or even individual household member may be used interchangeably. Age that was captured as a continuous variable at survey time was defined as the age of the respondent as at the last birthday (Uganda Bureau of Statistics, 2009).

The question on education status of individuals was asked from individuals aged 5 years and above but this study delimited the age to 6 to 24 years (for all the models), with the former being the official age of enrolment in school and the latter being the age at which individuals are expected to complete tertiary education.

For the preliminary analysis, age was categorized as **13-18** and **19-24**, representing the official age slabs for secondary and tertiary schooling in Uganda, respectively. At the

model level, it was entered as a continuous variable as this was found to be a better option after trying out various modeling procedures.

Sex

Sex was captured and run as **Male** or **Female**.

Relationship to household head

The relationship of household members to the head of the household has been found to have implications for schooling outcomes of the members, among other things. At survey time, this variable had categories such as: Head, Spouse, Son/daughter, Grandchild, Step child, Parent of head or spouse, Sister/brother of head or spouse, Nephew/niece, other relative, Servant, Non relative and others.

On the basis of the literature reviewed, the number of observations required for further analysis and the distribution of observations across the categories, this study reconfigured this variable to comprise: **Own child**, **Other Relative** then **Non-relative**.

Household heads' characteristics

Here the household head was taken to be the main person who manages the income earned and expenses incurred by the household. He/she was expected to be most knowledgeable about other household members and most recognized by others as the head of the household (Uganda Bureau of Statistics, 2009).

Education of household head

The education of members, including the head was captured on the basis of highest level of education completed (Uganda Bureau of Statistics, 2009). While this was captured by class completed for each individual, here it was reconfigured to appear as: **None, Primary**, and **Secondary and above**. It was derived using the variables; education of household member, relationship to household head and the unique identifier in the dataset.

Marital Status of household head

Marital status was captured as such on the date of the interview. In addition, being married implied marital union through all types of marriages like civil, traditional and church marriages as long as the marriages had legal, religious and or cultural obligations. People cohabiting were also taken to be married as long as they considered themselves so (Uganda Bureau of Statistics, 2009). This variable had the following categories: **Married monogamously**, **Married polygamous**, **Divorced/separated**, **Widow/widower** and **Never married**. The variable was also arrived at using the variables; marital status of household member, relationship to household head and the unique identifier.

Sex of household head

This, depending on whether the person mainly controlled income and expenditure of the household and was largely recognized as the head was captured as **Male** or **Female**. It was also derived from sex of household member relationship to household head and the unique identifier.

Age of household head

Age, as already pointed out, was captured as the age at the last birth day. In this study, age of household head was categorized as: **Less than 30 years**, **31-59 years** and **60 years**

and above to take into consideration the implications of both young and older persons' headship for schooling outcomes.

Other Household members' characteristics

These include household size, number of children aged below five, number of adults aged above 60, and presence or absence of father or mother in a household.

Household size

While the definition of household size is clear, it may be more cumbersome to define a household and this may vary from survey to survey. In the National household surveys, a household was defined as "a group of people who have been living and eating their meals together for at least 6 of the 12 months preceding the interview" (Uganda Bureau of Statistics, 2009). In addition, the following persons were considered as household members even though they had lived for less than 6 months in the 12 months preceding the survey: (i) infants who were less than 6 months old (ii) the newly married who had been living together for less than 6 months (iii) students and seasonal workers who had not been living in or were part of another household (iv) other persons living in the household for less than 6 months but were expected to live there permanently (v) servants, farm workers and other individuals who were living and taking meals in the household. Household size had been presented as a continuous variable but in this study it was categorized as; "**1-4"**, "**5-9"** and "**10 and above"**.

Number of Children aged below five.

This variable was generated using the variable "age of household members" and the unique identifier in the data set. It was categorized as: "**0-1**", "**2**", and then, "**3 and above**" and entered as such for analysis at the various levels of analysis done.

Number of Adults (aged 60 and above).

Like the variable in the previous section, this variable was generated using the variable "age of household members" and the unique identifier in the data set. It was categorized and used as; "**None**", "**1**" then "**2 and above**".

If natural father/mother is living in household

These questions (variables) were asked from all household members in 2005/6 but in 2009/10, they were asked from only household members below the age of 18. This study reconfigured the variable in 2005/6 so that the same population is targeted as this would also help measure the effect of orphanhood on schooling outcomes. The resultant variables have the following categories: "**Yes**", "**No but Alive**", "**No but Dead**".

Household characteristics

Among these are household wealth status/welfare and the main income source for the household.

Household wealth status

The survey team had captured a variable on household expenditure that was used as a proxy for household income. In the dataset got from the Uganda bureau of Statistics, a variable on household wealth status/income had been created with the categories: Poor and Non-poor to represent households below the poverty line and those above, respectively.

Because Income or Wealth (as defined by expenditure) is normally highly positively skewed, this study took the households in the first 50th percentile (those whose expenditure was between the minimum and the median) as **Poor**, those in the next 25th percentile

(between the median and 75th percentile of expenditure) as **Middle** and the ones in the last 25th percentile (between the 75th percentile and the maximum) as **Rich**. Even within the presumably homogenous categories of Poor versus Non-poor, there is some heterogeneity whose implications for schooling outcomes may vary greatly.

Main occupation of household

This was captured as the household's most important source of earnings during the 12 months preceding the survey. It had the following categories: Subsistence farming, Commercial farming, Wage employment, Non–agricultural enterprises, Property income, Transfers (pension allowances, social security benefits, etc.), Remittances, and Organizational support (food aid WFP, NGOs etc). While in 2005/6 "remittances" was included in transfers, in 2009/10 it was taken as an independent category. In this study, property income, transfers and remittances were collapsed into one category in both cases for easier comparability and analysis. The surveys defined remittances as income originating from both within and out of the country. The resultant variable used in the analysis therefore had the following categories: **Subsistence farming, Commercial farming, Wage employment, Non–agricultural enterprises, "Property income, remittances and transfers"** and finally**, Organizational support**.

Community level characteristics

These comprise place and region of residence and have been found to influence both the supply and demand for education.

Place of residence

Place of residence may dictate; the distribution of schools, school teachers and other facilities like electricity, water, the internet, telephone services as well as the "quality" of

parents and school administrators all of which may have implications for the supply and demand for school. This variable was captured as **Urban** and **Rural**.

Region of residence

Like Place of residence, region of residence has implications for demand and supply of education. It was captured and used as **Central, Eastern, Northern and Western**. While the Northern and Central regions comprised 13 districts each, the Eastern and Western regions had 15 districts each as per Annex 6 of the 2009/10 UNHS Manual of Instructions (Uganda Bureau of Statistics, 2009).

In addition to using the Uganda National Household Survey data, this study used EMIS data from the Ministry of Education and Sports. The ministry routinely collects data on, *inter alia*, enrolment by age, sex, class, level of education, region, type of school attended etc. This data was important to measure the level of demand and supply of education at regional level, track enrolments over time, estimate the level of provision of education by government, ascertain the prevalence of the phenomenon of boarding schools and above all, compare some statistics provided by EMIS data with those in the datasets used.

2.9.3 Qualitative Data from the field

In addition, it was possible to collect data largely from Northern (but also from Central to some extent) Uganda, a region that is the poorest and most educationally excluded to understand some of the issues that could not be fully answered by quantitative data. The issues investigated in the field, methods of data collection and sources are summarized in table 1.

Table 1 : Qualitative Data Collection Matrix

Issues Investigated qualitatively	Key issues investigated	Method(s) of data Collection	Source(s) of information/data
The effect of boarding schooling on performance, quality education as well as inequalities in accessing secondary schooling	o Issues of quality in boarding versus day schools o Issues of equity o Nature of support from Govt. for different types of schools o Management of Schools o Characteristics of Students in Boarding Schools etc.	o Key Informant Interviews Guides o Observation	o District Education Officer o District Inspector of Schools o Commissioner Education Standards Agency o Directors in NGOs involved in education in the region o Teachers o Parents
The effect of USE Schools on performance and quality and extent to which their existence has reduced inequalities in accessing secondary schooling.	o Issues of quality in USE vs non USE schools o Issues of equity o Nature of support from Govt. for different types of schools o Management of Schools o Characteristics of Students in USE versus non USE Schools etc.	o Key Informant Interviews Guides o Observation	o District Education Officer o District Inspector of Schools o Commissioner Education Standards Agency o Directors in NGOs involved in education in the region o Teachers o Parents
Strategies adopted by parents to educate their children especially at secondary.	o Level of education of parents o If they had children at secondary o What they did to educate their children o Whether they would pick on some children and leave out others o Determinants of choice of type of school for different children o Views of parents on USE and its impact on access for their children	o Key Informant Interviews Guides o Observation	o Parents /caretakers o Teachers who were parents or caretakers

Besides, data was also picked from schools to establish which children were enrolled in which schools and the various charges in the schools. These schools are presented in table 2. It was possible to access application forms for children recruited into senior one in 2013 in six of all the schools visited for the fieldwork (table 2) in northern Uganda. These forms had data on the main occupation of parents or caretakers and this was recorded. From each of these schools, the first 100 children were selected from the admission lists of students in senior (year) one for 2013. In most of the schools visited, students admitted in year one ranged between 100 and 200. In addition data, on the fees charged at entry into senior one was copied from the admission letters for 2013 in consultation with the school administration.

Table 2 : List of schools by type and Region for selected students

NORTHERN REGION				
Name of Schools	***Boarding type***	***Ownership***	***Mixed or single sex***	***Children selected***
Gulu High School	Boarding	Government	Mixed	100
Gulu Central Secondary School	Day & boarding	Private	Mixed	100
Trinity College Secondary school	Day & boarding	Private	Mixed	100
Sacred Heart Secondary School	Boarding	Government	Girls	100
Gulu Secondary School	Day	Government	Mixed	100
Koch Ongako Secondary School	Day	Government	Mixed	100
St. Joseph's College Layibi	Boarding	Government	Boys	
Keyo Secondary school	Day school with hostel	Government	Mixed	
CENTRAL REGION[1]				
Name of Schools	***Boarding type***	***Ownership***	***Mixed or single sex***	
St Mary's College Namagunga	Boarding	Government	Girls	
Makerere College School	Day & boarding	Government	Mixed	
Namirembe Hillside Sec. school	Boarding	Private	Mixed	
Katabi Secondary school	Day	Government	Mixed	

Source: Field data from Northern and Central Uganda.

2.10 Data Analysis and Modelling

For the qualitative data, content analysis was done for all the recorded, transcribed and typed data. This was possible with the help of Atlas.ti, a computer based qualitative data software that helps to establish patterns, similarities and regularities in the data.

For EMIS data, analysis was largely descriptive enabling the production of graphs on several issues under study. In some few cases, bivariate analysis for continuous variables and categorical variables was done and in both cases, graphs were produced.

For UNHS data, analysis was done at three levels: univariate, bivariate and multivariate levels. At univariate level (whose results are in Annex 1), analysis for the two datasets was largely exploratory and the main objective here was to study the types of variables (categorical or continuous) and their distribution. For continuous variables outliers were identified and eliminated and for the categorical ones, small categories were combined with others. In addition, other concerns to do with, *inter alia*, missing data and the nature of the dependent variable were scrutinised at this stage.

Through bivariate analysis, a more advanced stage of data exploration; it was possible to establish the existence of associations between each of the independent variables and the

dependent variable. Cross tabulations between each of the independent variables (having made all categorical) and the dependent variable were performed.

A cross tabulation is a contingency table that distributes observations of two categorical variables by rows and columns and by the use of a Chi-Square test it was possible to establish if there existed a statistically significant relationship between each of the independent variables and the dependent variable.

While with bivariate analysis we can only establish associations, this is not adequate because (i) in the first place two variables may be associated but at this level we are not sure what affects the other and secondly, (ii) some variables may show association because of the absence of other factors e.g. older children may seem to be more educated because they are older, anyway.

To avoid the challenges mentioned, multivariate analysis was done and here, all the variables were entered into the same model to determine their aggregate net effect on the dependent variable. Three models were run. Because the biggest challenge with regard to accessing secondary school is related to dropouts at primary, (i) the first model looked at the probability that a child aged 13-24 was enrolled or ever enrolled at secondary and above as opposed to never being enrolled, previously dropping out of school or still being enrolled at primary. The second model looked at (ii) the probability that a child aged 13-24 who completed primary ever made a transition to secondary as opposed to failing to make the transition, the third model (iii) mapped the probability that a child enrolled at secondary as at survey time was enrolled in a boarding facility as opposed to being in a day facility. These models were run for 2006 and 2010 to estimate whether the introduction of USE in 2007 had had an effect on inequalities in accessing secondary schooling in general, making a transition or accessing a boarding facility.

I used the multiple logistic regression model[3] because the dependent variable was binary (Bressoux, 2010) in all the scenarios as seen already. At this level, the contribution of

[3] The logistic regression model or logit model generally takes the form

$\log(\frac{p_i}{1-p_i}) = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + ...b_kx_k + e_i$ taking the general model, p_i is the probability that a child is or was ever enrolled at secondary and above as opposed to never being enrolled (1- p_i) given a set of explanatory variables, the x_i s. The contribution of the variables is explained by b_i s; the strength of the coefficients. e_i is the error term. For this study we used odds ratios, which are exponentials of coefficients to be able to explain better.

each predictor (i) to accessing secondary, (ii) making a transition and (iii) enrolling in a boarding facility was investigated, while controlling for all the others.

Through data triangulation, findings from UNHS data, EMIS data, field data and documentary literature on the subject in Uganda were all appropriately used in order to validate any one source but also enrich the arguments in this thesis.

2.10.1 Other methodological considerations

Other methodological considerations that were taken care of in this study are:

(i) **Familiarisation with the variables:** before the main analysis was carried out, great care was taken to understand the variables better through exploratory univariate analysis. Some of the statistics produced were compared with the ones in the UNHS Report to be sure that all data was well merged and the values from the analysis did not depart from those in the reports.

(ii) **Ensuring that education status of children included the entire target group**: for these surveys, data on household members was captured on the basis of, *inter alia*, "regular membership", i.e. the people that normally stay in the household but could have been away for even more than six months as at survey time for many reasons including, being in boarding schools. Similarly on the question of "currently attending school", the survey included children that were out of school for holiday purposes or due to school closure and those that were temporarily absent due to illness or other unavoidable circumstances (UBOS, 2009).

(iii) **Multicolinearity**: some independent variables may be highly correlated amongst themselves and this may weaken the goodness of fit of the model. An exploration of correlations between some variables was done to ensure that independent variables were not highly correlated (i.e. where cor =.90+).

(iv) **Weighting: t**he UNHS surveys used a two stage sampling survey design. In survey sampling, clusters are randomly selected like individual elements are in simple random sampling. Because the clusters are not of the same size or do not represent the sampled phenomenon in equal proportions, this introduces some errors. In fact, selecting

some clusters and leaving out others, some households and not others or even some individuals and not others increases the errors in the due process and part of the solution is to weight the survey data using the weighting variable provided in datasets. Another probable source of sampling errors is non-response. Weighting was done in the analyses carried out in this study.

2.11 Demographic and Economic Context of Uganda

The republic of Uganda, a former colony of Great Britain until 9th October 1962, is located in East Africa (figure 8) and lies astride the equator. It is a landlocked country that borders Kenya to the east, Tanzania to the south, Rwanda to the southwest, the Democratic Republic of Congo to the west, and South Sudan to the north. The country has an area of 241,039 square kilometers and was administratively divided into 112 districts by 2012 (UBOS and ICF International Inc, 2012).

Uganda has a decentralized system of governance and several functions have been devolved to the local governments. However, the central government retains the role of formulating policy, setting and supervising standards and providing national security.

Uganda has a favorable climate because of its relatively high altitude. The Central, Eastern and Western regions of the country have two rainy seasons per year, with relatively heavy rains from March through May and light rains from September through December. The level of rainfall decreases as one travels northward, turning into just one rainy season a year. Soil fertility varies accordingly, being generally fertile in the Central and Western regions and becoming less fertile as one moves to the east and the north. Because climate varies, Uganda's topography ranges from tropical rain forest vegetation in the south to savannah woodlands and semi-arid vegetation in the north. Climate determines the agricultural potential and thus the land's capacity to sustain human population.

Figure 8: Location of Uganda in Africa

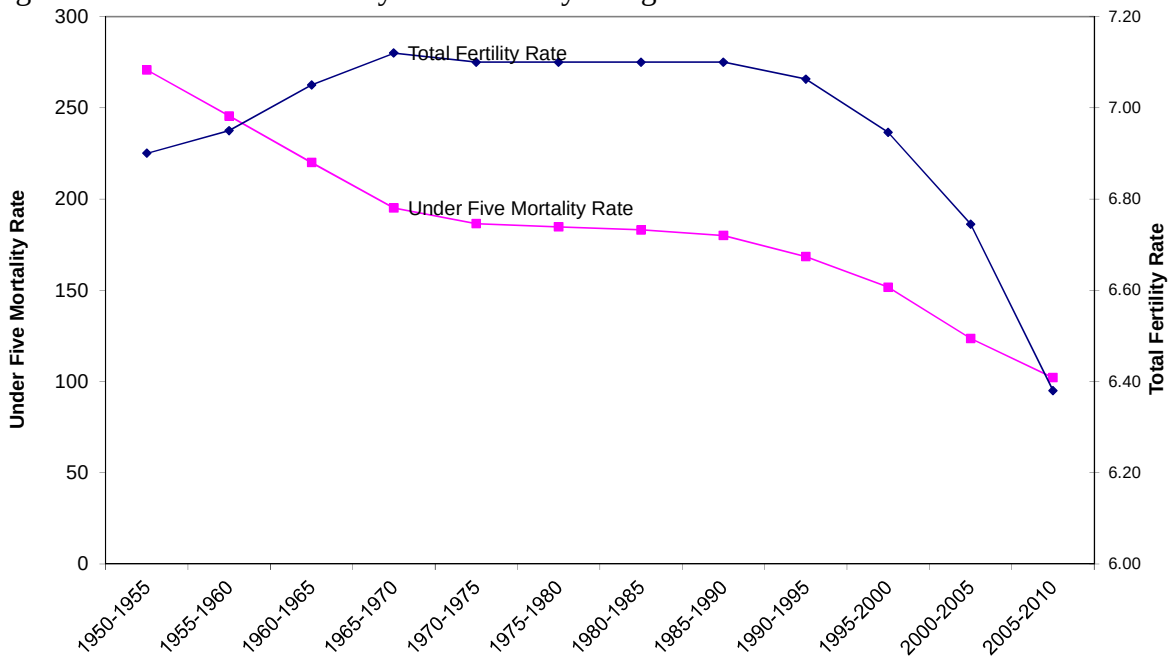
2.11.1 Demographic context

Uganda's population that is largely rural based (table 3) is one of the fastest growing in the world (World Bank, 2011) although this growth is largely due to a decline in child mortality and persistently high fertility and less of an effect of international migration. Today on average, a woman gives birth to about 6 children and this has declined only slightly from over 7 children between 1960 and 1995 as per figure 9 (United Nations, 2013). Fertility has continued to peak in a young age group of 20-24, over decades (figure 10).

On the other hand, the under-five mortality rate (comprising child and infant mortality) that remains high by international standards has declined significantly from 271 deaths per 1000 births in 1950-1955 to 102 deaths per 1000 births in 2005-2010 (United Nations, 2013).

The significant decline in under-five mortality and persistent high fertility, have led to a high population growth rate averaging 3.3% in the 1991-2002 inter censual period (UBOS and ICF International Inc, 2012) and an exponential growth of Uganda's total population (figure 10).

Figure 9 : Evolution of Fertility and Mortality in Uganda



Source: Constructed from World Population Prospects, the 2012 Revision, CD-ROM Edition

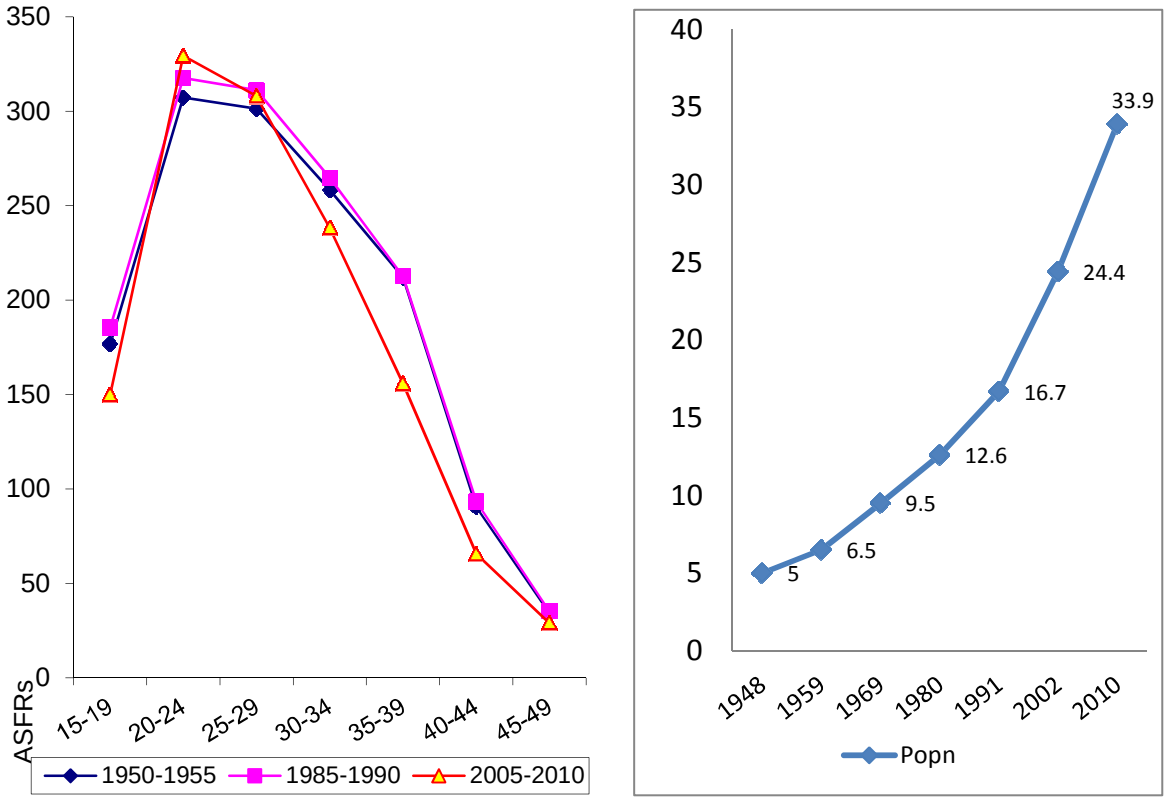
With these fertility and mortality trends, Uganda is in the first phase of the demographic transition characterized by competition for resources at the family and population levels, which may hamper adequate investment in children at both levels (Lam & Marteleto, 2008). The effect of population growth on the development of education is echoed in the rest of Sub-Saharan Africa thus "En effet, la croissance démographique, favorisée par une fécondité demeurée très forte prend le pas sur les progrès réalisés en matière de scolarisation" (Charbit & Kébé, 2006 p. 26).

Table 3: Percent of the Population urban between 1969 and 2011 in Uganda

Year	1969	1980	1991	2002	2011(estimate)
Urban Population (%)	6.6	6.7	9.9	12.3	15.6

Source: Uganda Population & Housing Census Report 2002 and UN World Population Prospects, CD-ROM Edition

Figure 10: Evolution of Age Specific Fertility Rates & Uganda's Population, 1948-2010



Source: Constructed from World Population Prospects, the 2012 Revision, CD-ROM Edition

A fast growing population may have several implications for development, in general and the growth of education, in this particular case. It may imply competition for resources, destruction of the environment, increased dependency, food scarcity, heightened land wrangles, high rural-urban migration etc.

As per table 4, the number of people per square kilometer has increased from 25 in 1948 to 124 in 2002 (Uganda Bureau of Statistics, 2002) and finally to 141 in 2010 (United Nations, 2013). While countries with a high carrying capacity are not necessarily poorer, high population density in the context of land being the main source of livelihood for the majority, low levels of off farm employment (World Bank, 2012b) and urbanization as well as inadequate use of improved farming methods, may have adverse implications for production and productivity, that may in turn affect household incomes. In addition, land conflicts are likely to be a common occurrence as is the case in Uganda today contrary to what used to happen decades ago.

Table 4 : Evolution of Population density between 1948 and 2010

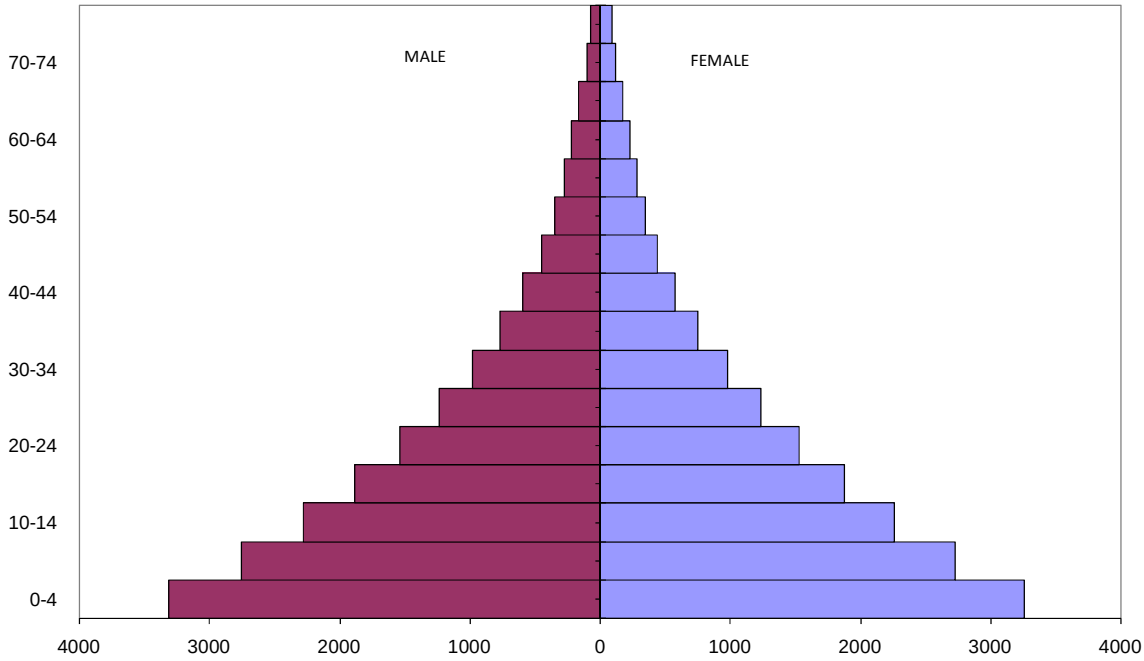
Population density	1948	1959	1969	1980	1991	2002	2010
Persons/km^2	25	33	48	64	85	124	141

Source: 2002 Uganda Population and Housing Census & World Population Prospects, the 2012 Revision

2.11.1.1 Population growth and dependency

While increased population density has been one of the arguments against population growth, the pyramidal shape of the population structure of most developing countries such as Uganda (figure 11), that is explained by high fertility and high but declining under five mortality and its implications for economic growth and development, seem to be of greater concern to a number of scholars. This structure is mainly associated with high dependency (The Republic of Uganda, 2013), like is the case in the rest of Sub-Saharan Africa (Lewin, 2007b; Pilon, 2006) as few people are obliged to support many others (Charbit & Kébé, 2006), especially the young and has been found to lead to competition for resources at the household and national levels (Lam & Marteleto, 2008).

Figure 11 : Distribution of Uganda's Population by Age and Sex in 2010



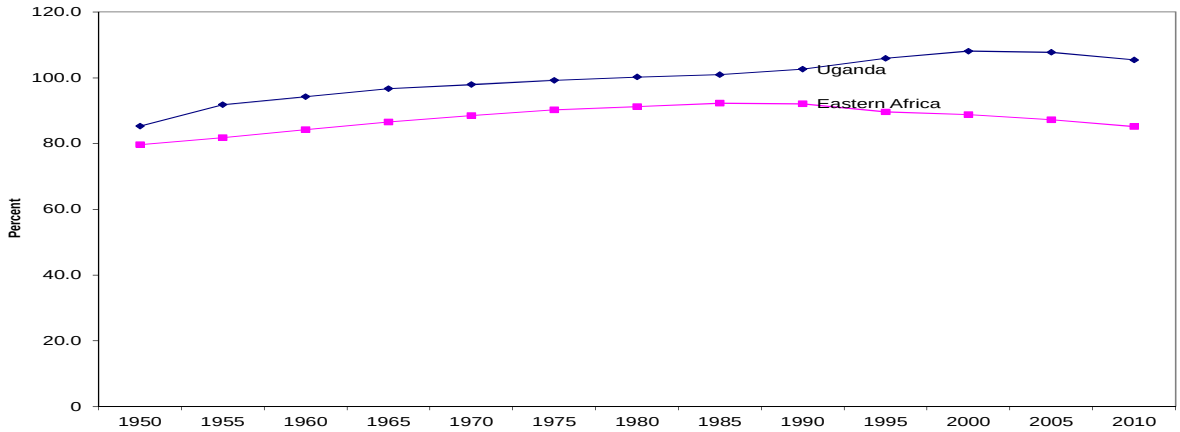
Source: Constructed from World Population Prospects, the 2012 Revision, CD-ROM Edition

Estimation of the extent of dependency has been done through the dependency ratio that is conventionally defined as the number of children (0-14) and older persons (65+) as compared to the working population (UNDP, 2013) and may be expressed in percentage.

This indicator, though conventionally used to measure dependency, may have its challenges like: (i) some children under 15 may be economically active like in the case of child labor (ii) some children above 14 are still in school while they are presumed to be economically active, (iii) some old people (65+) contribute to the economy and yet others have assets that they sometimes pass on to their children or support them and (iv) in Sub-Saharan Africa in general (Uganda cannot be excluded), older adults generally do not benefit from government subsidies as social security systems are poorly developed (Antoine, Golaz, & Sajoux, 2009), so they are not as economically dependent as they are in the West.

The dependency ratio for Uganda has been higher than the average for her neighbors in greater Eastern Africa[4], worsening in the post 1990 period (figure 12). From 1980 to date, it has averaged more than 100%, implying that for every active person, there is a dependant, with increased competition for resources at the national and household levels. Given that there are some children above 14 that are still dependent due to schooling and unemployment and that those in the labor force may be poorly educated/skilled and unemployed, the situation on the ground may even be worse than what these statistics portray.

Figure 12 : Evolution of Total Dependency Ratio in Eastern Africa



Source: Constructed from World Population Prospects, the 2012 Revision, CD-ROM Edition

[4]For the database used , countries in Eastern Africa are Burundi, Comoros, Djibouti, Eritrea, Ethiopia, Kenya, United Republic of Tanzania, Madagascar, Malawi, Mauritius, Mayotte, Mozambique, Réunion, Rwanda, Seychelles, Somalia, South Sudan, Zambia and Zimbabwe.

It is one thing to have a small labor force as compared to dependants, it is yet another that the labor force is of quality as evidenced by its level of education and or skills as well as sector/type of employment it is engaged in.

In this vein, the share of Uganda's working age population with education beyond primary was only 28% by 2010 explaining why agriculture and self-employment have remained the main employer (World Bank, 2012b). In addition, Uganda has a weak tax administration system and a combination of this with the previous point explains why it collects only 13.7% of its GDP in taxes (Ssewanyana et al., 2011), pointing to the inability of government to adequately finance social services including education.

Paradoxically, and as has been found in the rest of Sub-Saharan Africa (Bourdon, 2006; Henaff, 2006), these weak countries (Uganda is not an exception) that have very little capacity to invest in social services like education, urgently need this investment to accelerate the demographic transition and cause sustainable development. The way out is likely to involve engendering cost cutting reforms in the education sector, forging healthier partnerships with private providers, re-aligning other policies and negotiating for more foreign aid as well as managing it better.

2.11.2 Economic Context

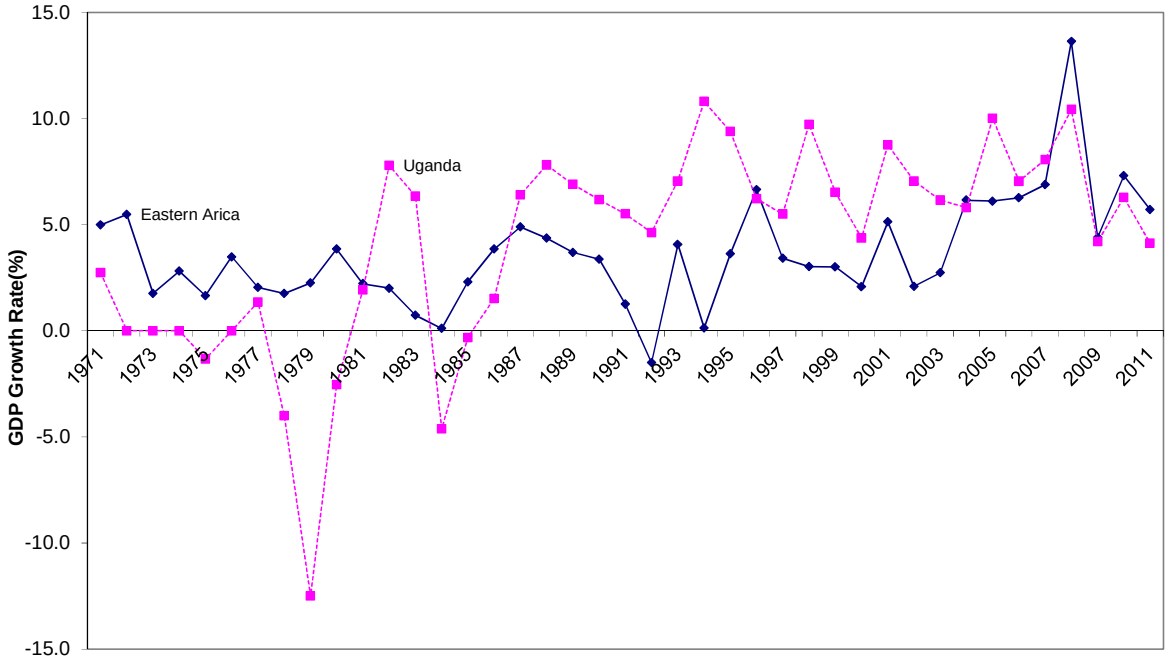
The economy is predominantly agricultural, with the majority of the population dependent on subsistence farming and light agro-based industries. The country is self-sufficient in food, although its distribution is uneven over all areas. Coffee remains the main foreign exchange earner for the country (UBOS and ICF International Inc, 2012) .

During the period immediately following independence (from 1962 to 1970) Uganda had a flourishing economy with an annual GDP growth rate of 5% that contrasted with a population growth rate of 2.6%. In the 1970s through the early 1980s, Uganda faced a period of civil and military unrest, resulting in the destruction of the economic and social infrastructure and hence poor economic performance (figure 13). The growth of the economy and the provision of social services such as education and health care were seriously affected.

After 1986 however, the new National Resistance Movement government and its development partners introduced and implemented several structural adjustment policy packages that have steadily reversed prior setbacks and realigned the country towards economic prosperity. These included, but were not limited to: trade liberalization, privatization and divestiture of public enterprise, foreign exchange liberalization, reorganization of tax revenue collection, civil service reform, reduction in the size of the army, decentralization, streamlining of investment policy and rehabilitation of the socio-economic infrastructure (De Kemp & Eilor, 2008).

The recovery of the economy in 1986 is clearly observable from figure 13. It is clear that Uganda's GDP growth rate has generally remained above the Eastern African average and only declined to about 4.1% in 2011/12 due to high global and commodity prices, drought in parts of the country, power shortages, exchange rate volatility and weak external demand (MOFPED, 2012).

Figure 13: Evolution of Uganda's GDP growth rate

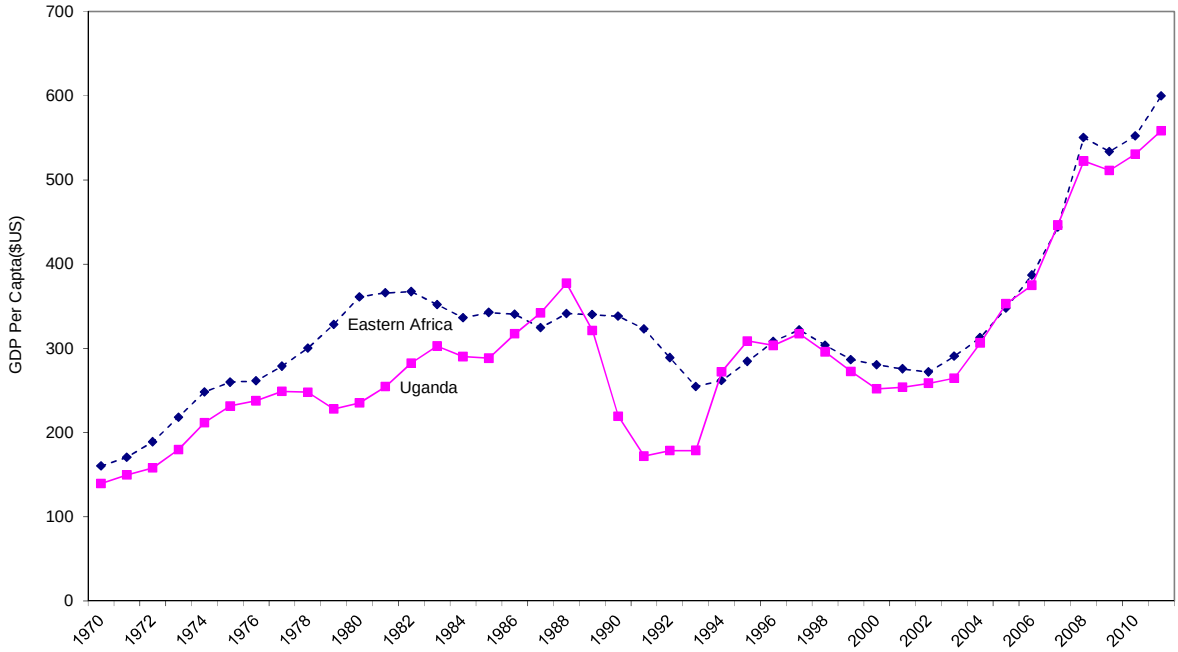


Source: Constructed United Nations National Accounts Database.

In line with the growth rate of the economy, GDP per capita for Uganda (figure 14) was generally lower than the Eastern African average until the mid-90s when it was almost at par with that of her geographical neighbors. It then declined and picked up in the late 1990s

but exhibited a slight downward trend in the recent past for the reasons given already. Today, Uganda whose GDP per capita stands at $558US (approx. 430€) is generally considered to be a poor country. It terms of human development, it has a Human Development Index (a composite index that takes into account longevity, knowledge and quality of life) of 0.456, making it occupy position number 161 of the 186 countries considered (UNDP, 2013).

Figure 14 : Evolution of Uganda's GDP per capita ($USD)



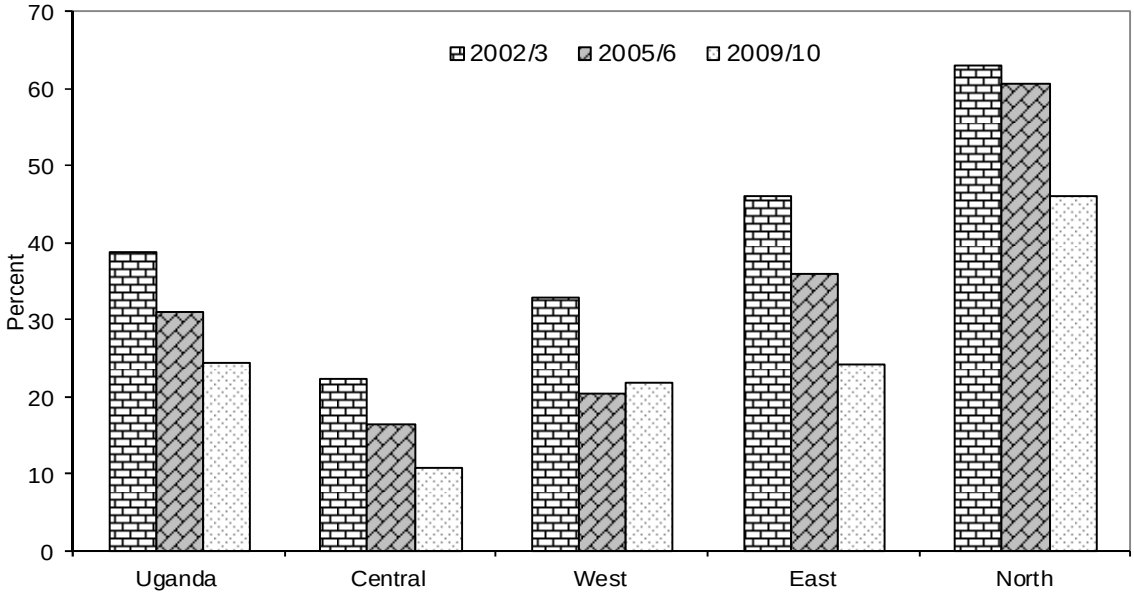
Source: Constructed from United Nations National Accounts Database.

Both at the macro (figure 13) and micro (figure 14) level, the economy has shown signs of improvement especially after the 1990s. At the individual level, people seem to be better than they were although the per capita GDP of $558USD still remains low and income inequality seems to have worsened in the recent past i.e. between 2005/6 and 2009/10 (UBOS, 2010b).

It is not possible to have per capita GDP disaggregated by region but since one of the interests of this study is to understand educational outcomes in the context of supply and demand at regional level, it would be prudent to assess demand at the region through the presentation of the proportion of the population in a region, below the poverty line. This is presented in figure 15.

At the country level, the proportion below the poverty line has declined from 38.8% in 2002/3 to 24.5% in 2009/10. While this is a great stride (in terms of proportions but not necessarily so with regard to absolute figures), regional variations remain big with the Central (where the capital is located) faring best while the North doing worst. Important to note is that the proportion below the poverty line increased in the West between 2005/6 and 2009/10.

Figure 15 **:** Evolution of Population below poverty line by region



Source: Constructed from Uganda National Household Survey data Reports.

2.11.2.1 Economy and Education Financing

It is one thing that the economy is growing but it is another that this growth is reflected in service provision, in general, and provision of education, in this particular case. Demand for education is partly explained by supply of education (Bennell, 2002) which in turn is conditioned by the extent to which government funds the sector through, *inter alia*, teacher training, deployment and remuneration, construction of school infrastructure and provision of scholastic materials. The contribution of government towards education can be seen in table 5. Since 70% of schools at secondary are in private hands and about 86% of all the children enrolled at both cycles are in primary (Ministry of Education and Sports, 2011), the financing of education is provided for the primary level.

While the public current expenditure on primary education as a percent of GDP has averaged about 2% in the past decade, public education expenditure has largely been into the primary sector and more particularly wages as a result on an increase in the number of teachers (De Kemp & Eilor, 2008), that is in turn explained by an increase in enrolments. The reduction in expenditure to the primary sector in 2007 onwards is explained by the introduction of universal secondary education in the same year and the financial obligations that this could have caused.

Table 5: Government's financing of Education

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Public current expenditure on primary education as a % of GDP	2.1%	2.2%	2.2%	2.2%	1.9%	1.9%	2%	2%	2%	2%	2%	2%
Primary as a % of total public education expenditure	69.7%	72%	69.3%	66.7%	68.4%	66.2%	60%	57%	58%	58%	58%	58%

Source: The Education and Sports Sector Annual Performance Report

2.12 Concluding Remarks

While in terms of economic growth Uganda has exhibited great milestones especially after 1986, it remains a poor country by international standards. Besides, given the non-existence and or poor implementation of policies to resolve inequities, both the gaps between regions and households seem to be increasing.

The impressive growth of the economy should also be seen in the context of population growth. The fact that Uganda's population is one of the fastest growing in the world is likely to exacerbate the challenge of dependency whose implications for investment in the next generation at the household and national level cannot be underestimated.

Education expenditure as a percent of GDP seems to be low but education expenditure has always been a priority expenditure area according to the national budget, a vindication of the efforts of government to invest in education. Intriguingly, this expenditure

has largely been on the primary sector and towards the payment of wages. While the latter would imply that teachers are well paid (in fact they keep complaining and threatening to strike), it may be due to the fact that they are many, also related to mass enrolments especially after the universal education initiatives.

In a nutshell, the study of inequalities in access to education in Uganda cannot be done outside the economic and demographic circumstances in which the country finds itself. These seem to impact the ability to invest in social services in general, and education, in this particular case in an attempt to transform the next generation. But before inequalities in accessing secondary schooling can be studied, it may be important to look at education policy in Uganda and how this has evolved overtime but also its implications on supply and demand for education as to be seen in the next chapter.

CHAPTER THREE: EDUCATION POLICY AND EVOLUTION OF SUPPLY AND DEMAND FOR EDUCATION SINCE INDEPENDENCE

This chapter explores education policy since independence and how this has impacted supply and demand for education at primary but most importantly, secondary level.

The formal education system that exists in Uganda today and probably in the greater part of Africa was introduced by Christian Missionaries. In Uganda in particular, European missionaries came in response to a letter from a journalist Henry Morton Stanley published in England in the Daily telegraph newspaper on 15th November 1875. He called upon Christians in England to send missionaries in Uganda to King Mutesa 1 on whose initiative the invitation had been sent. Stanley's letter read in part:

> Oh , that some pious practical missionary would come here . ….. would be the savior of Africa. Nowhere is there, in the entire pagan world a more promising field for a mission than in Uganda. Here, gentlemen, is your opportunity. Embrace it. The people of the shore of Nyanza (Lake Victoria) call upon you. (Oliver and Atmore, 1967 p. 76) as cited by Tiberondwa (1999, p. 4).

In response to Stanley's letter, the Church Missionary society of England and the White Fathers' mission based in France sent missionaries that arrived in Uganda in 1877 and 1879 (Ssekamwa, 1997), respectively. Indeed it came to pass that between 1877 and 1925, education in Uganda was under the control and direction of Christian missionaries.

While the Uganda protectorate government was established in 1894, the department of education in the country was established in 1925. This was after the recommendation of the Phelps-Stokes Report of 1922 that encouraged government to participate in education through supervision and financial assistance to strengthen and control missionary efforts. Indeed, the first education policy in Uganda can be traced to this report. It should also be noted that in the 1920s and 30s, education was available to a small group of people, mainly children of the aristocracy, clergy and tribal chiefs (Syngellakis & Arudo, 2006).

3.1 The 1963 Castle Commission

Policy on education in the post-independence period cannot be discussed outside the developments on the international scene. In 1960, the UN declared the 1960s "the development decade" during which the majority of mankind was to be liberated from poverty, ignorance and disease (Tumushabe et al., 1999). The first UNESCO sponsored conference of Ministers for education of independent states in Africa had just reaffirmed its faith in the power of education.

In Uganda, like elsewhere in Africa (Pilon & Wayack-Pambè, 2002) the demand for high level manpower to take over the running and management of both public and private sectors was high after independence. Although the need for expanding primary education was recognized, it was felt that there were not enough resources for both primary level and higher levels (Syngellakis & Arudo, 2006). In order to respond to this demand, government set up the Castle commission in 1963 with the following aims: (i) to examine, in light of the recommendations of the International Bank Survey missions report, Uganda's financial position and future manpower requirements, the content and structure of education as well as (ii) identify mechanisms for improving and adapting education to the needs of the country.

The commission recommended large scale expansion of post primary education as a means towards training of high level manpower to manage newly gained independence (Oketch & Rolleston, 2007). Also among its recommendations was the expansion of girls' education, emphasis on secondary education and advocacy for increased parental contribution to education (Tumushabe et al., 1999).

It should be noted that despite the move by government to exercise control over education since 1925, missions were still exercising enough control on education institutions. It is in this regard that the 1964 and 1970 Education Acts transferred the management and running of education from missions and other foundation bodies to government. In addition, after the 1964 Education Act, there was massive capital investment in secondary education by government and the construction/expansion of schools throughout Uganda. A large proportion of the education budget went to post primary institutions and this continued for two more decades after independence.

Although the Castle Commission Report had noted poor enrolment (proportion of girls enrolled being 35% and 24% at primary and secondary, respectively as per EMIS data) and retention of girls in school, none of the documents or development plans advocated for any specific gender based focus on education.

As already mentioned, the first and second Five Year Development Plans (1961-66 and 1966-71), laid emphasis on high level manpower development reflecting strategies of international agencies and education development experts of the time. There was need to replace colonial civil servants with Ugandan personnel and this required training at the post primary level. Education Policy was thus shaped by this larger policy environment with emphasis on secondary education and investment in high level training for economic development. Following the 1971 coup d'état by Amin, there was a decline in educational service provision, an exodus of key personnel including teachers and deterioration of existing infrastructure.

The third five year development plan (1972-76) was the first plan to express concern about the neglect of primary education as at the time, the net enrolment rate at primary was about 50% (Tumushabe et al., 1999). It proposed a more rigorous policy to overcome this deficiency by making primary education available to a rapidly increasing proportion of the school age group. The planned target for achieving Universal Primary Education was 2000. It is in this light that government put in place the 1977 Education Policy Review commission to review in detail the neglect of primary education and come up with relevant recommendations as seen in the next section.

3.2 The 1977 Education Policy Review Commission

In 1977, the government appointed a commission to review existing policies since the Castle commission of 15 years earlier. The new commission confirmed the proposal of the 3rd Five Year Development Plan (1972-76) to introduce universal primary education by the year 2000. To make this a reality, the following were to be implemented: i) intakes in Primary 1 were to be increased, (ii) free universal primary education in age group 6-10 was to be achieved by 1990 and (iii) by 1990, after largely achieving free universal primary

education for classes P1 to P5, there would be an expansion so that upper primary would attain universal enrolment in classes up to P7.

While these seemed good recommendations to bolster universal access to primary education, the report of the commission was never considered by government and was not published for wider circulation, due to the 1979 liberation war between Uganda and Tanzania.

The continued marginalization of primary education persisted despite two attempts to promote universal primary education through the Five Year Development Plan (1972-76) and the education Policy Review Commission of 1977. The major constraint to achieving Universal Primary Education was the negative political climate that culminated into the 1978/9 war which in turn led to massive destruction of educational infrastructure and deterioration of facilities (MoES, 1989). This was coupled with poor economic growth that characterized that period.

Following elections and change of government in 1980, a recovery program covering different sectors of national development was designed. This had, as one of its aims, an ultimate goal of achieving Universal Primary education (UPE). Another period of insurgency ensued and government was preoccupied with the guerilla war between 1981 and 1985. The negative effect of war on education in form of increased military expenditure and reduced expenditure on social services in general, and education in particular, has been documented elsewhere especially in Sub-Saharan (Poirier, 2012). In line with what has happened elsewhere, both the attention and or resources were directed to the war to the detriment of education. It can thus be noted that for close to 3 decades of independence, UPE remained out of reach for Ugandans although all governments recognized its “urgency”. New reforms in education came to be instituted after Museveni came to power and this was through the Education Policy Review Commission of 1989 as elucidated in the following section.

3.3 The 1989 Education Policy Review Commission

The Post conflict period saw the National Resistance Movement (NRM) government institute a series of commissions to investigate the state of affairs in all areas of government

among which was education. In this vein, the government appointed the Education Policy Review Commission under Professor Senteza Kajubi in 1987 and gave the commission the following terms: (i) recommending policies at all levels i.e. primary, secondary and tertiary, (ii) making policies about aims and objectives of education, (iii) coming up with policies about the structure of the education system and (iv) integrating the role of the private sector in education. The professor led a team of high profile people to do the job for which he was appointed and after thorough consultations with all stakeholders, the commission came up with, *inter alia*, the recommendations that: (i) Universal Primary Education (UPE) for children of age group 6-10 should be achieved by the year 2000, (ii) by the year 2000, it should be ensured that children enter school at the right age of 6 years and that (iii) Universalization of primary education for children aged 6-13 should be achieved soon after 2000 and not later than 2010.

The spirit of the framers of the Education Review Policy Commission Report was that the goal for UPE should be that all children aged 6-10 years are enrolled and that they complete at least five years of schooling in order to be equipped with essential literacy, numeracy and other skills envisaged in the package of basic education. Once this was achieved, the next target was achieving full universalization of primary education covering all children of the age group 6-13 corresponding to grades 1 to 8 (MoES, 1989).

Otherwise the pre-1990 education system was characterized by poor quality, poor enrolment, high attrition rates, differential enrolment by geographical location and by school and very low efficiency in terms of cost per child. Parental contribution to school maintenance accounted for 50-70% of all school financial requirements (Appleton, 2001; MoES, 2001). Despite low government fees, Parents Teachers Association (PTA) dues resulted into poor parents not being able to enroll all or any of their children in school. In addition, the formal primary school system was rigid preventing children involved in petty trade or household activities from attending school (MoES, 2001).

The Commission made several recommendations and some that seem relevant to this study need to be mentioned as follows:

As per recommendation 24 also referred to as R24 in the report of the commission, suitable measures were to be taken, based on system studies of causes of wastage (repetition and dropping out) to ensure that : (i) children should not leave school without completing at least 5 years of schooling and (ii) repetitions and dropouts in different grades are reduced.

Democratization of primary education is contained in recommendation 25 (R25) whereby there was not supposed to be tuition fees in classes P1 to P4 from 1991 onwards, P5 to P6 from 1995 onwards and P7 to P8 from 1999 onwards.

About the cost of maintaining a child at school, the commission recommended (R34) that all new publicly funded primary schools were to be only day schools and that where boarding facilities were provided; these were to be funded entirely by the parents or beneficiaries.

The commission noted that geographical location of educational facilities was one most important aspect of educational planning but at the time, there were either too many or too few secondary schools in an area. In addition, there were many boarding secondary schools and a greater part of their operational costs was met by government. In recommendation 52, the existing boarding secondary schools were to continue but the total boarding school costs were to be borne by the parents as in the case of primary schools. It continues in R53, that "In future, all new government aided general secondary schools were to be day schools" (MoES, 1989) .

It was also noted that, then, the education system paid little attention to the needs of the mentally weak, physically handicapped and socially disabled persons including those from disadvantaged areas and groups. It encouraged universal enrolment, introduction of vocational training at secondary level and non-formal education.

Poor enrolment of girls as compared to boys was pointed out as one critical inequity that needed urgent redress. The Commission noted that this was due to cultural reasons in the context of a patrilineal society where parents preferred to enroll boys, poor facilities for girls in the schools (lack of sanitary pads, absence of exclusive toilets for girls etc.), the traditional division of labor at home that was more in disfavor of the girls and teenage pregnancies as well as early marriages.

In its efforts towards the democratization of education, the commission took into account the girls, disabled, gifted children, children from disadvantaged ethnicities like the Karimajong , those from fishing villages and remote areas. It was convinced that education is a basic human right of all Ugandans regardless of their social status, physical form, mental ability, sex, age, birth place or ethnic group.

In order to bolster enrolment of girls, recommendation 163, points out that in co-educational schools, the head or deputy was to be a woman in order to pay adequate attention to the needs of girls and that adequate facilities for girls were to be provided in post primary institutions. In addition, the commission outlined strategies aimed at enhancing the education of the hitherto disadvantaged groups of children like the disabled and gifted children, young soldiers, refugees, Aids orphans, children in Islands, those in remote areas and the Karamoja region. One other important recommendation that needs to be mentioned was that primary education was to last 8 instead of 7 years as had been the case.

The Report of the education Policy Review Commission was debated by government which consolidated the latter into the Government White Paper as can be seen in the next section.

3.4 The 1992 Government White Paper

In response to the Education Policy Review Commission Report, government appointed the White Paper committee to examine the report and identify recommendations which would be acceptable and feasible to implement and make amendments where necessary.

The White Paper Committee largely accepted the recommendations of the Education Policy Review Commission with a slight modification. It shifted the target of achieving UPE from 2000 as per Education Policy Review Commission to “as soon as possible” but not later than 2001/2 (MoES, 1992) according to the White Paper. In this regard, the white paper recommended the introduction of free compulsory primary education starting in 1992/93 in which case fees would be eliminated in phases through the following manner:

1992/93: abolishing fees for Primary four (P4) in all schools in Uganda.

1993/94: abolishing fees for P5 in all schools and continuing to add one class upwards per year until P8 would be reached in 1996/7.

1997/8: abolishing fees for P3 in all schools and continuing to add one class downwards per year until the whole primary cycle would be covered (P1-P8) in 1999/2000.

Making school attendance compulsory for every class in which free education was introduced and all basic education, free and compulsory by the year 2000/1. The White Paper also recommended increasing educational facilities, instructional materials and teachers rapidly to speed up implementation of the UPE Policy.

Adopting strategies for minimization of wastage through mounting a campaign to enhance retention of enrolled primary school pupils, adopting a double shift system so as to enroll more pupils and maximize the use of facilities and teachers, adopting the system of automatic promotion from one class to another. It also recommended reviewing the primary school curriculum to make education relevant to children and Uganda's needs as well as interesting and conducive for easier upward mobility in school and remunerating teachers properly for any extra teaching load.

It should be noted that there was considerable delay in finalizing the draft White Paper and hence recommendations to achieve the envisaged targets could not easily be implemented. While the Report of the Castle Commission was the main policy document in the area of education in the first three decades of independence, the Education Policy Review Commission report and by implication, the Government White Paper has remained the main education Policy document in the area of education to date.

In the period that followed the Government White Paper, several other legal or strategy documents have been put in place to operationalize the recommendations of the White Paper.

In this regard, article 30 of the National Constitution stipulates that "education is a right for every Ugandan" and in article 34(2), "the provision of education lies in the hands of the state and the parents of the child" (Government of Uganda, 1995). The Local Government Act 1997, transferred primary and secondary education services to local Governments and the Revised School Management Committee Regulations 2000, updates the framework for managing education in Uganda. The first step to operationalize the recommendations of the Government white paper came to pass in 1997 when Universal primary education was announced as can be seen in the following section.

3.5 The advent of Universal Primary and Secondary education

While plans for UPE had been finalized by 1992 as per Government White Paper, the implementation came to pass in 1997 after Museveni (the President of Uganda) announced that free education for 4 children per family would commence in January 1997 amidst the 1996 presidential election campaigns. The key objectives of UPE as summarized by Hedger, Williamson, Muzoora, & Stroh (2010) were:

- making basic education accessible to the learners and relevant to their needs as well as meeting national goals;
- making education equitable in order to eliminate disparities and inequalities;
- establishing, providing and maintaining quality education as the basis for promoting the necessary human resource development
- initiating a fundamental positive transformation of society in the social, economic and political fields and
- ensuring that education is affordable by the majority of Ugandans by providing, initially, the minimum necessary facilities and resources, and progressively the optimal facilities, to enable every child enter and remain in school until they complete the primary school education cycle.

While President Museveni's initiative was pragmatic and well received, it was at variance with what government had accepted in the White Paper (the phasing of UPE implementation) for not only weren't there enough teachers, instructional materials and physical facilities to accommodate the surge in enrolments, it also became a sudden financial burden to government. In addition, the definition of the family was also problematic and compounded by polygamy and single parenthood. It was later accepted that all children could enroll in school under UPE.

This haphazard implementation of the UPE policy, in the context of high population growth rates and declining public resources has caused "enrolment shocks" that have led to the decline of quality in schools (Deininger, 2003; Lewin, 2009; Oketch & Rolleston, 2007).

Intriguingly, the post UPE period has failed to recover from this shock as evidenced by high attrition rates and some parents have tended to abdicate the responsibility of looking after their children arguing that, they (the children) are Museveni's, ostensibly in return for the votes that they gave him in 1996 and those they have continued to give him to date.

Tiberondwa (1999) summarizes the challenges of UPE in the first two years of implementation thus: (i) high pupil teacher-ratios (100:1) while many qualified grade 3, grade 5 and graduate teachers were not employed; (ii) increased enrolments at primary that were not catered for at post primary level; (iii) big classes, smaller rooms and few teachers; (iv) teachers had lost income through the abolition of PTA fees; (v) shortage of latrines at schools to cater for increased numbers; (vi) shortage of water supplies in schools; (vii) increased wage bill on the part of government and (viii) expected fall in quality due to high pupil teacher ratios.

As part of the implementation of the Poverty Eradication Action Plan 2005-2010 (PEAP), the Ugandan government introduced the Universal post primary education and training Policy in 2007. Through the policy that has taken on the appellation "Universal Secondary Education (USE) Policy", government was to provide free tuition to secondary school students starting with 300,000 primary school graduates in 2007. Parents, on the other hand, were to provide exercise books, accommodation, medical care, meals and other scholastics. In addition, government was to ensure that every sub-county gets a secondary school although by 2008, 271 sub-counties had neither a public nor private secondary school and this has been blamed on the inadequacy of Uganda's budget.

Following the Government White Paper on education, several other laws and strategy documents were put in place to enforce the recommendations by the government Policy document. The important ones that need to be elaborated on are The Education Strategic Investment Plan (1998-2003), The Education Sector Strategic Plan (2004-2015) and the 2008 Education Act.

3.6 Education Strategic Investment Plan-ESIP (1998-2003)

This was meant to operationalize the white Paper Recommendations. It intended to shift educational planning from a project to a program approach focusing on broad policy and strategic objectives. The ESIP framework document outlines a medium term strategy for the development of the education sector which would guide all stakeholders in determining priority areas of action and investment. According the Ministry of Education and Sports (1998), the plan's five broad priorities over the target period included (i) assuring universal access to primary education focusing on increasing net enrolment ratio, transition rates, improving attendance and making instructional time more effective; (ii) ensuring equity by eliminating disparities in access and performance, emphasis was on removing gender, regional and social inequity over the period; (iii) provision of an enabling environment for public-private partnerships in delivery of educational services at all levels, especially in post primary subsectors; (iv) strengthening the role of central government as the policy powerhouse for education development, collaborating with national stakeholders in formulation of strategic priorities and negotiating with donors on most effective means of support and (v) building the capacity of the district to provide public services and effectively enable private sector delivery.

With regard to access and equity, the specific strategies and or targets, were: (i) universal enrolment of primary age children with NER approaching 100%, including enrolment of females and the then disadvantaged by geographical location; (ii) transition to public, private and technical schooling reaching at least 65% of primary school completers; (iii) establishing skills development opportunities for primary school leavers who would not have access to secondary or technical institution; and (iv) significant increases in participation of females, disadvantaged groups and children with special needs in all sub sectors.

The strategic plan envisaged improving access through, *inter alia*, encouraging double shifts to ensure optimal utilization of available resources, and adopting multigrade teaching where children of different classes (grades) would be taught by one specifically trained teacher at the same time and in the same room. The Education Sector Investment Plan was later succeeded by the Education Sector Strategic Plan (2004-2015) that comes in to, *inter alia*, give direction towards the universalization of secondary education.

3.7 Education Sector Strategic Plan- ESSP (2004-2015)

The ESSP covers the fiscal years 2004/05 to 2014/15 and succeeds the Education Strategic Investment Plan (ESIP 1998-2003). It commits government to assuring universal access to primary education as the highest priority, points to removal of financial impediments and pays particular attention to gender and regional equity. Putting the plan into action was envisaged through shared contribution by the public and private sector, households and communities (Ministry of Education and Sports, 2004)

This plan pointed out that the ESIP had paid more attention to access and less of quality and as such it was noted that children were not learning the basic skills. It was thus to focus on (i) making the curriculum feasible and practical; (ii) adopting efficient methods of instruction and training teachers in their use; (iii) devoting more instructional time, consolidating vocational and other subjects into less time; and (iv) examining pupils in reading, writing and mathematics.

The plan also noted that students were not acquiring the skills and knowledge that they needed for work or further education. In this regard, the ministry of education plans to revise the curriculum to improve instruction and assessment, make more efficient use of resources and reconfigure post primary and Business Technical and Vocational Education and Training (BTVET) on qualification framework.

The fact that the products of UPE would enter secondary and tertiary education in this period and that most parents would not afford to continue paying for them was also pointed out in the plan. Indeed, the challenge of this plan is to accommodate more students at the post primary and tertiary levels and reach equitable levels of participation among families of all economic status as well as in rural and urban areas.

The plan envisages an education system that is relevant to Uganda's national development goals. With regard to access and equity the plan targets, ensuring increased and equitable participation in a coherent and flexible post primary system.

Relationship between ESIP and ESSP

The Education Sector Strategic Plan differs from the Education Sector Investment Plan in some key aspects: first, ESIP covered the period 1998-2003 and ESSP covers the period 2004-2015; (ii) the current plan is costed and linked to department work plans and the medium term budget framework for it to be used as a critical basis for medium term and annual planning and budgeting; (iii) the ESSP shifts emphasis (attention and resources) from Universal Primary Education to post primary and other subsectors in addition to primary; and (iv) while the ESIP emphasized enrolment, the ESSP looks at improving quality of education i.e. what **participants learn** and **how they learn it**.

3.8 The 2008 Education Act

This Act is very critical as it gave force to some recommendations by the Government White Paper and the Strategic Plans as seen already. In particular, it makes education compulsory (enforceable according to law) and puts measures to reprimand the parents and or providers of education services in case they contravened both the UPE and Universal Post Primary Education and Training (UPPET/USE) Policy guidelines. Some of the important clauses of the Act (Government of Uganda, 2008) need to be pointed out here:

According to **section 4 (1)**, provision of education and training is the responsibility of the state, the parent or guardian and other stakeholders. This reinforces article 34(2) of the Constitution and recommendation 34 and 53 of the Education Policy Review Commission of 1989.

While **section 4 (2)** stipulates that **"**basic education is a right to be enjoyed by all and that government shall ensure equitable distribution of education institutions", section **9 (1)** points out that no person or agency is supposed to levy or order another person to levy any charge for purposes of education in any primary or post primary institution implementing UPE or UPPET Program.

As per s**ection 10 (3) a;** primary education which lasts 7 years is universal and compulsory for pupils aged 6 years and above and in **section 10 (3) b;** all children of school going age are supposed to enter and complete the formal education cycle of 7 years.

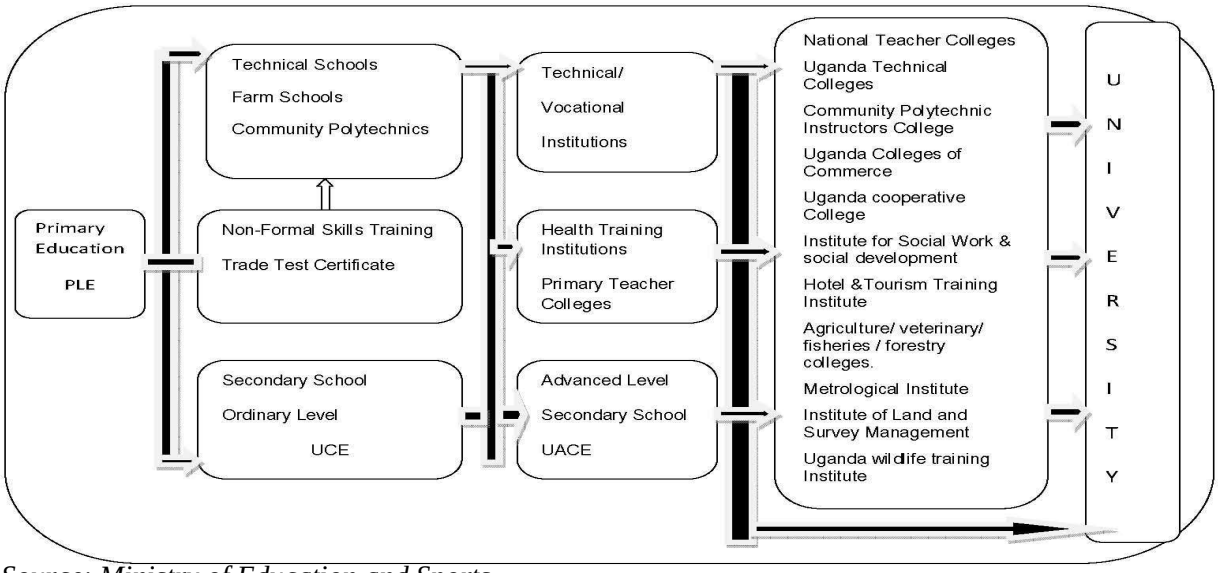
According to **section 51(1),** a person, organization or agency who refuses to enroll or deters a child from enrolling for UPE in accordance with section 10(3) commits an offence. In line with the previous provision, as per **section 51(2);** a person or agency who levies charges beyond the maximum charges provided by the minister under **section 57(g)** or who wrongfully denies access to education to a pupil or student who is a beneficiary of UPE or UPPET for failure to pay extra charges also commits an offence.

It should be noted that despite an attempt to change the years spent at primary from seven to eight by the Education Policy Review commission, this was not implemented and the current structure of the Ugandan Education System is described in the following section.

3.9 Structure of Uganda's education system

Uganda's education system is based on a four-tier model: primary education; secondary education, Business, Technical and Vocational Education and Training (BTVET) and tertiary education. This model has existed since the early 1960s. It consists of seven years of primary education for pupils aged 6-12, followed by four years of lower (ordinary) and two years of upper (advanced) secondary education. At the end of primary seven, children sit the primary leaving examination (PLE). Graded pupils obtain a Primary Leaving Certificate and those with the highest marks are admitted to secondary education. Primary school completers can also follow a three-year crafts course at a technical school. After secondary education, students may go to university, teacher colleges or BTVET institutions (De Kemp & Eilor, 2008).

Figure 16 : Formal Education Pathways in Uganda



Source: Ministry of Education and Sports

It should be noted that while the system provides for post primary education at technical and farm schools as well as community polytechnics and later technical or vocational institutions, majority of the students enroll in the normal secondary schools. A case in point is that for the year 2011, 95% of the children in post primary institutions (excluding tertiary) were in the normal secondary schools, 2% were in Primary Teacher Colleges (Ministry of Education and Sports, 2012) and 3% were in Business, Technical and Vocational Education and Training institutions (Ministry of Education and Sports, 2011).

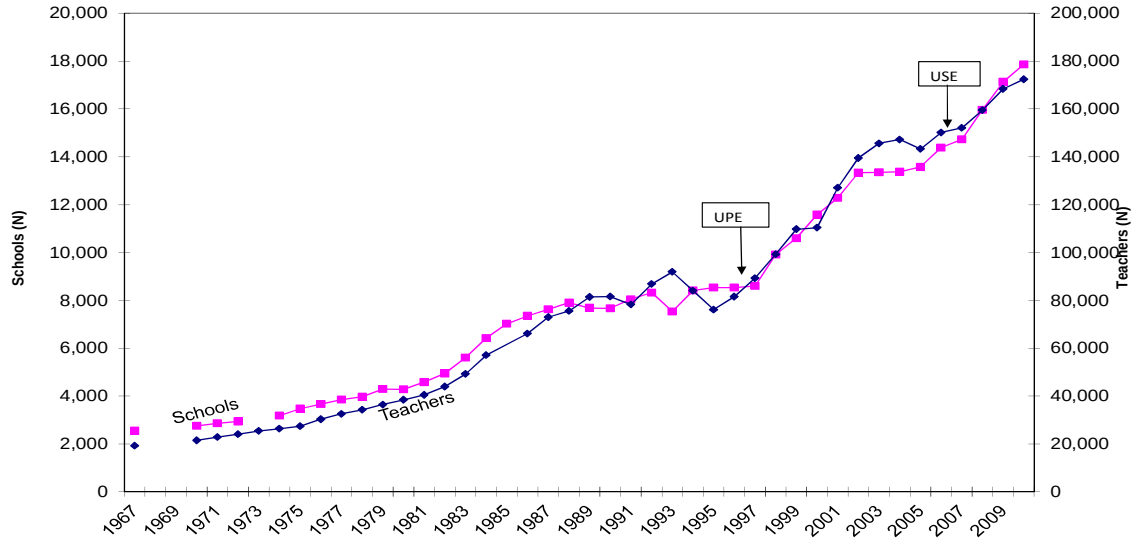
Lack of interest in technical education dates back to the colonial period as technical studies were perceived as courses for less bright students and their graduates earned less on the job market (Ssekamwa, 1997). General resentment for technical studies has continued to date despite various efforts to avert the situation through policy.

It is evident that policies have been made and they look impressive. While it is one thing to have a policy, that the policy is implemented (or even well implemented) and yields the outcomes for which it was intended is yet another thing. What then has been the effect of these policies and strategies in terms of the supply of Education overtime? This is to be looked at in following section.

3.10 Supply of Primary Education

Demand for education can be conditioned by supply of education and the demand at secondary level may be influenced by supply at both the primary and secondary level. At primary level, supply may include the number and distribution of schools, teachers, classrooms, etc. This section looks at the supply of primary education from the perspective of schools and teachers and how this has evolved since independence.

Figure 17 : Evolution of Primary schools and Teachers



Source: Constructed using raw data from Ministry of Education and Sports

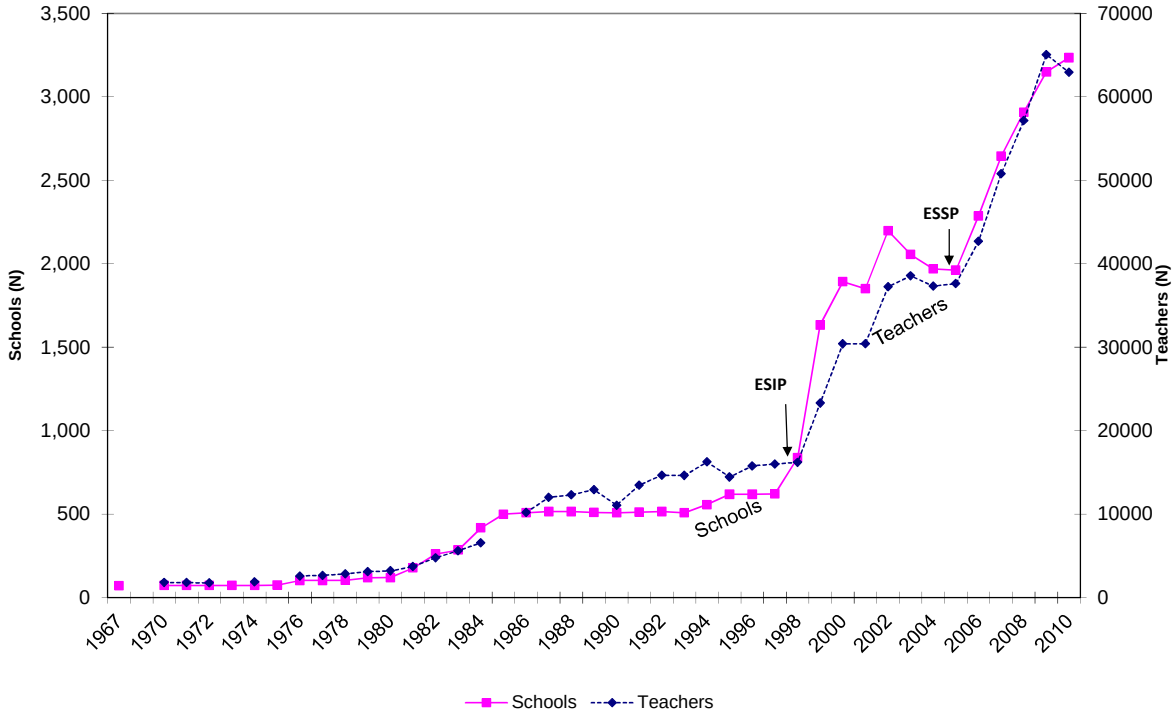
The number of schools and teachers has tremendously increased in the past four decades. Spectacular increases can be noticed in 1997, when Universal primary education

was implemented and in 2007, the year when Universal Secondary Education was announced. This, points to government efforts to meet the demand for increased enrolments and the fact that USE at secondary level was an impetus to parents as it enhanced enrolments at primary.

3.11 Supply of Secondary Education

At secondary, growth in the number of schools and teachers followed, more or less, a similar trend as can be seen in figure 18. The number of schools remained almost static between 1967 and 1981; it grew slightly between 1982 and 1996 and again stagnated up to 1998. The growth is more dramatic in 1998 and this is related to the efforts of the Education Sector Investment Plan of 1998-2003, that among others, encouraged public-private partnerships especially at the post primary level. Despite this increase, there are still some sub-counties without secondary schools even though the government policy was to build at least a secondary school per sub-county. This is also exacerbated by unending creation of districts hence more sub-counties (Ministry of Education and Sports, 2011).

Figure 18 **:** Evolution of Secondary Schools and Teachers



Source: Constructed using raw data from Ministry of Education and Sports

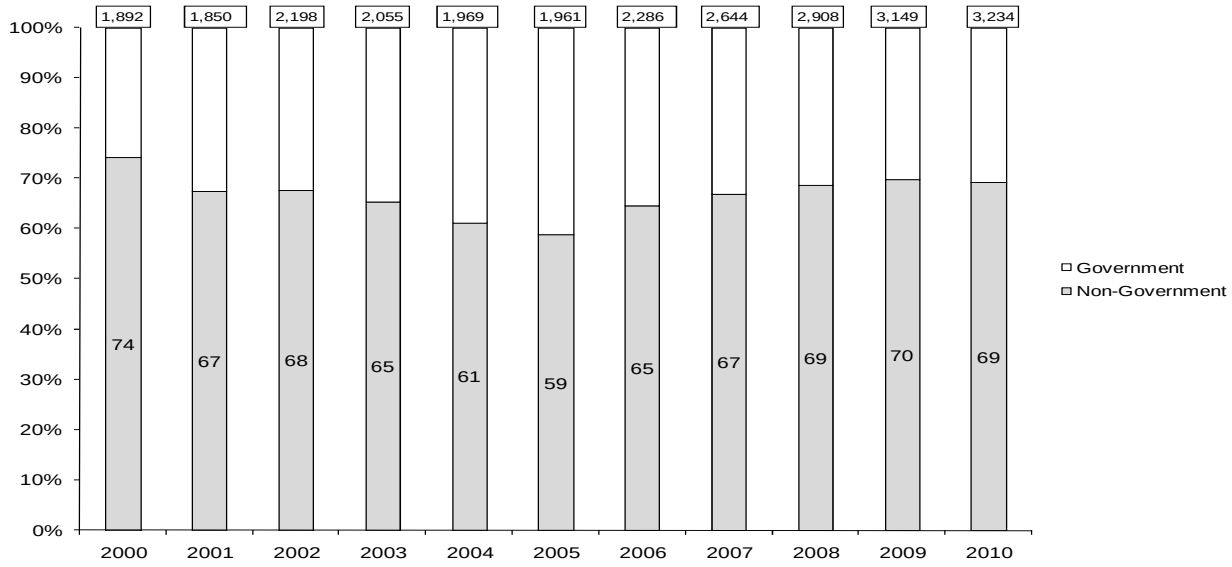
The number of teachers has also greatly increased as can be seen. In 1999 and 2005, there were more teachers recruited and again this is linked to the implementation of the Education Sector Investment Plan (ESIP) of 1998-2003 and the Education Sector Strategic Plan (ESSP) of 2004-2015, respectively both of which encouraged public-private partnerships.

It is one thing to register an increase in the number of teachers and schools and it is another that they are well distributed across the regions of the country. In addition, issues of access are also affected by ownership of the schools and the following section looks at the evolution of schools by ownership and foundation body.

3.11.1 Secondary schools by ownership and foundation body

Whether education is in the hands of government or private individuals, has a bearing on access to schooling, more so for children from the rural and or disadvantaged socio-economic backgrounds (Bangay & Latham, 2013; Pilon, 2004; Woodhead et al., 2013). In addition, whether a school is day or boarding may also have implications for access given that boarding fees are by policy met by parents and against the background that performance of children in boarding schools is better than that for day students. Figure 19 presents evolution of secondary schools by ownership although the data accessed is between 2000 and 2010.

Figure 19 : Evolution of Secondary schools by Ownership from 2000 to 2010



Source: Constructed using raw data from Ministry of Education and Sports

It is important to note that the apparent reduction in the proportion of non-government schools prior to 2006 was a result of non-response by Private schools in reaction to a question on the fees charged by the school that had been included in the school questionnaire. This was removed in 2006 and the response rate among private schools improved.

As can be seen from figure 19, secondary education has largely been in the hands of non-government actors in the past ten years. With regard to enrolment though, 52% of students at secondary (versus 48%) are in government schools (MoES, 2011a) implying that children in government schools are congested in classes, dormitories and have relatively fewer teachers given their numbers.

After the USE policy of 2007, non-government providers seem to be more active in secondary school provision as the proportion of schools owned and run by non-government actors increased from 65% in 2006 to 69% in 2010. It can be said then; that more of non-government actors came in to respond to the demand caused by universalizing education. In addition, government has also partnered with the private sector to take on “USE” students in return for a capitation grant of 47,000shs (14€) per child per term from government (MoES, 2011b). Through the field interviews conducted, there are complaints from government school officials and the private providers that the money is so little, comes late and these have been compounded by inflation:

"I think with the current problem we have in the country, government has to reconsider the amount given otherwise the burden will still come back to parents. And then, the time for disbursement should be worked upon. They should send it in time to make planning easier. Otherwise running the school may be very difficult." (Male Graduate, Deputy Head teacher of a Private Secondary School partnering with government to Implement USE)

It was also reported that because money comes late, some private schools oblige parents to pay the whole amount at the beginning and then they are refunded once government has sent the capitation grant. In addition, the capitation grant sent has not been revised over the years and this hampers smooth operation of both government and private schools as elucidated:

"Money sent is not enough and can you imagine 41,000Shs (12€) started coming when a ream of paper was at 6000Shs (2€) and now it is going at 15,000Shs (5€), so the money that was paying for 3 reams of paper is now buying one ream. The money is little and there is inflation also."(Graduate Deputy Head teacher, in a Government Mixed, Day USE School)

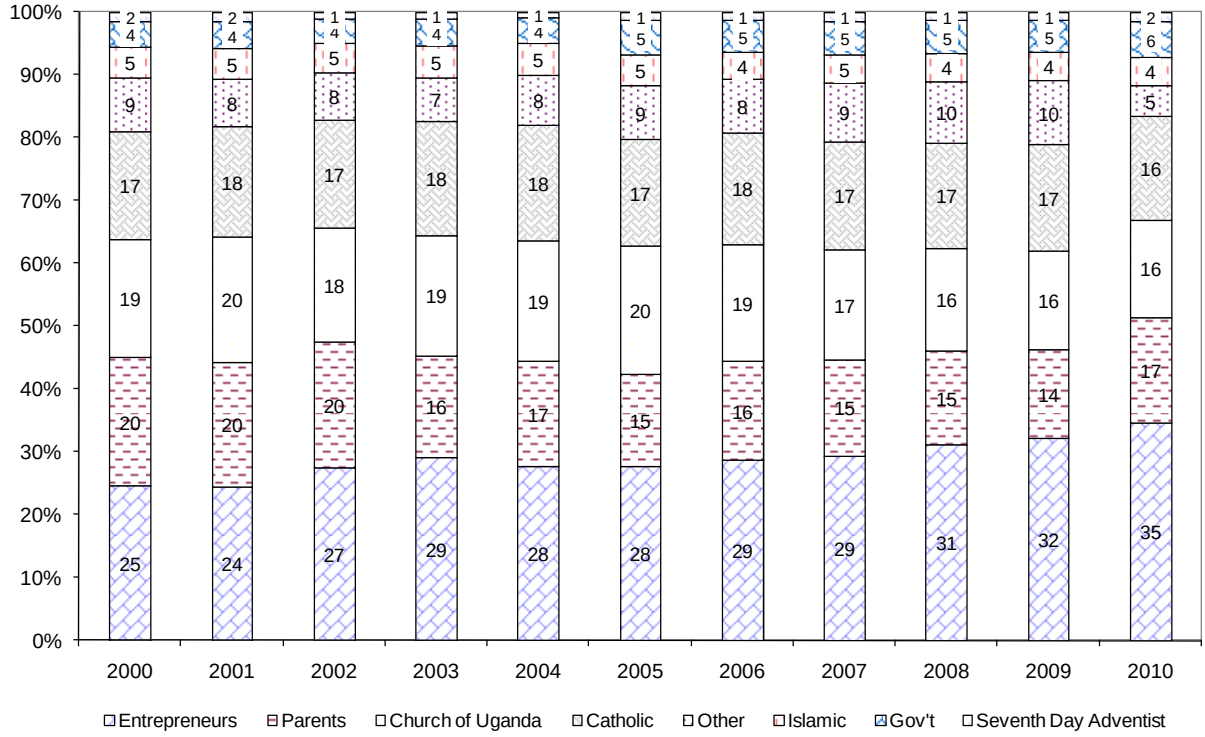
All these imply that despite the efforts of government to support the education of especially the children from disadvantaged backgrounds in both public and private schools, there are institutional impediments that tend to work in disfavour of the poor parents.

As already remarked, the provision of education was in the hands of missionaries between 1877 and 1925. While government tried to dampen the control and monopoly of churches in the running of education by taking over the previously largely church owned schools, it later left with these bodies the power to manage the schools (MoES, 1992). In practice, this has translated into foundation bodies presiding over the board of governors and hence implementing all policy in the schools, picking a head teacher of their faith to head the school, maintaining priests (chaplains) to preside over church ceremonies in the school, fixing the fees to be paid by the students, etc. It is therefore important that the evolution of schools by foundation body be presented as leadership and management of schools has implications for discipline which in turn greatly influences performance (Chapman, Burton, & Werner, 2010; De Kemp & Eilor, 2008; Mestry, Moloi, & Mahomed, 2007). Management of schools may also have implications for access as the amount of tuition and other school dues to pay as well as other requirements are decided almost exclusively by foundation

bodies without any control from government.

As can be seen from figure 20, foundation bodies comprise largely entrepreneurs, parents (the case of community schools), churches and less of government. Some quick observations can be made about the figure: first, entrepreneurs are the largest providers of secondary education more so after the USE Policy; secondly, parents and the main stream churches i.e. Church of Uganda (Anglican) and the Catholic church have also played a big role in provision of secondary education; finally, the role of government in starting its own schools has remained minimal over the entire decade.

Figure 20 **:** Evolution of Secondary schools by Foundation Body from 2000 to 2010



Source: Constructed using raw data from Ministry of Education and Sports

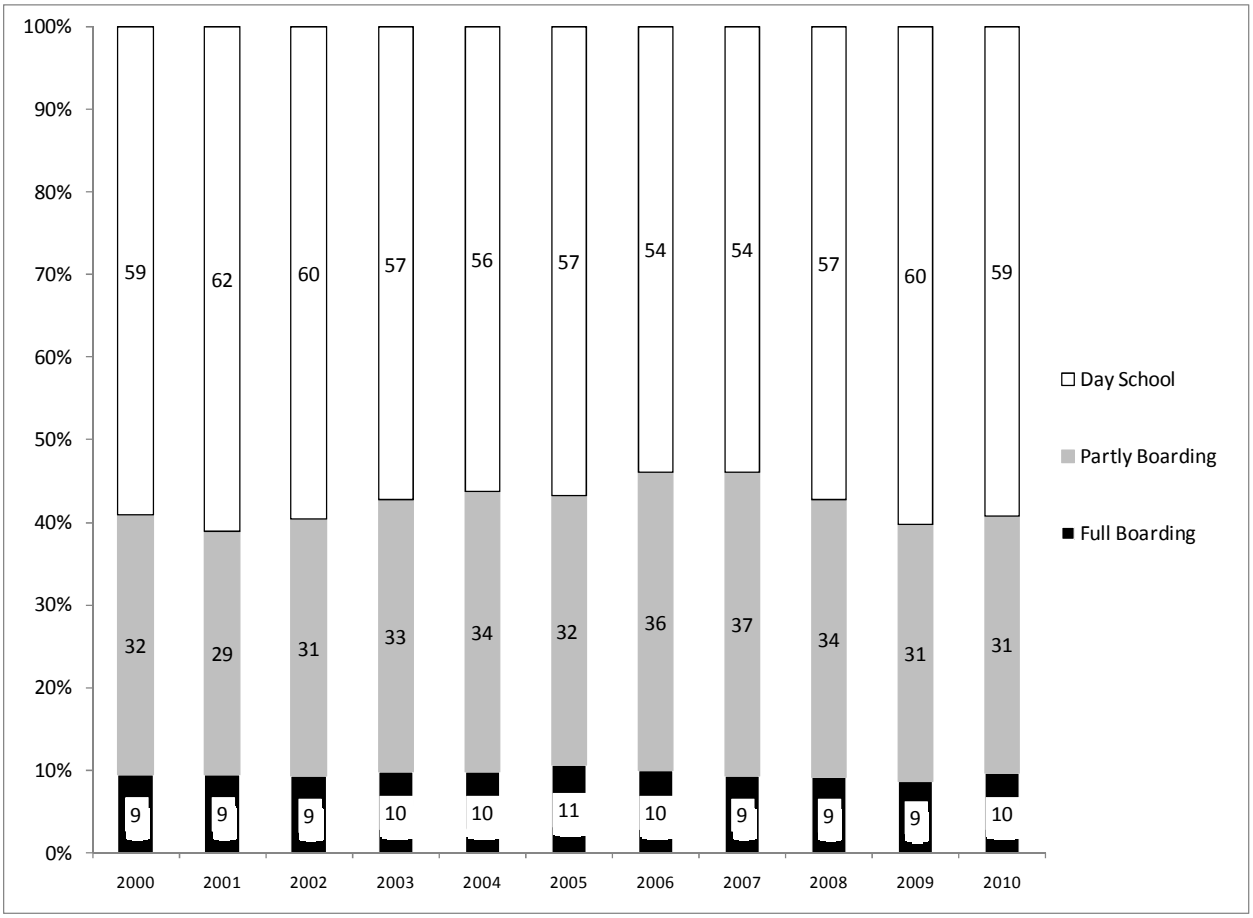
One conclusion that can be drawn from this figure is that supply of education is more of a preoccupation of the parents through the community schools and contributions to build and sustain the private schools and less of government's concern. While this is in contravention of the provisions of Section 4(2) of the 2008 Education Act, one would wonder, how government will fully and equitably implement the universal education policy if it has very little control over the provision of schools.

It should be remembered that since these foundation bodies are in charge of the management of the schools, they often fix charges like PTA and boarding fees for the "smooth running" of the schools and that all these are borne by parents. This may diminish chances of accessing secondary schooling by children from disadvantaged backgrounds.

3.11.2 Secondary schools by boarding type

Due to insufficiency in the number and distribution of secondary schools, boarding schools have emerged to accommodate children whose homes are distant from secondary schools. This has a bearing on access and equity as both the Education Policy Review Commission (MoES, 1989) and Government White paper (MoES, 1992) stipulate in Recommendation 34 and 53, for primary and secondary respectively, that where boarding facilities are provided; they should be funded entirely by parents or beneficiaries.

Figure 21: Evolution of Secondary Schools by boarding type between 2000 and 2010



Source: Constructed using raw data from Ministry of Education and Sports

The Ministry of education categorizes schools by boarding type into full boarding, partly boarding and day schools. Overall, there are more day schools, followed by partly boarding schools and less of full boarding schools in the country. Partly boarding schools increased between 2001 and 2006 as most school owners realized that good performance was associated with boarding and so introduced boarding sections in their hitherto day schools. The increase in day schools was more dramatic after 2007 with government building several seed[5] schools that were necessarily day schools since government policy is that all schools should be day.

While boarding schools are few, it should be noted that they are both expensive and highly preferred by most parents as their performance is on average better than that of day schools. This is corroborated by field findings:

> *" I think not that all parents can afford because a boarding school is very expensive. I see from my counterparts whose children are walking from home, they are paying a half of what I am paying in boarding. For example, in Intensive Academy, am paying 400,000/= (121€) per term while my counterparts in the day section are paying 200,000/= (61€), so boarding is very expensive"* (Male, Graduate, Senior Government Official in Gulu district.)

Another respondent added in support of boarding schools:-

> *"……So what am saying is that many parents like boarding schools because when you go to many boarding schools around, you will find a much bigger population compared to the day schools"*. (Male Graduate Head teacher of a rural mixed day Government School)

3.11.3 Secondary schools by number, boarding type and region

While in the previous section evolution of schools by number and type is looked at the national level, there exists differentials in demand for education at regional level and this could partly be explained by spatial differentials in supply. The supply of schools (to be looked at shortly), their location and boarding type have a bearing on demand for schooling.

[5] Seed schools were built by Government in sub-counties with no secondary school. This was equated to planting the seed for education in areas that were in great need.

As can be seen in figure 22, there are, by far, more secondary schools in the Central region (where the capital is) than anywhere else. This is followed by the West, the East and lastly the North. Interestingly, these variations have persisted even after the 2007 Policy.

This pattern of performance in terms of supply of education is corroborated by corresponding patterns of demand whereby the Central had the highest NER while the north had the lowest (UBOS and ICF International Inc, 2012).

Relying on the number of schools in a region to measure supply may not be adequate for (i) the number of schools in an area may be determined by the target population to be served, (ii) meaningful access may depend on the quality, ownership and geographical distribution of schools in the region, and (iii) there may be few schools but with many streams.

Because of the above reasons and given the data got from the Ministry of education and Sports, this study was able to look at the hypothetical Student Classroom ratios by examining the target population (that ought to be served) and the streams in a region and this is done before and after the USE initiative. The hypothetical ratios are computed as per table 6 and presented in figure 22 together with the number of schools per region as already seen.

Table 6: Evolution of Hypothetical Student Classroom Ratios by Region

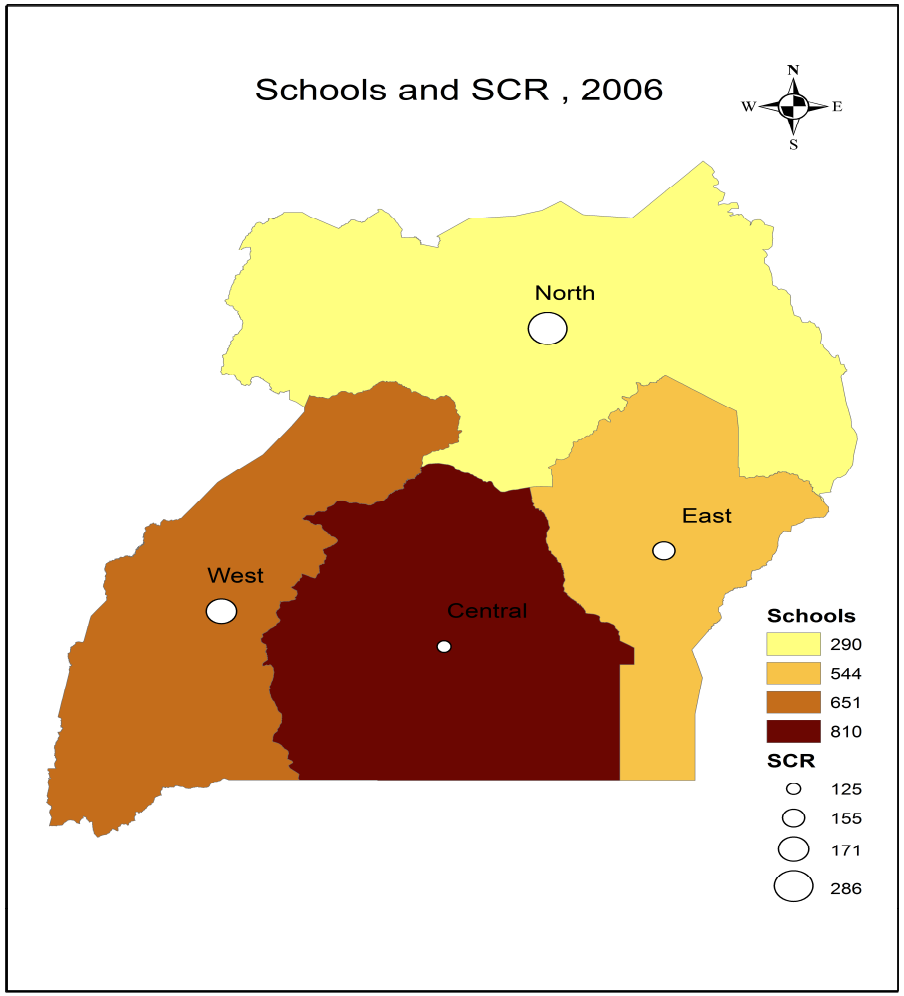
Region	***Population (13-16 Yrs)***			***Streams***			***[6]Student Classroom Ratio***		
	2006	**2008**	**2010**	**2006**	**2008**	**2010**	**2006**	**2008**	**2010**
Central	792,530	825,580	851,240	6,319	7,784	8,754	125	106	97
West	727,320	757,880	781,440	4,247	6,593	6,373	171	115	122
North	588,240	631,720	671,330	2,057	2,431	2,861	286	260	234
East	604,130	636,420	662,960	3,885	4,690	6,053	155	136	110

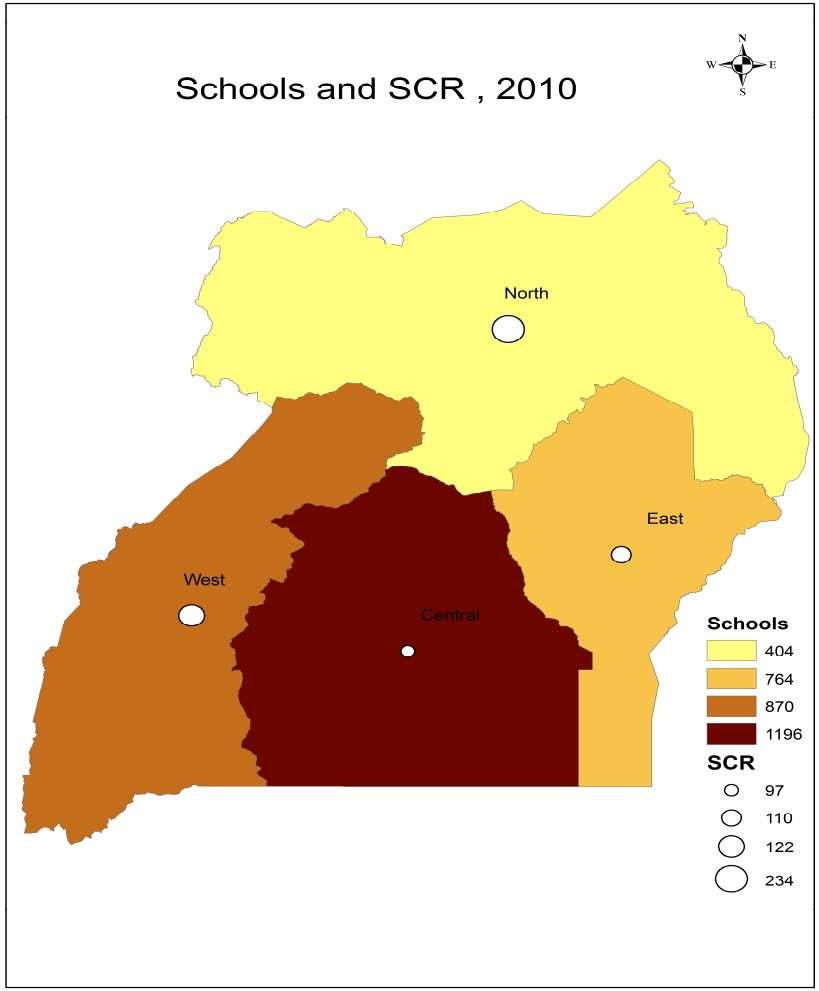
Source: Derived from raw data by The Ministry of Education and Sports

[6] This is hypothetical taking in the numerator the population aged 13-16 in a region and dividing it by the available streams for the first cycle of secondary education(S1-S4) in that region. It is hypothetical because the population figures are projections that are subject to error since the last census was conducted in 2002. Besides interregional migrations for schooling purposes may not be taken into consideration. It also does not consider the spread of schools, the quality of education and school ownership that may have implications for meaningful access.

Supply of secondary education from the perspective of the hypothetical student classroom ratio does not significantly depart from the findings on regional supply of schools. If all children aged 13-16, i.e. those supposed to enroll at the ordinary level of secondary education were to do so, then inadequacy of classrooms would mostly be felt in the North, West, East and Central in that order. In 2008 though, the West seems to have done better than the East but this is again reversed in 2010. The apparent discrepancy could be due to non-response from private school owners especially in the West.

Figure 22 : Secondary Schools and Student Classroom ratio (SCR) by Region in 2006 and 2010



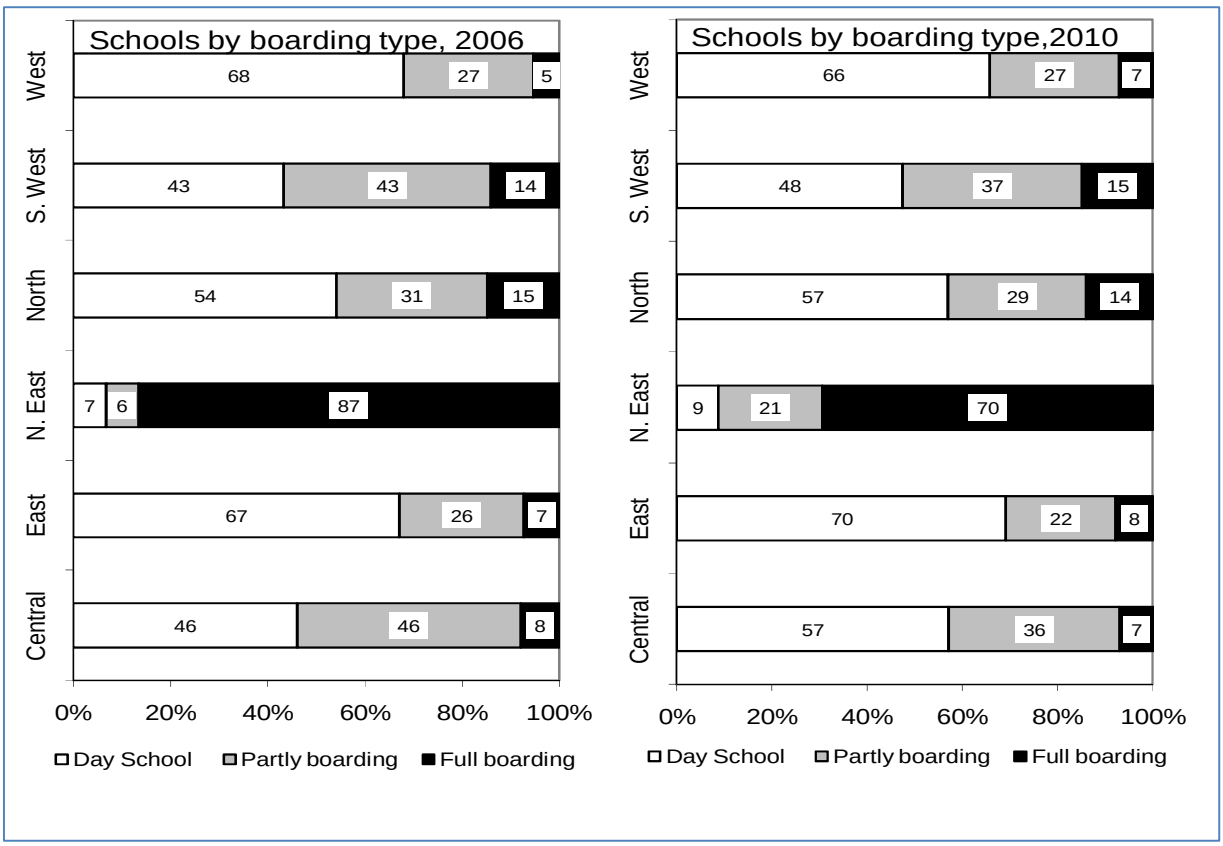


Source: Drawn using EMIS Data on Schools and Student Classroom ratios as calculated in Table 6

As already remarked, the distribution of schools by boarding type in the region may also affect demand for education. In this case regions where the schools are few and of course sparsely distributed, then boarding schools would come in to bridge this gap although the latter may negatively impact access to education by especially children from poor backgrounds.

As per figure 23, the proportion of day schools has generally increased in the five year period. On the other hand, the proportion of boarding schools has increased slightly in the West, South West, and East. In the North-East, although the proportion has declined, the region remains overwhelmingly serviced by boarding schools and this, points to challenges with regard to affordability by parents in the region.

Figure 23 : Distribution of Secondary schools by type and region in 2006 & 2010



Source: Constructed using raw data from Ministry of Education and Sports

It is worth noting that while day schools seem to be the majority, the paradox is that good performance is almost synonymous with boarding schooling. In this vein, following an

analysis of the 2012 Ordinary level results, the best 34 schools in the country were found to be boarding schools (Talemwa, 2012). Performance was measured by the percentage of candidates who passed in first grade for all the students that sat for the O-level Examination in the school.

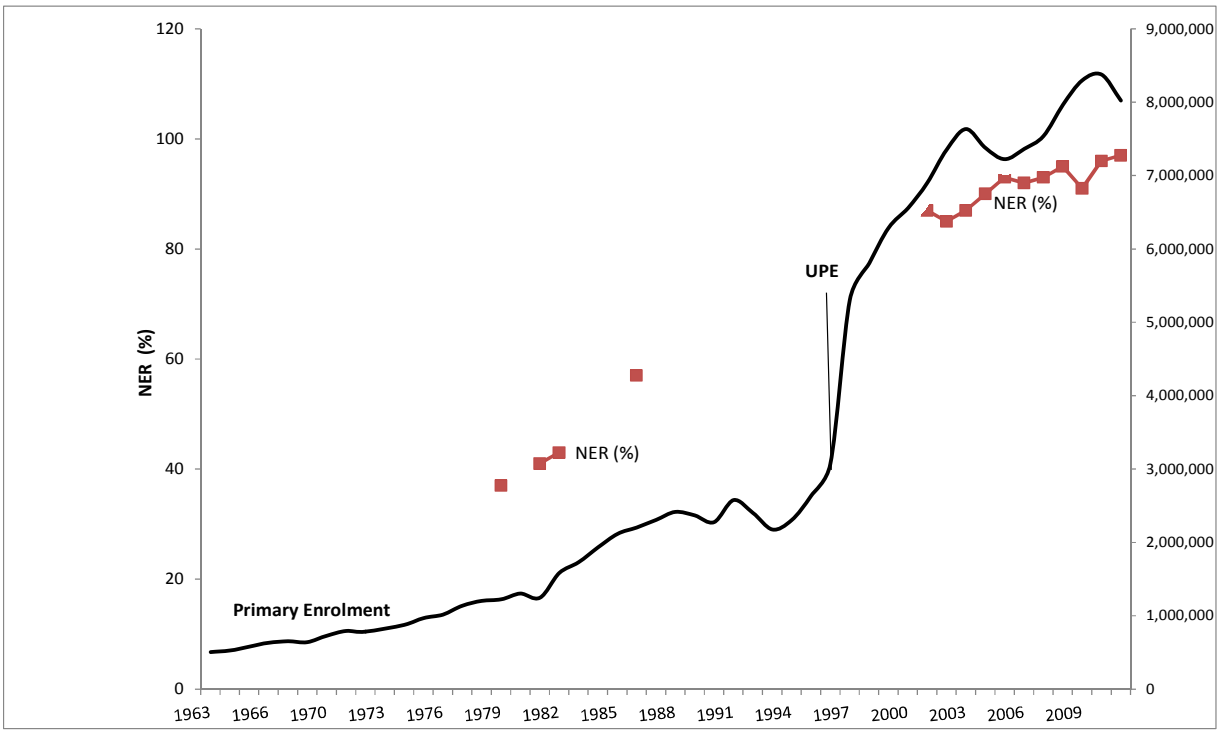
The passing of policies, construction of schools and training as well as deployment of teachers would only have meaning if they impacted enrolment. The implications would include impacting positively on enrolments in absolute and relative terms. It is in this spirit that the following section tackles trends in enrolments and enrolment rates at primary and secondary overtime.

3.12 Evolution of School Enrolments and Rates since Independence

Growth in school enrolments is one indicator of the performance of the Education sector and may reflect the effect of political or policy regimes and the economic environment on schooling. Enrolments in school have undergone a fundamental transformation since 1963 but total enrolment has largely been explained by primary rather than secondary school enrolment.

As per figure 24, enrolment at primary increased by 157% between 1963 and 1980.

Figure 24 **:** Evolution of School enrolments and Net Enrolment Rate [7](NER) at Primary



Source: Constructed using raw data from Ministry of Education and Sports & UIS Data.

It then stagnated slightly due to the effect of Amin war of 1979 and the politico-economic crisis that dominated the early 80s, picked and stagnated again in the early 90s, probably as a

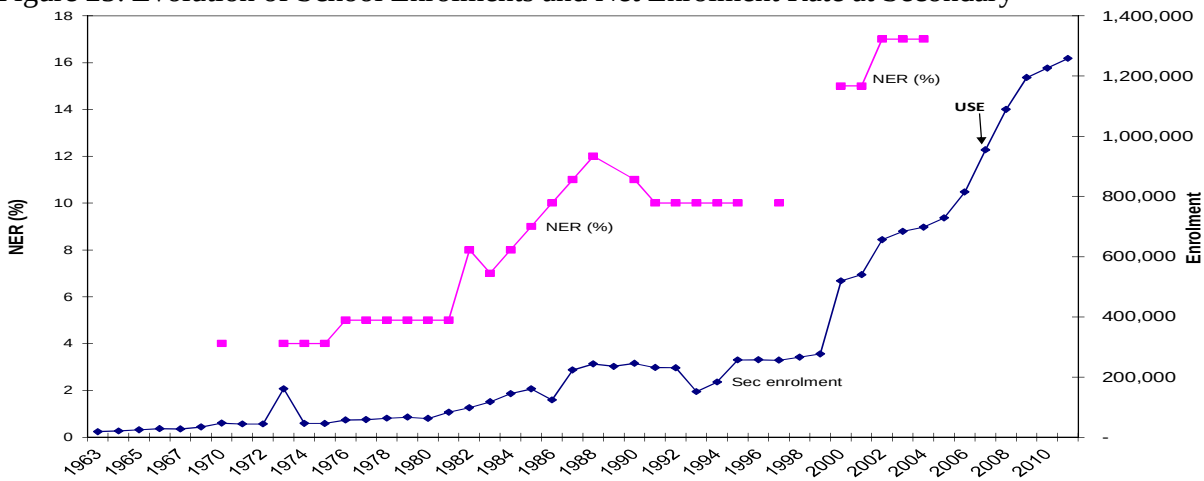
[7] The data for Net Enrolment Rate (NER) at Primary was very scanty more so before 2000. While NER as an indicator has its own challenges, it was preferred to GER since most children in Uganda start school late and often repeat grades making GER an overestimate of the real situation.

result of the Structural Adjustment Programs. It increased by 73% between 1996 and 1997 following the implementation of the UPE policy, again fell around 2004 and picked after 2007, when USE was introduced implying that universalizing secondary education was an impetus to parents and children as it improved enrolments at the lower level. In the same vein, the NER at primary that was below 50% before 1980 has averaged above 85% between 2000 and 2011.

At the secondary level, enrolments are generally lower in absolute terms and net enrolment rates. As was the case with primary, following the announcement of universal secondary education in 2006 and its implementation in 2007, secondary school enrolments increased but this time by only 17%. This, points to the fact that successful universalization of secondary education is a necessary corollary of a successful primary education system in terms of quality of education and strategies to enhance retention.

As per figure 25, while enrolment in numbers has grown significantly over the period in question, the proportion of children enrolled at secondary as a percentage of children of secondary school age (13-18) in the population (NER) has exhibited modest growth from 4% in 1970 to 25% in 2011. The situation seems to be more worrying in the context of high population growth rate in Uganda that makes every successive younger cohort larger than the previous one.

Figure 25: Evolution of School Enrolments and Net Enrolment Rate at Secondary



Source: Constructed using raw data from Ministry of Education and Sports and UIS Data

Growth in enrolments has not been equitable in many ways and with data from the Ministry of Education; it was possible to map gender and regional variations in the growth patterns as to be seen in the following sections.

3.12.1 Evolution of Inequalities by sex and region

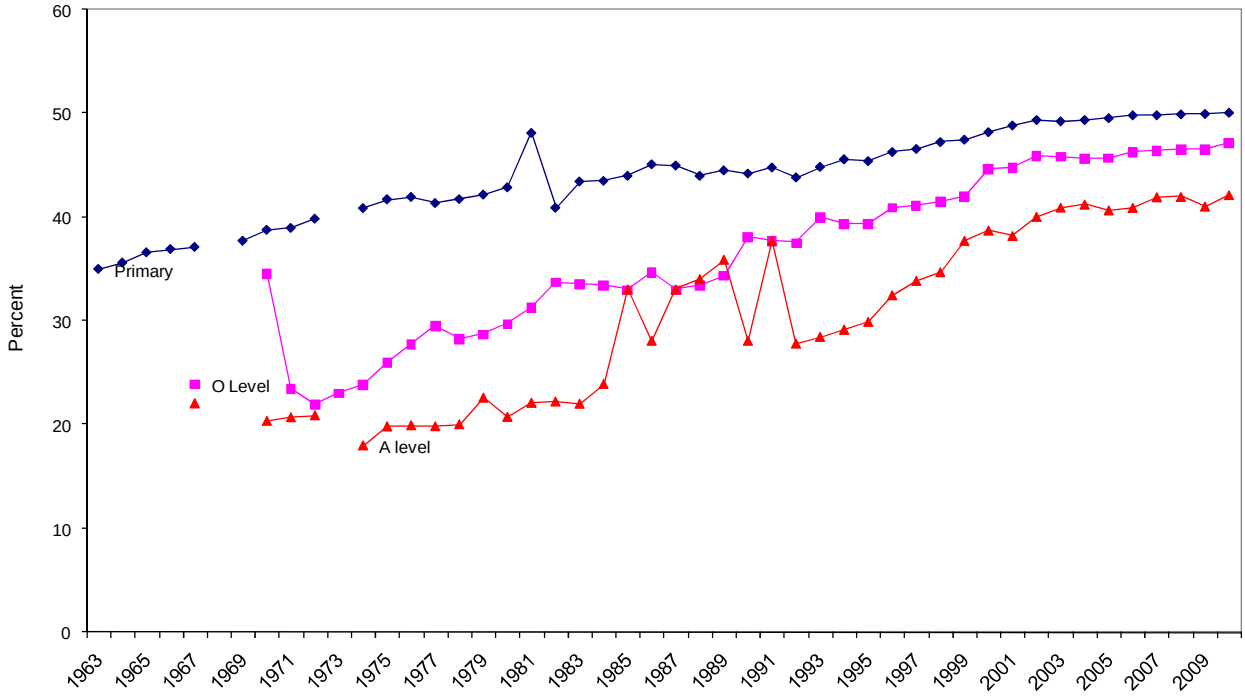
Like supply of education was not uniform across regions, demand was equally varied by region. In the same vein, not equal proportions of boys and girls were able to enroll at the different levels overtime. These differentiated trends in demand for education are discussed in detail hereunder.

3.12.2 Growth in gender equity in education at various levels

As already observed, most policies targeting education endeavored to address inequities in access among which was gender. This notwithstanding, it is evident from figure 26 that there were more males enrolled at primary, then ordinary level (the first four-year cycle of secondary education) than at the advanced level (second two-year cycle of secondary education) for inequities in access to education tend to be exacerbated, as one goes up the education ladder (Majgaard & Mingat, 2012; Pilon, 2004). This is can be explained generally, by high attrition within the cycle and at different transition stages (Mare, 1980), but more particularly, teenage pregnancy, early marriages and increased household demand for female labor in the largely patrilineal communities (Ministry of Education and Sports, 1989) as well as higher direct costs of schooling for girls (Majgaard & Mingat, 2012), that tend to worsen as girls grow older (Govinda & Bandyopadhyay, 2010; Lewin, 2009). While the proportion of females enrolled at primary was better and improved faster over the years, the percentage of females enrolled at ordinary level (first four years of secondary school) has oscillated between 24% and 30% from 1967 to 1980, 31-40% between 1981 and 1995 and 42 to 47% between 1996 and 2010.

While this is a situation of near gender parity in the recent past, it masks differences in performance by gender, gender inequities at regional and lower levels (UNICEF, 2005) and appropriate age for grade progression differentials between males and females (Wells, 2009). The percentage of females enrolled at the advanced level (the last two years of secondary school) is lower averaging about 20% from 1967 to 1984, 20% to 30% from 1985 to 2001 and 40% from 2002 to 2010.

Figure 26: Evolution of the proportion of females enrolled by level of education[8]



Source: Constructed using raw data from Ministry of Education and Sports

Evolution of enrolments may be misleading if it does not take into account the numbers in school in the context of their corresponding proportions in the entire population. This is possible through the presentation of net enrolment ratios at secondary and this is done by sex. Net Enrolment ratio in this case, refers to the ratio of secondary school students aged 13-18 years

[8] The fluctuations in enrolment could be due to errors in the data as the Education Management Information Systems was effective from around 1997. Before the data was manually captured and poorly safeguarded.

to the number of children of the same age range in the population (MoES, 2011a). It should be noted that data for NERs could only be got for years 2000 to 2011.

Figure 27: Evolution of NERs at Secondary by Sex between 2000 and 2011

Source: Constructed from raw data in Education & Sports Sector Annual Performance Report, 2012.

Whereas figure 27 is not disaggregated by cycle of education, it brings out the fact that the gender gap is steadily being bridged. Interesting to note is that while secondary school enrolments have grown dramatically since independence, the proportions of children enrolled as compared to the children of the relevant age group in the population have been small and improved from about 13% to 25% in the past 10 years, with no major variations between sexes. The situation seems to be worse according to results of household surveys.

It should be noted that these ratios, calculated from Education Management Information Systems (EMIS) data at school level tend to be slightly higher than those from Demographic and Health Surveys. A case in point is that according to the most recent UDHS, the NER for 2011 is 17% (UBOS and ICF International Inc, 2012) and contrasts with the Ministry of Education one of 25% for the same year. The cause for these divergences has been discussed elsewhere as being

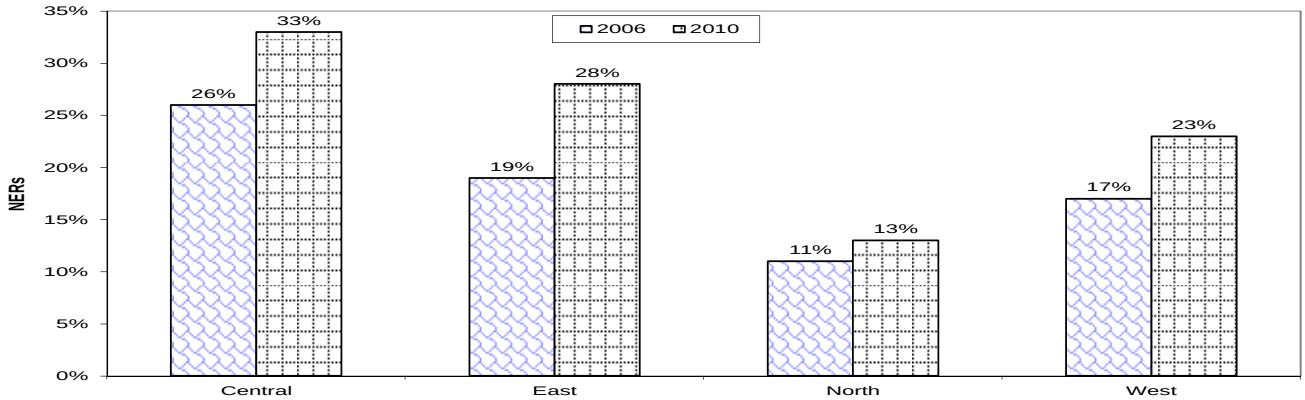
related to estimation errors in the denominator given that censuses are held at relatively long intervals, the time of holding the survey, the definition of school attendance (the case of Koranic schools) and sampling related errors (Gérald & Pilon, 2005). In the case of Uganda, the time of holding the survey does not apply because the statistics bureau includes among children, "currently attending school" those out of school on holidays, vacation, and due to sickness or to temporary closure of school. In addition, children in boarding school are considered as regular members (and considered to be schooling), i.e. members that were living in a household for more than 6 months in the preceding 12 months but were away for education purposes at survey time (UBOS, 2009). While these other reasons cannot be underestimated, the more plausible explanation for higher EMIS rates is the inflation of enrolments by head teachers (De Kemp & Eilor, 2008) as these numbers are the basis on which government gives capitation grants to schools.

3.12.3 Evolution of Enrolment Rates by region at Secondary

Like the growth in enrolments has not been so equitable in terms of gender, so hasn't it been in terms of region. In this case, like the supply of schools varied at regional level, the demand, denoted by Net enrolment rates was also varied.

Looking at figure 28, it is evident that more children in the age group 13-18 were enrolled in school in 2010 than in 2006. Increase in enrolments was registered more in the Central and Eastern regions than in the North. Last and most importantly, there seems to be a strong correlation between the supply of schools in a region as per figure 22 and demand (denoted by NER) for secondary education as per figure 28. It would thus not be out of place to deduce that low demand for secondary schooling is constrained by, *inter alia*, challenges of supply as noted elsewhere (Lange & Pilon, 2009; Oketch & Rolleston, 2007) and that regional differentials in demand are exacerbated by limited supply in some regions.

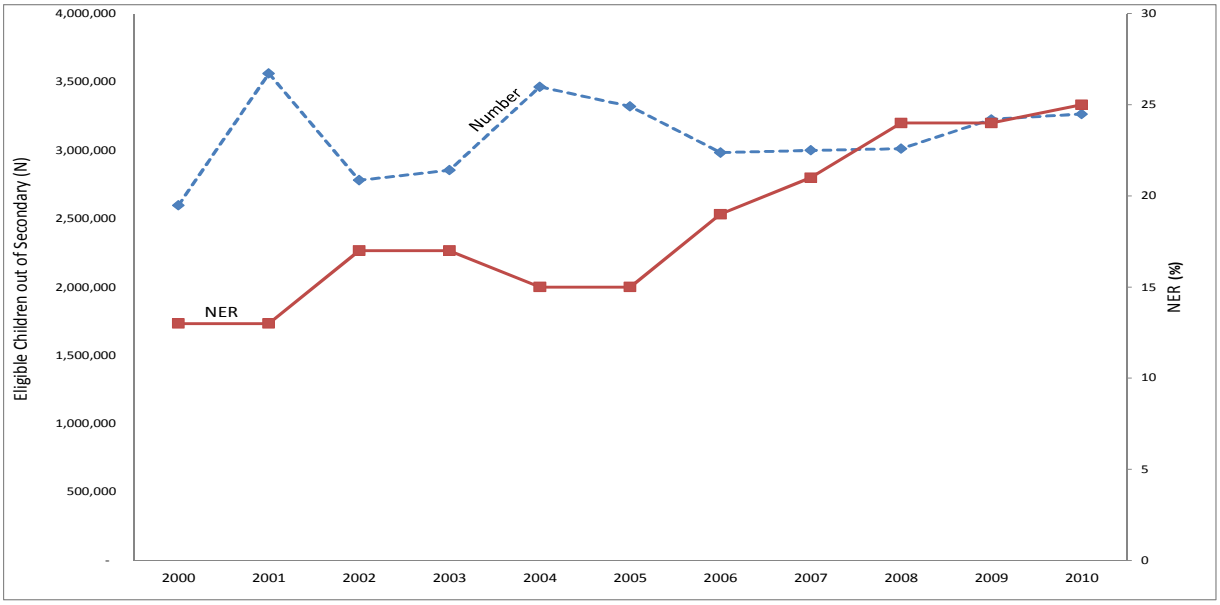
Figure 28: Evolution of Net Enrolment Rates at Secondary between 2006 and 2010



Source: Constructed using raw data from Ministry of Education and Sports

In a nutshell, it looks like the number of children enrolled at secondary has grown significantly although secondary schooling has failed to embrace a significant proportion of the eligible age group as evidenced by slowly rising but low net enrolment rates overtime. In the context of bourgeoning school populations rooted in high fertility and hence high population growth rates, the situation is often worse (Rolleston, 2009) than portrayed as can be seen in figure 29.

Figure 29: Evolution of NER and Number of Children aged 13-18 out of Secondary



Source: Constructed using raw data from Ministry of Education and Sports

It should be noted that the intersection of these lines has no meaning as the two variables are measured at different scales. As can be seen and has been found elsewhere in Sub-Saharan (Charbit & Kébé, 2006, 2010; UNESCO, 2011), an increase in enrolment rates has not precluded an increase in the number of eligible (13-18 years) children out of school (secondary in this case). While this may be related to estimation errors of the population (denominator in the computations) at a given time, it may largely be explained by the high population growth rate of Uganda's population. In conclusion therefore, while the presented rates may be higher than the situation on the ground as evidenced by rates according to DHS, they also underestimate the situation of retention in school or access to secondary school in absolute terms.

3.13 Emerging issues on Education Policy, Supply and Demand since Independence

As can be seen, Uganda has not been deficient of policy since independence and the policies have come up after thorough research by competent bodies and adequate consultations with stakeholders. They have also been followed, albeit late, by legal texts to implement their recommendations.

The Report of the Castle Commission of 1963 dictated all policy around education in the first three decades of independence while the Government White Paper has been the predominant policy guideline since 1992.

While most of these policies were not specific to a particular level of education, the Report of the Castle Commission of 1963 emphasized secondary education in line with the preoccupations of the International community and the worries of the newly independent governments in Africa, namely "training manpower to step in the shoes of the colonialists". This is vindicated by dramatic increases in secondary school enrolments between in 1963 and 1980 that are higher than those at primary over the same period.

Political instability and economic uncertainty have largely been responsible for not implementing the recommendations of most of the policies' recommendations. As a result, while most of the reports and policy documents pointed out: poor education quality, poor enrolments

and inequities in access to education by geographical region and by other household and individual level characteristics, this problem, exacerbated at higher levels, seems to go unresolved up to the present day.

The implementation of UPE by the president in 1997 in contravention of the wise recommendations of the Education Policy review Commission partly explains why the policy has largely not been successful in terms of retention of children in school and quality learning outcomes and this continues to haunt the program to date.

One critical difference between the Education Sector Investment Plan and the Education Sector Strategic Plan is that the latter shifts emphasis from only Universal Primary Education to post primary and other subsectors in addition to the primary. It also looks at improving quality of education i.e. what **participants learn** and **how they learn it** as opposed to the ESIP that emphasized access (enrolment).

The current Education Sector Strategic Plan (2004-2015) seems to be an ambitious plan that prescribes strong solutions to inequities in access and quality learning outcomes at all levels. This study could feed into the plan as it may come up with the different types of the excluded children at the individual, household and regional levels.

The 2008 Education Act is a novel development as it comes in to enforce the policies and strategies at both the Primary and Secondary levels. It makes education compulsory and prescribes punitive measures against parents that wouldn't want to enroll their children in school as well as school owners and administrators who would want to charge extra fees from the pupils/ students under the free education system. The Extent to which this has been implemented is yet another question and field findings show that almost all schools, including the Seed schools, charged extra fees beyond what is prescribed by government.

The fact that founding bodies still exercise sizable control on schools and that costs of boarding are met by parents as prescribed in the Government White Paper (R34ii for primary and R52 for secondary) and reiterated in the USE Policy document, has made the otherwise public schools (teachers paid by government, supervision done by government and school facilitation grants provided by government and partners) inaccessible to most students as the costs for

boarding are so high as compared to tuition that is often set by government. This, compounded by the fact that selection into the old prestigious government schools is so eliminative and in favor of children that have attended largely private primary schools, leaves the prestigious, otherwise "government" schools as an exclusive prerogative of children for largely the privileged urban elite.

While boarding schools constitute about 10% of all the schools in the country, they are paradoxically the best schools as the top 34 schools in the 2012 Uganda Certificate of Education (UCE) exams were all boarding schools. It thus implies that good performance is a preserve of the middle class while the majority of children are enrolled in schools that perform averagely. How then will redistribution of wealth be achieved and how will children from disadvantaged backgrounds harness the opportunity of social mobility?

Enrolments at primary and secondary have grown significantly since independence although the growth was more pronounced at primary than at secondary. This growth has not been uniform in many aspects but with the help of the Ministry of Education data, it was possible to track the growth by gender and region.

While with regard to gender, the gaps that are exacerbated at the secondary level in disfavor of females are slowly being narrowed, regional inequities seem to be rooted in, *inter alia*, inequities in supply of education.

Whereas in terms of numbers, enrolments have grown over time, secondary education has failed to embrace about three quarters of the eligible age group to date. Against the backdrop of ever increasing populations rooted in high total fertility rates, there were more eligible children out of secondary school in 2010 than there were ten years earlier although the net enrolment rate at secondary seems to have doubled over the same period.

With the Ministry data, it was possible to look at issues of supply of and demand for education but at a macro level. Besides, while supply of schools is important, the decision to take children to school and keep them there is more explained by demand (Bennell, 2002; Sabates, Hossain, & Lewin, 2013) that can be measured at the household level. A vivid example is that despite the education universalizing initiatives everywhere is Sub-Saharan Africa, about 10% or

even more (in most of francophone West Africa) of eligible children are still not enrolled in school. Even for the many who enroll, there are factors at the household level that dictate the children that continue and those that drop out and on the basis of literature reviewed; this pattern seems to be so consistent that it cannot be haphazard. In addition, different types of households, in different regions may enroll different kinds of children at various levels of education and this can be studied by looking at the factors that may be at community but most importantly household and individual levels.

It is in this spirit that this study endeavors to understand the factors at the individual, household and community levels that are associated with access to secondary schooling and how these have evolved after universal secondary education as to be seen in the next chapter.

CHAPTER FOUR : EDUCATIONAL ATTAINMENT BY BACKGROUND CHARACTERISTICS OF INDIVIDUALS AGED 13-24 YEARS.

This chapter is largely exploratory. It endeavors to explore the relationship between educational attainment of the household population aged 13-24 and other factors that have been found to explain educational outcomes on the basis of the literature studied. This is done concurrently for 2006 and 2010 to establish patterns over the five year period. In this chapter, contingency tables, known as cross tabulations shall be run to try and establish if the distribution of observations across columns and rows follows a certain discernible pattern.

The need to establish patterns between variables aims to establish the existence of associations or relationships between educational attainment and each of the other hypothesized explanatory factors. While this can be observed with a naked eye if it is obvious, statistical methods like the Pearson Chi Square test have been used both to confirm the existence or non-existence of a statistically significant relationship and or measure the strength of the relationship.

Because univariate analysis is not presented in this thesis, this level of analysis also serves to understand the variables better, this in itself being critical prior to the multivariate analysis to be carried out in the subsequent chapters.

At this level, the main variable of interest is educational attainment of the household population aged 13-24 years and this has been found to be influenced by other factors or characteristics that can be categorized as individual characteristics which comprise age, sex and relationship of a household member to the household head, household level characteristics that include age, sex, marital status and education of household head, presence/absence and or survival status of natural father, presence/absence and or survival status of natural mother, household wealth status, main source of income for the household, household size, proportion of the under-fives and proportion of the old (aged 60+) in these households. In addition, educational attainment can be determined by community level factors that include place (rural-urban) and region of residence that are often used to measure the extent of supply of education.

While this study is largely interested in access to secondary education, it would appear prudent to understand the detailed education status of the population under study by age as the latter is a very important explanatory factor for educational outcomes. It should be remembered that if any child aged between 13 and 24 was picked at random, he/she would belong to any of the following educational outcomes: He/ She (i) would never have enrolled in school, (ii) would have dropped out of primary, (iii) would have completed primary but not made a transition to secondary, (iv) would have dropped out of secondary, (v) would still be enrolled at primary, (vi) would be enrolled at secondary, (vii) would have completed secondary and failed to enroll anywhere else, (viii) would be enrolled at a post-secondary institution (e.g. a teacher training college, nursing school, university for the few that enroll and complete early) and finally (ix) would have completed studies at a post-secondary institution (e.g. a teacher training college , nursing school, university for the few that enroll and complete early).

The first four scenarios correspond to those in the CREATE framework on zones of exclusion with regard to educational outcomes (Lewin, 2007c) and resonate with Mares' logic (Mare, 1980) where transition between stages were found to be points of highest attrition. It is therefore logical to understand where dropouts are highest, over and above looking at access to secondary, to inform policy where most efforts need to be put in order to enhance access to secondary schooling.

In line with the objectives of this study, the nature of the dataset, the number of observations in question and the type of questions found in the questionnaires used, the educational outcomes of household members aged 13-24 were generally categorized as (i) never enrolled in school, (ii) dropped out of primary, (iii) completed the last grade of primary, (iv) left at secondary, (iv) completed their education carrier at an institution (teachers' college, nursing school etc.), (v) are still enrolled at primary and, (vi) are enrolled at secondary and above. These categorizations are illustrated in figure 30 and done by age of the household members for the population under study.

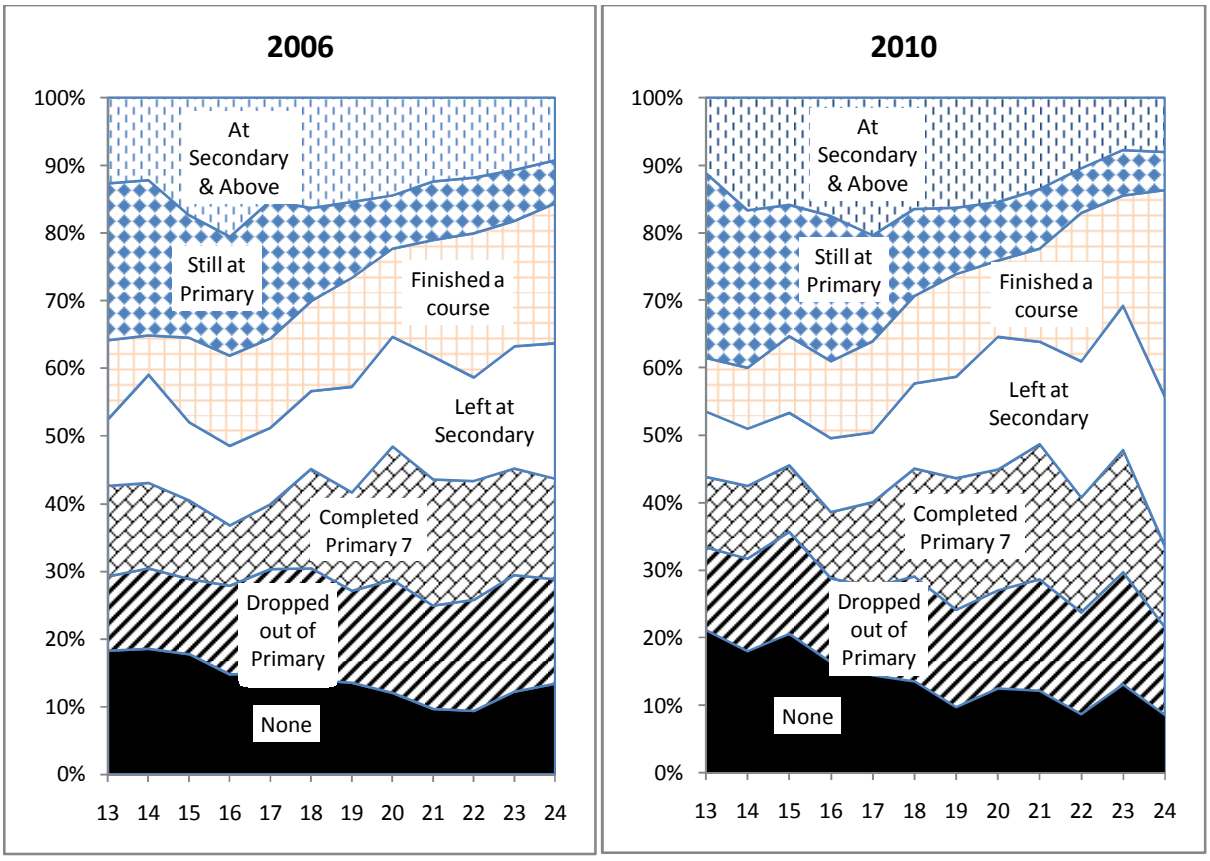
On looking at the figure closely, one may make the following remarks: first ; there were more household members aged 13-24 that had never been to school in 2010 than in 2006 and illiteracy tended to decline with age; secondly, universalization of secondary education has failed

to eclipse dropouts at primary; thirdly, there is a sizable proportion of children of secondary school age that are still at primary although this declines with age and fourthly, the proportion of children "currently attending" secondary and above increases with age at a declining rate and seems not to have significantly changed over the five year period.

The first observation is corroborated by findings of the Uganda National Household Survey Report where the proportion of children (6-24) that had never been to school had increased from 6.2% in 2006 to 9.8% in 2010 and the proportion of children attending school as at survey time had slightly declined from 73.3% in 2006 to 69% five years later (UBOS, 2010b).

Most of the household members of secondary school age were still at primary and this may be due to late enrolment and repetitions that are prevalent in most of Sub-Saharan Africa (Lewin & Sabates, 2012) in general and Uganda, in this particular case (Wells, 2009; Ministry of Education and Sports, 2010). Late enrolment is a precursor for dropouts because as children get older, there is increased demand for their labor and additionally, old age for grade is strongly negatively correlated with achievement (Wamala, Omala, & Jjemba, 2013). For the girls, reaching puberty while in primary where they often walk long distances to school also predisposes them to early pregnancies and early marriages.

Figure 30 **:** Education Status of Household members aged 13-24 by Single Ages

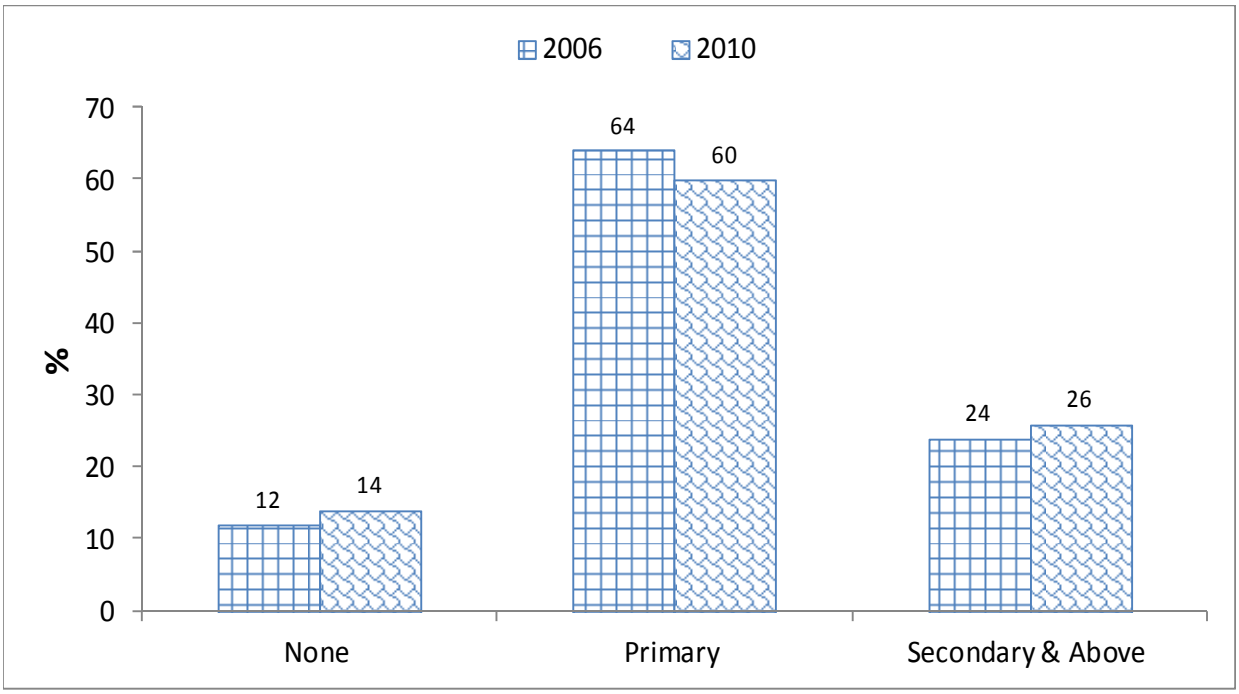


Source: Constructed from UNHS datasets

Because of problems of insufficient observations this being survey data and due to the challenges related to late enrolment, late progression and high dropouts at primary, this study considered the age group 13-24 instead of 13-18 as the latter is the official for entry and completion of secondary and included in the numerator children that "are enrolled" or ever enrolled at secondary and above as well as children that could have completed their studies but passed by secondary.

Educational attainment, the main variable of interest to this study was finally configured to have three categories: None, Primary then Secondary and above (figure 31).

Figure 31 **:** Educational attainment for household members aged 13-24 in 2006 and 2010



Source: Constructed from Uganda National Household Survey Datasets

It is clear from figure 31 that the proportion of children that "are enrolled" or ever enrolled at secondary, registered a modest growth as observed before (Ssewanyana, Okoboi, & Kasirye, 2011). It increased from 24% to 26%, thereby registering a growth of 2 percent points over the five year period. Again, to reecho the concern observed in figure 30, there were more children that had never been to school in 2010 than 5 years earlier.

Subsequent sections look at the distribution of the household population under study (13-24) by educational attainment and by individual, household and community level characteristics.

In line with the guidelines on the use of Household Survey and Census data to study determinants of educational outcomes, this study presented the findings according to the characteristics /factors related to the household member (individual), the household head, other household members, the household itself and the community (CEPED, UEPA, & UNESCO, 1999; UIS et al., 2004).

4.1 Individual Characteristics and Educational Attainment

In this subsection, the interactions between individual factors like age, sex and relationship of the individual to the household head and educational attainment are explored.

Table 7: Distribution of Members by Educational Attainment and by Individual Characteristics

	2006					2010				
	Educational Attainment					Educational Attainment				
Individual Characteristics	None	Prim.	Sec. &+	**N**	P value	None	Prim	Sec. &+	**N**	P value
	(%[9])	(%)	(%)			(%)	(%)	(%)		
Age				**7495**	0.000				**7940**	0.000
13-18	13	66	21	4448		16	63	21	4695	
19-24	11	61	28	3047		12	55	33	3245	
Sex				**7495**	0.020				**7940**	0.430
Male	12	65	23	3634		14	61	25	3727	
Female	12	63	25	3861		14	59	27	4213	
Relationship to head				**7495**	0.000				**7940**	0.000
Own Child	13	64	23	4012		15	62	23	4383	
Other Relative	11	64	25	3247		13	57	30	3344	
Non Relative	8	56	36	237		16	44	40	214	
Proportion (%)	*12*	*64*	*24*	**7495**		*14*	*60*	*26*	**7940**	

Prim= Primary, Sec & += Secondary and Above.

[9] For all the tables in this chapter, we consider row percentages that add up to 100%.

4.1.1 Age of Child

Age that was originally captured as a continuous variable was categorized into two age groups i.e. 13-18, that corresponds to the official age bracket for secondary school attendance and 19-24, that is ideally the age slab for post-secondary schooling. Age and educational attainment were found to be strongly statistically related (p =0.000) in both 2006 and 2010. As previously stated, about two thirds of children aged 13-18 and therefore supposed to be in secondary were still in primary or had primary level of education in 2006 and five years later. This phenomenon is so serious that it extends to older children aged 19-24. The older the population under study was, the more it was likely to have accessed some secondary education. It should be noted (as seen in figure 30) that educational attainment increases with age at a decreasing rate as children who enroll much later and or progress more slowly tend to drop out of the school system.

4.1.2 Sex of Child

Generally, the sex of a child seems not to guarantee him or her any advantage or disadvantage with regard to educational outcomes. In this vein, the proportions of females and males that ever enrolled at secondary or never attended school do not seem to vary significantly in 2006 and 2010. This is corroborated by findings that the gender gap in schooling in Uganda has been greatly diminished (UBOS and ICF International Inc, 2012; Wells, 2009) although not necessarily eliminated more so at lower geographical levels, among ethnic minorities and other socio-economic groups.

4.1.3 Relationship to the Household Head

In the context of increased demand for schooling and insufficient supply of schools , parents have had to place their children in households of their “friends” and or “relatives” for them to be able to access school within the vicinity of the receiving households (Pilon, 2005).

While the motives of sending children to other households may vary, some studies have found an ambivalent relationship between “fostered children” and schooling outcomes. This relationship has been found to be moderated by, *inter alia* , place of residence, the motive for sending the child as well as the relationship between the sending and receiving households (Pilon, 2005,1995).

Non-relatives and then other relatives were more likely to have accessed secondary education than the children of the household head. Additionally, the proportions of the household population aged 13-24 that had never been to school seem not to vary significantly across the three categories. Apparently at this level, “fostered” members seem to be doing better with regard to accessing secondary education than those of the household head and this reinforces the argument of the ambivalence between child fostering and schooling outcomes.

4.2 Characteristics of the household head and Educational Attainment

In table 8, interactions between characteristics of the household head i.e. sex, age, education level and marital status and educational attainment of members are explored.

Table 8: Distribution of Members by educational attainment and by Characteristics of the Household head

	2006					2010				
	Educational Attainment					Educational Attainment				
Household head characteristic	None	Prim.	Sec.& +	**N**	P value	None	Prim	Sec.&+	**N**	P value
	(%)	(%)	(%)			(%)	(%)	(%)		
Education of head				**7361**	0.000				**7875**	0.000
None	35	56	9	1213	0.000	34	52	14	978	
Primary	10	74	16	3881		14	70	16	4784	
Sec & Above	5	43	52	2360		6	38	56	2113	
Sex of head				**7495**	0.295				**7940**	0.003
Male	12	64	24	5510		13	60	27	5571	
Female	13	63	24	1985		17	58	25	2369	
Age of head				**7495**	0.001				**7940**	0.000
Thirty one & below	10	65	25	1590		12	57	31	1984	
31-59	12	64	24	4588		14	61	25	4774	
60 and Above	16	62	22	1317		19	56	25	1182	
Marital status of head				**7495**	0.000				**7940**	0.000
Monogamist	12	64	24	4255		13	60	27	4594	
Polygamist	14	66	20	1500		18	63	19	1427	
Divorced/separated	8	66	26	390		17	61	22	480	
Widowed	14	65	21	988		17	60	23	1090	
Never married	6	52	42	362		6	37	57	349	
Proportion (%)	*12*	*64*	*24*	**7495**		*14*	*60*	*26*	**7940**	

4.2.1 Education of household head

Education level of the household head was captured on the basis of the highest grade completed/attained (UBOS, 2009). In this study, the categories of “Secondary” and “Higher” were collapsed to make one category renamed “Secondary and above” as observations in the category “Higher” were relatively few.

Education of the household head and children’s educational attainment were found to be strongly associated before and after the introduction of Universal Secondary Education (p=0.000). Indeed the proportion of children that had never been to school decreased with an increase in education level of the household head. In the same vein, the proportion of children that ever enrolled at secondary and above, increased proportionately with the education level of the household head and this seems to be stronger in 2010, than five years earlier. While this may be confirmed at the subsequent level of analysis, it seems to point to intergenerational recycling of educational opportunities or curses to the detriment of first “generation students”.

4.2.2 Sex of household head

While traditionally, it was believed that household members under female heads were relatively more disadvantaged than those under male heads, an increasing body of literature seems to point to the contrary especially with regard to children’s’ educational attainment (Kabore et al., 2003; Lloyd & Blanc, 1996; Pilon, 2005,1995; Rolleston, 2009; Wayack-Pambè & Pilon, 2011).

In 2006, the sex of the household head seems not to guarantee any advantage or disadvantage with regard to children’s schooling outcomes (p=0.295). Indeed, both the proportion of children that had never been to school and ever enrolled at secondary and above appeared to be generally similar, the sex of the household head, notwithstanding. In 2010, children under male heads were found to be at an advantage with regard to educational attainment (p=0.000) as there were more children that had never been to school and slightly less

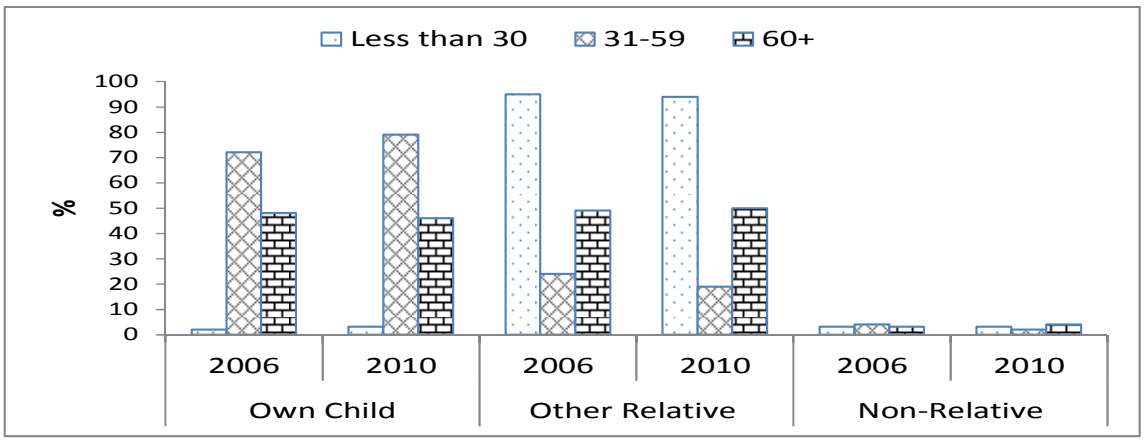
children that ever attended secondary school under female heads than under their male counterparts. This seems to contradict the body of literature as seen but may be confirmed at the multivariate level.

4.2.3 Age of household head

Results from univariate analysis (see Annex 1) show that household heads were largely, though not exclusively, parents (fathers or mothers). Data on the age of the household head was captured as a continuous variable although in this study it was categorized as; “thirty and below”, “31-59” and “sixty and above”.

Age of the household head and children’s educational attainment were found to be strongly related in 2006 and five years later. In both situations, the proportion of children that had never been to school increased with the age of the head. In the same logic, the proportion of children that ever enrolled at “secondary and above” decreased with an increase in age of the household head. Could this be related to the role of elder children in staying with and educating their younger siblings? Indeed, as figure 32 shows, most of the other relatives among members in our cohort of interest (13-24) were surveyed under heads aged below 30. Important to note is that a good proportion of “other relatives” was surveyed in households headed by old people.

Figure 32 : Relationship to household head by age of head in 2006 and 2010



4.2.4 Marital Status of household head

These surveys captured the variable on marital status as married monogamously, married polygamously, divorced/separated, widow/widower and never married. The distinction between polygamous and monogamous marriage arrangements seems to be of great interest to this study as polygamy has been found to impact children's schooling opportunities (Buchmann, 2000; Kobiané, 2006).

Marital status of the household head and children's educational attainment were found to be strongly related (p=0.000). In line with what was observed in the previous section, the proportion of children that ever attended secondary was highest in households whose heads were never married. In the same logic, it is in these households where children under study manifested with the lowest levels of illiteracy. Further analysis reveals that 24% of brothers and sisters were indeed staying with unmarried household heads. These heads had mainly secondary and above level of education (54%) and were largely rural based (64%). This implies that older brothers or sisters help in staying with younger siblings and educating them. Children under polygamous heads were found to be most disadvantaged with regard to both enrolment in school and access to secondary education in 2006 and 2010.

4.3 Characteristics of other household members and Educational Attainment

These factors that have been hypothesized in this study and found to influence schooling outcomes in other studies include the presence or absence and survival status of the father and or the mother as well as household size and structure. The latter can be broken down into the proportion of children under five and adults aged sixty years and above.

Table 9: Distribution of Members by educational attainment and by Characteristics of other Household members

	2006					2010				
	Educational Attainment					Educational Attainment				
Household members variable	None	Prim.	Sec.&+	**N**	P value	None	Prim	Sec.&+	**N**	P value
	(%)	(%)	(%)			(%)	(%)	(%)		
Household size				**7495**	0.000				**7940**	0.000
1-4	10	60	30	2024		13	53	34	2295	
5-9	13	65	22	4019		14	63	23	4341	
10+	13	65	22	1452		16	61	23	1304	
Adults (60+)				**7495**	0.001				**7940**	0.001
None	11	64	25	4961		13	61	26	5243	
One	14	64	22	1604		18	56	26	1793	
2+	15	62	23	930		15	58	27	904	
Children (<5)				**7495**	0.000				**7940**	0.001
0-1	10	63	27	5328		14	58	28	5637	
2	15	67	18	1545		15	63	22	1720	
3+	14	70	16	622		16	65	19	583	
Is natural father in household				**3748**	0.166				**4169**	0.304
Yes	13	68	19	1549		14	64	22	2411	
No but Alive	11	67	22	988		16	60	24	1149	
No but Dead	14	65	21	1211		15	61	24	609	
If natural mother is household				**3744**	0.000				**4169**	0.020
Yes	14	68	18	1898		15	64	21	3033	
No but Alive	10	65	25	1063		16	58	26	843	
No but Dead	14	66	20	783		11	63	26	293	
Proportion (%)	*12*	*64*	*24*	**7495**		*14*	*60*	*26*	**7940**	

4.3.1 Household size

Household size was captured as a continuous variable but in this study it was categorized as seen in table 9. Household size has been found to influence schooling outcomes but this is greatly moderated by other factors like place of residence and status of the household members in relation to the household head (Kobiané, 2006; Wakam, 2003). Although not consistently, the proportion of children that had never enrolled in school increased with household size. In addition, the chances of enrolment at secondary reduced with household size. Could this be pointing to the dilution of resources at the household level that may work in disfavor of bigger households? At this stage it may be too early to conclude as other factors may have a role to play.

4.3.2 Proportion of Older adults

The number of adults (aged 60+ or 65+) has been found to influence children's schooling outcomes and again, this has been found to depend on the sex of the adults and that of the children in question, among other factors (Takahashi, 2011). The proportion of the children that never enrolled in school increased with the proportion of the old people, though not consistently. While in 2006 the chances of enrolment at secondary reduced with an increase in the proportion of the old people, they manifested a slight increase in 2010 thereby presenting ambivalent interactions between the two variables, overall.

4.3.3 Proportion of children under five

In some studies, the proportion of the under-fives in a household has been used to estimate the extent of child overwork/labor as an increase in the number of these children may imply older children being obliged to take care of the young ones that may in turn have far reaching implications for, *inter alia*, children's education. While the chances of being illiterate increased with the proportion of the under-fives, the probability of secondary school enrolment was consistently negatively related with the proportion of the under-fives.

4.3.4 Presence of natural father in household

With regard to the presence/absence or survival status of parents, data was collected from different groups of individuals. While in the 2005/6 survey, this data was collected from all household members (UBOS, 2006), in 2009/10, it was collected from only those members below 18 (UBOS, 2010b). For easier comparison, this study created variables on the presence/absence or survival status of parents in 2006 for only household members below the age of 18.

The relationship between the presence and or survival status of the father and educational attainment was insignificant in 2006 and 2010. Both the proportions of children that never enrolled and ever accessed secondary schooling were found not to vary significantly across categories. It also seems to appear that children with fathers in the households were more at a disadvantage compared to the other categories of children.

4.3.5 Presence of natural mother in household

Children whose mothers were living outside the surveyed households were more likely to access secondary education than those whose mothers were in the households or dead, although this exhibits inconstancies over the five year period. While the proportion of children that never went to school in 2006 was highest for maternal orphans and present mothers, this was neither true nor consistent in 2010. Maternal orphans and children whose mothers weren't in the households were found to be at an advantage with regard to secondary schooling in 2010. This probably points to other societal mechanisms to help orphans (Ntozi, 1997) and may imply that these absent mothers send money to help in their children's schooling .

4.4 Household Characteristics and Educational Attainment

These characteristics that best describe the households themselves are, in this case, household's wealth status and main source of income, as can been seen in table 10.

Table 10: Distribution of Members by educational attainment and by Household Characteristics

	2006					2010				
	Educational Attainment					Educational Attainment				
Household variable	None	Prim.	Sec.&+	**N**	P value	None	Prim	Sec.&+	**N**	P value
	(%)	(%)	(%)			(%)	(%)	(%)		
Wealth Index				**7495**	0.000				**7940**	0.000
Poor	18	72	10	3366		19	68	13	3354	
Middle	11	68	21	1813		13	64	23	2074	
Rich	5	50	45	2316		8	45	47	2512	
Main Y Source for hh				**7204**	0.000				**7939**	
Subsistence farming	16	68	16	3932		16	67	17	3628	0.000
Commercial farming	9	67	24	292		14	67	19	378	
Wage employment	8	59	33	1190		11	49	40	1636	
Non Agric. enterprises	7	61	32	1306		14	56	30	1618	
Property Y &Transfers	12	44	44	338		12	48	40	616	
Organizational support	17	73	10	146		24	63	13	63	
Proportion (%)	*12*	*64*	*24*	**7495**		*14*	*60*	*26*	**7940**	

4.4.1 Household Wealth

These surveys collected data on expenditure at household level on the basis of which the Uganda Bureau of Statistics was able to categorize households as poor and non-poor. This was done in consideration of the threshold for the poverty line, as it is conventionally understood.

While the categories created by UBOS may seem to exhibit "internal homogeneity", they are also quite internally heterogeneous, that keeping the categories as created in the dataset, would mask differences within each of them. This particular study preferred to regroup the variable on household expenditure into three categories i.e. poor, middle and rich.

Because Income or Wealth (as defined by expenditure) is normally highly positively skewed, this study took the households in the first 50th percentile (those whose expenditure was between the minimum and the median) as poor, those in the next 25th percentile (between the median and 75th percent of expenditure) as middle and the ones in the last 25th percentile (between the 75th percentile and the maximum) as rich.

Household wealth/ income, has been found to be one of the factors that strongly explain educational outcomes globally and in Sub-Saharan Africa, in particular. This has been found to be true even after the "free education" initiatives (Kakuba, 2012; Lewin & Sabates, 2011; Ohba, 2009; Ssewanyana et al., 2011) in the light of EFA and MDG goals.

The proportion of children that had never been to school decreased with an increase in household wealth in 2006 and 2010. In the same vein, enrolment at secondary was strongly positively associated with household welfare/income. Despite the universalization of Primary and Secondary Education in 1997 and 2007, respectively, the possibility that poverty continues to be recycled and that children from poor households may fail to move out of poverty, seems not to be less certain in 2010 than 5 years earlier.

4.4.2 Main Source of Income for Household

The variable on the main source of income for the household was one of the most elaborate of all the variables. This may be related to the welfare level of the household but also other things like child labor as children in agricultural households may be solicited for labor that may infringe on their right to attend school and or concentrate on studies. Most of the categories look clear but this study would like to expound on two, i.e. property income & transfers and organizational support. Property income is the income from renting out of property but "transfers" is broad including pension, allowances, social security benefits and remittances from

abroad and within the country (UBOS, 2009). Organizational support refers to aid given to vulnerable households, more so in a war situation i.e. food, clothes, etc.

Children found in households largely engaged in subsistence farming or dependent on organizational support were more likely to be illiterate and less likely to access secondary education. On the other hand, children from households that largely depended on wage (salaried) employment were least vulnerable with regard to illiteracy and more likely to have accessed secondary schooling. Households that largely earned from property and remittances present the highest opportunities to educate their children at secondary level but surprisingly they are not equally less vulnerable with regard to illiteracy. On further analysis, this was linked to "other children" employed in the households of the rich.

4.5 Community Characteristics and Educational Attainment

Factors at the community level that may impact both supply and demand for education are place of residence and region of residence.

4.5.1 Place of Residence

Urban or rural residence may dictate differential patterns in the supply of schools in form of numbers and distribution, the supply of teachers, other infrastructure like electricity, water, roads, telephone networks, etc. The availability of these other infrastructure may also affect investments in schools, especially by the private sector that is increasingly involved in supply of education, especially at the post primary level.

In addition, since the urbanization process is selective, it is more likely that the educated and rich that provide higher demand for children's education, are urban based. It is thus not a surprise that place of residence has been found to strongly influence schooling outcomes for children.

As per table 11, being illiterate was more of a corollary of staying in the rural than in the urban areas. While about one half of all the children surveyed in urban areas had secondary level of education, this was true for about one-fifth of all the children in rural households. It is more worrying as the gap seems to have worsened over the five year period and against the background that the proportion urban is less than 20% (see Annex 1), overall.

Table 11: Distribution of Members by educational attainment and by Community Characteristics

	2006					**2010**				
	Educational Attainment					Educational Attainment				
Community variable	None	Prim.	Sec. & +	**N**	P value	None	Prim	Sec. & +	**N**	P value
	(%)	(%)	(%)			(%)	(%)	(%)		
Residence				**7495**	0.000				**7940**	0.000
Urban	4	49	47	1405		6	40	54	1434	
Rural	14	67	19	6090		16	64	20	6506	
Region				**7495**	0.000				**7940**	0.000
Central	6	58	36	2329		8	50	42	2275	
Eastern	12	67	21	1756		15	63	22	2195	
Northern	18	68	14	1325		18	63	19	1521	
Western	15	66	19	2085		18	63	19	1949	
Proportion (%)	*12*	*64*	*24*	**7495**		*14*	*60*	*26*	**7940**	

4.5.2 Region of Residence

In the same way as place of residence (rural vs. urban), region of residence was also found to be closely related to the supply of schools and teachers. In addition, regions are endowed differently in terms of soil fertility, mineral and other natural resources, vegetation and topography all of which may influence different economic activities in these areas that may in turn impact schooling outcomes. Situations of conflict and cultural beliefs and attitudes prevalent in these regions may also influence schooling outcomes.

The Central region (where the capital city is located) was found to have the least proportion of children with no education as well as the highest proportion of children with secondary education at the two data points. The Northern region that appeared to be most disadvantaged in 2006 turns out to be at parity with the Western region in terms of non-enrolment and access to secondary education. The latter observation implies that the Northern region has improved as it recently got out of war where most people that had been in camps returned home and started engaging in productive work. In addition, the role of the many NGOs in the region in the post war period cannot be underestimated. The Western region seems to be deteriorating.

4.6 Concluding Remarks

While educational attainment seems to be associated with individual household and community level factors, universalization of secondary education in 2007 improved access to secondary education by only two percent points. In the same vein, the proportion of the household population under study that had never gone to school seems to have worsened over the five year period.

Among individual factors, age and relationship of the individual to the household head and less of sex were strong determinants of educational attainment in general, and access to secondary education, in particular. An increase in the age of the individual was associated with an increase in the chances of accessing secondary although this relationship was curvilinear implying that as children grow much older; this then reduces the chances of secondary school enrolment. Contrary to literature found elsewhere, other children (relatives and non-relatives to the head) were more likely to access secondary school than the ones of the head.

While the education of the household head was strongly associated with access to secondary education by children, the sex of the head seems not to play a big role in influencing access to secondary education.

Whereas children surveyed under older or polygamous household heads seemed disadvantaged with regard to accessing secondary education, those under young and or

unmarried heads manifested with the highest chances of accessing secondary schooling. The young and or unmarried heads were found to be educated brothers/sisters to the individuals under study that not only helped in staying with their siblings but also educating them and this practice seems to have gained ground in 2010 than five years earlier.

An increase in household size, the proportion of the adults and children aged below five years had a negative effect on accessing secondary schooling, pointing to competition for resources at the household level and or increased demand for children's labor that may interfere with their education, among other things.

While orphanhood status seems not to have any impact on access to secondary schooling, the economic status of the household seems to be one strongest factor that influences access to secondary education and the influence seems to be stronger in 2010 than before the USE Policy.

In terms of region, children in the Central were more likely to have accessed secondary and those in the North and West were most disadvantaged. In the same vein, the rural urban inequalities seem to have worsened in the five year period in favor of urban based children, who happen to be the minority in the country.

Far from being eclipsed, inequalities in accessing secondary schooling that existed before the USE Policy of 2007 seem to be persisting, at best while some have worsened overtime, at worst.

But as mentioned earlier, this level of analysis was exploratory and attempted to establish the existence of an association between each of the hypothesized explanatory factors and educational attainment. The challenge with this level of analysis is that it neither shows the direction of the relationship nor the simultaneous effect of other explanatory variables onto educational attainment. This then requires that another step is taken to explore the net effect of all these variables onto access to secondary schooling through multivariate analysis as to be seen in the next chapter.

CHAPTER FIVE : EVOLUTION OF INEQUALITIES IN ACCESSING SECONDARY SCHOOLING: A GLOBAL MULTIVARIATE MODEL.

In this chapter, evolution of inequalities in accessing secondary schooling is tackled from a broader perspective, hence the appellation, "Global Multivariate Model". In this model, we have children ever accessing secondary schooling in the numerator as opposed to (i) never enrolling in school, (ii) dropping out of primary, (iii) failing to transit to secondary after completion of primary and (iv) still being enrolled at primary despite attaining the official age for secondary schooling. Indeed as has been seen with Ministry data, the majority of children do not enroll at secondary level because they do not complete primary (survival to the end of primary was about 30% between 2004 and 2011) (MoES, 2012b) although a great proportion would have enrolled at primary. What has been seen in Uganda and in other countries in the region resonates with the remarks of Lewin when he states that "in most of poor countries , out of school children are overwhelmingly drawn from those who have enrolled but have subsequently dropped out before completion for many reasons" (Lewin, 2007c p. 6).

It is very true that some children never enroll in school at all and others do enroll, complete primary but do not continue to secondary but a good number of the children aged 13-24 in this case are not at secondary because they dropped out of primary or are still enrolled at primary (figure 30). The latter scenario is not good news because these children are "silently excluded" to borrow the term by Lewin (2007c), i.e. they are overage for their grade due to late initial enrolment or repetitions and achieve averagely less than their counterparts that have progressed at the right ages. For the reasons given, they are very likely to drop out and indeed do normally drop out before the end of the primary cycle. To vindicate this point, while Wamala, Omala & Jjemba (2013) found out that the median age for children in primary six in Uganda was 16 years (instead of 11 assuming they started at the official age of 6 and progressed normally), according to the Ministry data, about 71% of new entrants in senior one were aged 12 to 15 years (MoES, 2011a), giving credence to the argument that most of the children that were overage by primary six had dropped out between that level and entry into senior one.

Here, the discussion will be centered on why children of secondary school age (13-24 years) may not have completed primary while in the next chapter, inequalities in transiting to secondary shall be discussed. Access to secondary and transition to secondary are different, the difference is more real where attrition at primary is very high and policy would be guided better by distinguishing the two as well as the mechanisms through which they operate to influence access to this level.

While most studies that have looked at access to education have used household survey data and come up with quantitative indicators denoting the extent of exclusion (household wealth, place of residence, education of household head etc.), this study attempts to combine findings from the quantitative data with other qualitative study findings elsewhere and especially in Uganda, to enrich the discussion. Indeed in the subsequent discussion, dropping out of school is not presented as a distinct event but rather a process of events, situations and contexts which interact in different ways to influence dropouts or retention (Shapiro & Oleko Tambashe, 2001). To borrow the argument by Hunt "knowing the why without the how places the emphasis on a distinct event/opportunity where evidence suggests, it is an interplay of factors which pushes children out of school" (Hunt, 2008 p.4).

Unlike in the previous chapter where variables/ factors were presented by category (i.e. individual level, household level factors, etc.) here findings are presented in order of their importance in predicting access to secondary schooling. Socio-economic factors like household wealth and education status of the household head shall be explained first and these are followed by community level factors like place and region of residence. Last in the queue are other factors like age and sex of the household head, household size and the survival as well as residential status of parents. Important to note also is that the universalization of secondary education in 2007 seems not to have eclipsed inequalities in access to secondary schooling as the categories of children that were excluded in 2006 remained so in 2010. The results of a logit model are presented for all children and then by sex as seen in table 12 and interpretation of findings mainly centers on Odds Ratios for the variables/categories that were found to be statistically significant.

Table 12: Evolution of Inequalities in access to secondary Schooling between 2006 and 2010

	2006 (13-24 Years)			*2010* (13-24Years)		
	All Children	**Males**	**Females**	**All Children**	**Males**	**Females**
	N=5204	**N=2607**	**N=2597**	**N=4526**	**N=2128**	**N=2398**
Variable /category	OR	OR	OR	OR	OR	OR
Residence						
Rural[RC]						
Urban	1.707***	1.752***	1.696***	1.665***	1.558**	1.823***
Wealth status						
Poor[RC]						
Middle	1.631***	1.670***	1.632***	1.610***	1.403**	1.764***
Rich	3.535***	3.755***	3.405***	3.061***	3.346***	2.959***
Region						
Central [RC]						
Eastern	0.877	0.721*	1.017	0.986	0.828	1.147
Northern	0.716*	0.765	0.644*	0.698**	0.754	0.611**
Western	0.663***	0.602***	0.722**	0.737**	0.635**	0.796
Age of Child	1.070**	1.054	1.088*	1.072***	1.072***	1.079***
Sex of Child						
Male[RC]						
Female	1.054**			0.960		
Relationship to head						
Own Child[RC]						
Other Relative	1.054	0.909	1.179	0.879	0.765	0.923
Non Relative	0.744	0.609	0.875	0.649	1.136	0.381**
Education of head						
None[RC]						
Primary	1.556***	1.508*	1.573**	1.036	0.892	1.192
Secondary & above	3.378***	2.964***	3.749***	4.350***	3.387***	5.705***
Sex of head						
Male[RC]						
Female	0.820	0.914	0.753	0.810	0.700	0.972
Marital status						
Married (monogamous)[RC]						
Married (polygamous)	0.862	0.747	0.993	0.729**	0.809	0.613**
Divorced/separated	0.842	0.850	0.826	0.819	0.766	0.901
Widowed	0.762	0.726	0.764	0.899	0.999	0.701
Never married	0.873	0.998	0.762	2.500***	2.110*	3.126**
Age of head						
Less than 31[RC]						
31-59	1.094	0.899	1.252	1.368*	1.265	1.560
60 and Above	1.149	1.084	1.199	1.395	1.064	1.867

	All Children	Males	Females	All Children	Males	Females
If natural father is in hh						
Yes[RC]						
No, Alive	1.107	0.899	1.211	1.108	1.402	0.930
No , Dead	1.153	1.447	0.940	1.072	1.631*	0.790
If Natural mother is in hh						
Yes[RC]						
No, Alive	1.035	1.248	0.889	0.998	0.818	1.177
No , Dead	0.947	0.845	1.075	1.032	0.813	1.433
Main occupation of hh						
Subsistence farming[RC]						
Commercial farming	0.907	0.893	0.939	0.873	1.244	0.494*
Wage employment	1.134	1.082	1.168	1.673***	1.624***	1.636***
Non agric. enterprises	1.060	0.915	1.218	1.025	1.189	0.839
Property Y & Transfers	1.3256	1.036	1.445	1.088	1.330	0.902
Organizational support	0.964	1.232	0.9841	0.702	0.164	1.378
Household size						
1-4[RC]						
5-9	0.838	0.858	0.843	1.012	1.140	0.907
10 & Above	1.050	1.171	0.962	1.257	1.667**	0.976
Children below 5 Years						
0-1[RC]						
2	0.930	0.904	0.992	0.960	0.802	1.093
3 & Above	0.796	0.719	0.883	0.791	0.616*	0.906
Adults (60Yrs & Above)						
None[RC]						
One	0.786*	0.625***	0.965	1.047	1.077	1.047
2 and Above	0.717*	0.691*	0.725	1.163	1.628**	0.857

RC, Reference Category, ***significant at 1% , **significant at 5% : * significant at 10%

5.1 Household Wealth

Household income or wealth or welfare is one factor that consistently influences access to secondary schooling for girls and boys in 2006 and 2010. In 2006, a child from a household with middle level of income was about two times (OR=1.631) more likely to have enrolled at secondary than the one from the poorest household (i.e. 50th bottom percentile of household wealth according to this study). In the same logic, a child from the 25th top quintile of household income was four times (OR=3.535) more likely to access secondary education than the one from the poorest household.

In 2010, the situation was not any different. Again, a child from an average household (in terms of income) was about two times (OR=1.610) while the one from the richest household was three times (OR=3.061) more likely to have enrolled at secondary than the one from the poorest household. In both cases, income seems to be a stronger factor with regard to the education of boys than girls. These findings lead to questioning the rationale for universalizing education in 2007 and the extent to which issues of equity at the center of the policy are likely to be redressed.

Income is a factor that has continued to influence educational outcomes at different levels everywhere in Sub-Saharan Africa (Majgaard & Mingat, 2012) and of course in Uganda, in this particular case. This has continued to happen despite the education universalizing initiatives in several countries (Kabubo-mariara & Mwabu, 2007; Kakuba, 2012; Lewin & Sabates, 2011; MoES, 2011b; Ohba, 2009; Lewin, Wasanga, Wanderi, & Somerset, 2011) . To expound on this in the case of Uganda, five years into the implementation of Universal primary education, 67% of households' income was still spent on schooling (Boyle, Brock, Mace, & Sibbons, 2002).

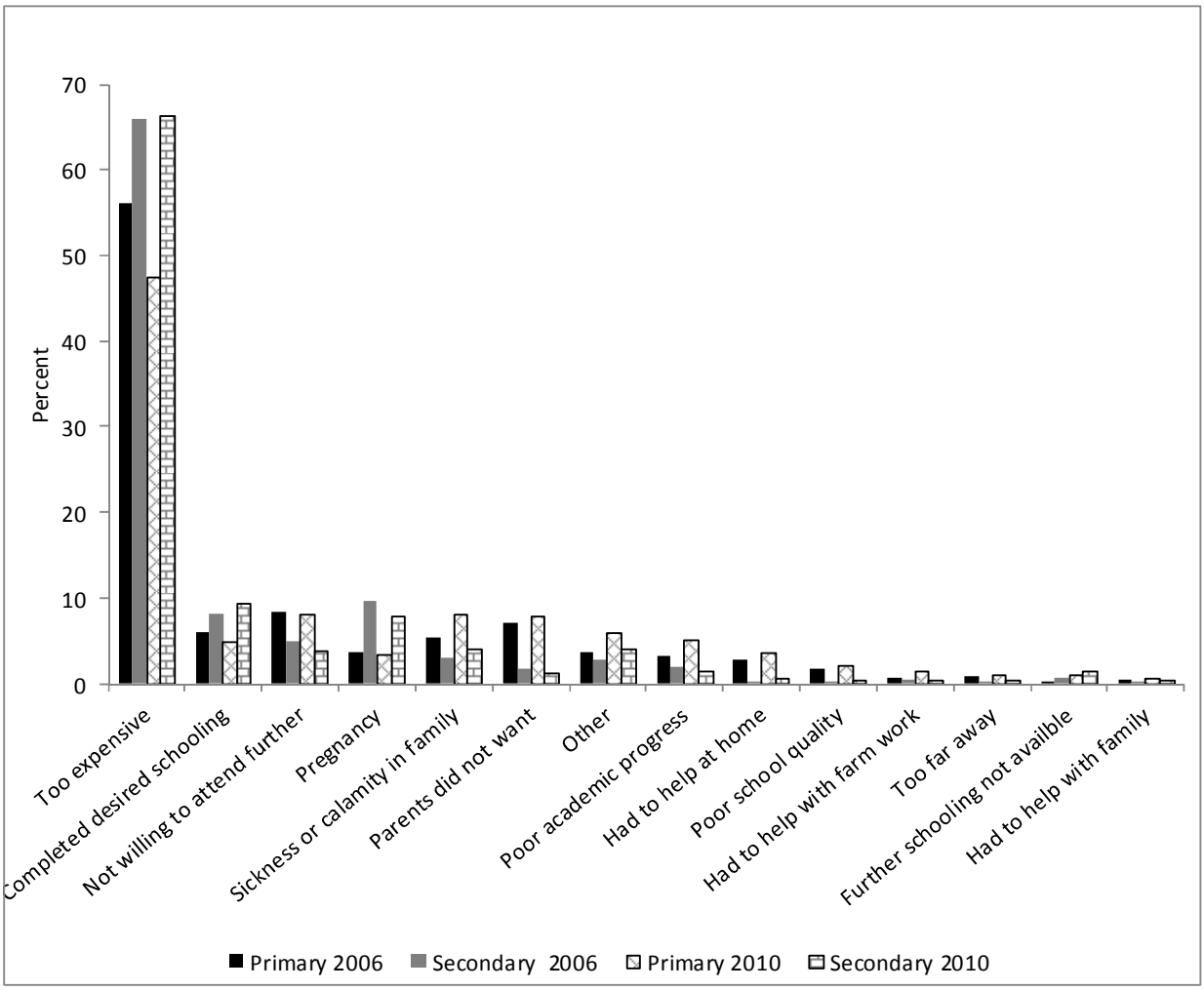
It is therefore important that mechanisms also termed as "manifestations of poverty" to borrow the appellation of Hossain & Zeitlyn (2010) or maybe "proximate determinants of access" through which income operates to influence educational attainment be understood so that policy can apply the right remedies at the right point in order to enhance retention in school and subsequent access to secondary education. It should be recalled that dropping out of school is more of a process than an event and that several factors often interact to cause it.

Despite universalizing education at primary and secondary level, other costs still exist at both levels although emphasis here shall be put on costs that cause dropouts (at the primary) while the ones at secondary shall be tackled in detail in the next chapter. In this vein, school being too expensive was the main reason why children had dropped out of school before and after the USE initiative of 2007 and this was exacerbated at secondary as per figure 33.

At primary, an earlier study in Uganda had identified other costs like PTA fees more so in urban schools, development fund, examination fees for mock exams and holiday work, school supplies (textbooks, exercise books, pens and pencils, school bags, geometry sets etc.), transport to school, money for feeding at school and private tutoring (Uganda Bureau of Statistics and ORC Macro, 2001) as the financial barriers to the universalized primary education then. A recent

qualitative study over the whole country indeed reechoed the other charges on uniforms, exercise books and other school supplies, examination fees in public and private schools as well as money for feeding as being major impediments to non-enrolment and cause of dropouts (UBOS, 2010c). Besides, some schools still charged other fees to cover salaries of teachers as government often paid late (Zuze & Leibbrandt, 2011).

Figure 33 : Reasons for Leaving School by Level of Education in 2006 and 2010



Source: Constructed using data from Uganda National Household Survey Reports

In addition, poverty affects schooling through its impact on the opportunity costs for sending children to school i.e. the labor from children missed if they were to enroll in school, which disproportionately affects poorer households that are largely, rural based, happen to have

larger families and predominantly engaged in peasant agriculture (Hossain & Zeitlyn, 2010; UNICEF, 2005) but also more of girls than boys (Colclough, Rose, & Tembon, 2000). These households badly need the support of their children to engage in household chores, work in gardens or markets in order to raise income to support these already "largely vulnerable families".

The effect of income on access to education may also be a bit more indirect as it may determine when children enroll, the regularity of attendance and when they are temporarily withdrawn all of which affect retention (Boyle et al., 2002). While its influence can be direct, it may also explain retention through its impact on manifestations of "silent exclusion" i.e. late enrolment, irregular attendance and poor achievement (Lewin, 2007c). Poverty may have implications for the type of school attended, access to school equipment, age at entry, attendance of pre-primary school and the health and nutritional status of children, all of which impact learning and retention in school as to be expounded on in hereunder.

An increase in demand for education in the context of limited supply from government as well as "enrolment shocks" in public schools caused by universalizing education led to the emergence of private providers in education provision especially at secondary level. As has been found elsewhere, because costs of private schools are highly prohibitive, these schools are unlikely to be attended by especially children of the poor (Bangay & Latham, 2013; Henaff et al., 2009; Pilon, 2004; Woodhead et al., 2013).

In Uganda, private schools tend to perform better than government schools both in terms of their children mastering basic competencies and performance in the Primary Leaving examinations. A recent study found out that 80% of pupils reaching the desired proficiency in numeracy at Primary Six were in private schools as compared to 40% in government schools. Equally so, 87% of pupils reaching the desired proficiency in English literacy were in private schools as compared to 34% in government schools (UNEB, 2012). This same study went ahead to look into reasons for differentials in performance in both systems and these can be summarized as:- better time management, more reading materials, competition for clientele in private schools and most private schools being urban and hence more exposure by children. In government schools, laxity in teaching, lack of lunch for pupils and teachers, high rates of

absenteeism for pupils and teachers and high pupil teacher ratios (UNEB, 2012) were the main justifications for poor performance. In addition, a documentary by the World bank citing statistics from UBOS found out that while each school should be supervised (visited by inspectors) at least once a term , only one quarter of the public schools surveyed were visited at least once a year (World Bank, 2012a) implying that poor supervision is also one of the biggest causes of poor performance in public schools.

In Uganda, it is the rich that are able to enroll their children in private or boarding schools that perform better and hence their children can progress to the next level with ease while the poor will keep their children in largely public schools where they are likely to be "silently excluded", that most often leads to dropouts.

Income may influence retention through attendance or non-attendance of pre-primary education. Indeed, there is considerable evidence that attending pre-primary school helps provide a foundation for learning and that children who attend pre-primary school are better prepared for primary school and for learning throughout life (Majgaard & Mingat, 2012; Tsujita, 2013); Uganda Bureau of Statistics and ORC Macro, 2001; UNICEF, 2005) . An increase in the time of exposure to pre-primary education was found to be positively correlated with achievement at primary six in Uganda (Wamala et al., 2013) but was also associated with improved attention and effort, better class participation and discipline among third grade pupils in Argentina (Berlinski, Galiani, & Gertler, 2009). Pre-schooling is however largely in private hands and an almost exclusive privilege of the rich as has been seen elsewhere (Lewin, 2007c; Wayack-Pambè, 2012) and Uganda is not an exception either (MoES, 2011a; Uganda Bureau of Statistics and ORC Macro, 2001). Indeed according to the most recent DHS Report the Net Enrolment Rate at pre-primary was found to increase substantially with household wealth (UBOS and ICF International Inc, 2012).

Income may also influence schooling outcomes through the age at entry into the school system that may be related to the previous point. It should also be remembered that late entry in school is strongly associated with poor achievement and dropouts (Lewin, 2007c; Wamala et al., 2013) although this tends to disfavor girls more disproportionately than boys (UNICEF, 2005;

Wells, 2009). While the proportion of children who started school late was highest among the poor and declined with household wealth (Uganda Bureau of Statistics and ORC Macro, 2001; Wells, 2009), late enrolment and repetitions were strongly associated with dropouts at Primary 6 or 7 (Kyeyune, 2012; UNICEF, 2005; Wells, 2009). In addition, late enrolment was found to have far reaching implications for dropouts amongst girls as it was associated with onset of puberty, early marriages, teenage pregnancy and increased involvement in paid or unpaid domestic work. For the boys, physiological changes like growth of beards (when still at primary) whereby other people would laugh at them often discouraged the boys from continuing with education. A more recent qualitative survey outlined the reasons for starting school late especially among the poor as long distance to school, children being young (despite attainment of the official age of 6), the fact that some parents did not know the right age of entry in school, demand for labor at home, negligence of parents, etc. (UBOS, 2010c)

Income may dictate differences in feeding of children that may in turn impact learning but also retention in school. Under the 2008 Education Act, government provides capitation grants, instructional materials and infrastructural support while providing food for children is the responsibility of the parents or local communities.

Feeding has been found to have an impact on learning achievement and improved cogitative abilities of children (Acham, Kikafunda, Malde, Oldewage-Theron, & Egal, 2012; Adelman, Alderman, Gilligan, & Lehrer, 2008; Mulindwa Najjumba, Lwanga Bunjo, Kyaddondo, & Misinde, 2013). Indeed, malnourished children always have brains that are not fully developed; have problems with concentration and memorizing what they have studied , are likely to make mistakes often and manifest with less levels of immunity and hence more likelihood of being sick which may cause absenteeism, low achievement and dropouts (Adelman et al., 2008; C. Sommers, 2013; UBOS, 2010c; UWEZO-Uganda, 2011).

While feeding is very critical for learning as seen, the 2009/10 UNHS Report found out that 92% of the rural children who attended primary schools did not have breakfast at home while 73% of the day scholars in public schools often spent the day without lunch and that the percentage without the said meals declined with an increase in household income as cited by Mulindwa Najjumba et al.(2013). Whereas Uganda is not a country that generally lacks food, for the poor households it may be an issue more so in times of poor harvest, some may lack the

packing utensils, others may not have the fast means to prepare a meal in the morning while for others the time to do it may not be adequate since children have to walk long distances to schools and yet the mechanisms for preservation in the event that it is prepared in the night are largely nonexistent.

Like feeding, income may influence educational outcomes through the health status of children. The poor health of children is not only a result of a poor health care system in a country but also poverty in households where hunger and lack of certain micronutrients (iron, iodine and vitamins) in the diet have negative implications for health and consequently the learning of children (Bruyninckx & Pilon, 2010; Hossain & Zeitlyn, 2010). In addition, most causes of child morbidity like diarrhea, worms and malaria are related to poor hygiene and sanitation in the home as well as the inability to sleep under a mosquito net that are more of corollaries of poverty. Children who were often sick were found to attend less frequently, achieve less, have poor attention and low motivation, poor "cognitive function" and were more likely to repeat grades and drop out of school (Boyle et al., 2002; Colclough et al., 2000; Fentiman et al., 1999; Pridmore, 2007; UNICEF, 2005).

Finally, while lack of scholastics was a reason for dropouts as seen already i.e. children were not allowed in school because they did not have the required scholastic materials, it may also indirectly influence retention through learning outcomes. As was the case in Bangladesh, having a school bag and a geometry set, books, pencils and pens was associated with regular attendance, better achievement and less repetition (Hossain & Zeitlyn, 2010). In the case of Uganda it is not uncommon to see children in class, more so in the rural public schools without geometry sets, textbooks and other required scholastics. In this vein, a recent documentary by the World Bank in Uganda indeed found that many children had nothing to read, write on and write with and that this led to low coverage of the curriculum and poor learning outcomes (World Bank, 2012a).

5.2 Education of household head

Education of the household head seems to be a very strong factor explaining differentials in educational outcomes for children in 2006 and 2010. In 2006, a child whose head had primary level of education was about two times (OR=1.556) more likely to have enrolled at secondary than a child whose head had no education. In the same vein, a child whose head had at least secondary education was about 4 times (OR=3.378) more likely to enroll at secondary than his/her counterpart whose head had never been to school. While in 2010, children whose heads had at least secondary education were about four times more likely to be enrolled than children of uneducated heads (OR=4.350), children under heads with primary education do not seem to be doing better than those under heads without any education. This could probably be explained by increasing income inequalities as education was found to be a key determinant for the inequalities (Ssewanyana & Kasirye, 2012) and the fact that secondary education is increasingly managed and run by non-state actors.

Important to note also is that better education for the household head translated into higher opportunities of accessing secondary by girls than boys and this was true in 2006 and five years later. Otherwise put, girls under less educated heads were more likely to be excluded (from secondary education) than the ones whose heads were more educated. Why are children under educated heads more at an advantage or why are the ones under less educated ones more likely to be excluded? This can be explained by several factors as to be elucidated hereunder.

Since access to education at all levels and household welfare are highly strongly correlated, the influence of education of the head on that of children is very likely to be moderated by the effect of income as education and level of income were found to be strong corollaries in Uganda (Ssewanyana & Kasirye, 2012; UBOS, 2010b) and elsewhere (Lewin, 2007c). Indeed educated parents were found to be more able to buy the necessary scholastic materials for their children like pens, books, uniforms, geometry sets etc (UNEB, 2012) that in turn, would enhance achievement and retention in school. However the fact that in a multivariate model, education level of the head and household income/welfare stand out as distinct covariates

(without being affected by multicolinearity) shows that education of head is an independent predictor of children's schooling outcomes.

Education of head is likely to explain children's schooling outcomes because it is strongly associated with achievement. Indeed, children whose parents were more educated were found to perform better than those whose parents had less levels of education (UWEZO-Uganda, 2011, 2012; Wamala et al., 2013). Since in the Ugandan education system movement from one class to another and especially one cycle to another is conditional on passing examinations and given a deficiency of supply at the post primary level, retention in school is strongly determined by achievement in two ways: first, promotion from one class to another is dependent on achievement (performance) and secondly, the ability to learn and follow in the subsequent classes is determined by competencies mastered earlier in the system. It means therefore that one reason why children from less educated heads tend to be excluded is that they achieve poorly and find it difficult to be retained in the "competitive system" more so when they are supposed to transit to the post primary level. It should be remembered that exclusion or dropout is more of a process than an event.

Educated parents or heads are more likely to be involved in the education of their children by supervising and guiding them with homework, discussing with them about school progress, buying textbooks and providing an enabling environment for learning (Fan & Chen, 2001). On the other hand, if parents are illiterate, not in the home or very busy, this is likely to affect their ability to follow up children and has negative implications for children's achievement (Mestry et al., 2007) and of course retention in school. Indeed these findings are corroborated by a recent report by the Ministry of education where lack of zeal by parents to foster good performance was found to be the main cause of repetition and dropouts (MoES, 2012a).

Because educated parents are more confident, have the ability to involve in school management and may value the education of their children, there is likely to be more interaction between educated heads or parents and the schools. This instills discipline and makes the child to know that he/she is being closely monitored which in turn improves achievement. Indeed, children whose parents visited school and discussed about learning of their children were found to perform better than those whose parents did not(UWEZO-Uganda, 2011, 2012).The reverse

may be true as found in South Africa where lack of cooperation between parents and schools often led to late registration of children and poor discipline. In addition, ensuring that children arrive at school on time and behave appropriately that had a positive impact on achievement were more associated with educated parents than with uneducated ones (Mestry et al., 2007). Mestry adds that parents with less education than that of the children felt intimidated and couldn't reprimand the children and this affected discipline and achievement. It should be remembered that low achievement is one form of "silent exclusion", in other words, children who perform poorly are most likely to drop out of school.

Dubow, Boxer, & Huesmann (2009) contend that the education of parents impacts that of children through children's aspirations while Fan & Chen (2001) argue that the strongest determinant that moderates the relationship between parents' education and that of children is parental aspirations/expectations for children's education and less of parental supervision at home. Either way, whether it is higher aspirations by parents that motivates children to progress in school or higher aspirations by children themselves borrowing an example from parents, the bottom line is that it is more educated parents that will have higher aspirations because they know what education is in the first place or that the children will most likely be inspired by more educated parents.

5.3 Place of Residence

In the developing world in general (Lewin, 2007c) and Sub-Saharan Africa (Majgaard & Mingat, 2012) in particular, urban-rural differences in secondary schooling outcomes have been found striking especially where secondary school provision is largely urban or peri-urban.

Findings of this study do not significantly differ from what has been observed elsewhere as children in the urban areas were two times more likely to be have enrolled at secondary than the ones in the rural for 2006 (OR=1.707) and 2010 (OR=1.665). This factor seems to be stronger for males in 2006 but stronger for females in 2010 implying that in the recent past females in the rural areas were more likely to be excluded from secondary education.

Since income has been found to be a strong determinant of schooling and learning outcomes, this could be related to differentials in incomes as the average monthly incomes of

households were found to be higher in the urban than in the rural areas (Ssewanyana & Kasirye, 2012; UBOS, 2010b). Income has been found to impact age at first enrolment, attendance or non-attendance of pre-school, type of school attended, accessing the necessary scholastic materials, frequency of attendance and the health as well as nutritional status of children, all of which have implications for learning and schooling outcomes. Besides, the differentials in schooling outcomes between the urban and the rural may be explained by differentials in distribution and quality of schools as to be seen shortly.

In relation to the previous point, most of the schools in urban areas are run by non-state actors especially at the secondary level and tend to be of better quality. This observation is indeed vindicated by field findings thus: - "*……..for example, in Gulu district we have 24 private schools and out of the 24 only 4 are located outside the municipality*" (Male, Graduate Head teacher for an Urban Mixed, Day & boarding, Private Secondary School implementing USE)

While at primary, the privatization of education provision is less prevalent (30% of primary schools were private versus 69% of secondary schools as per figure 6), it is of course by far, much more prevalent in towns than in villages. Most private schools tend to be urban based because of higher demand for education (explained by a bigger and "quality" population in a small area), the fact that better and more experienced teachers are urban based and better infrastructural facilities in the urban i.e. roads, piped water, electricity, a better telephone network and the internet, all of which greatly reduce the costs of starting and running a school in the context of better demand than in the rural areas.

Besides, the 2008 Education Act allows that parents in the urban areas can contribute towards "administrative and utility expenses" even in public schools (Government of Uganda, 2008). Indeed UPE and USE were and continue to be largely a rural phenomenon. While the advantages of private schools over public schools have been adequately discussed, the contributions of parents towards teacher remuneration (or motivation), children's feeding, sports activities and scholastics in the public schools have been found to have stronger effects on learning outcomes and retention in school. With regard to feeding as already seen, the negative implications of poor feeding or lack of food for school going children cannot be overemphasized.

Citing the 2009/10 socio economic module of the UNHS Report, Mulindwa Najjumba et al. (2013) report that 92% of the rural children who attended primary schools did not have breakfast at home while in the urban areas these constituted only 5.8%.

Differentials in access to secondary schooling could also be related to differences in performance between rural and urban schools. Indeed a recent survey to monitor learning outcomes in primary by the Ministry of education found out that urban schools had a significantly higher proportion of children reaching the required proficiency (73%) levels in English than rural schools (30%). Equally so, the proportion of children reaching the required proficiency levels in numeracy was higher (66%) in the urban than in the rural schools (41%) (UNEB, 2012). The report enumerated why urban children did better than their rural counterparts and the reasons given included:-more exposure amongst children in the urban, better facilities in homes in the urban areas hence children keep learning through television, radio and internet, the effect of more educated parents that are largely urban based and hence able to buy the necessary equipment for their children and higher support supervision (UNEB, 2012), all of which put children in the urban areas at an edge over their rural counterparts.

In addition, the fact that schools tend to be concentrated in the urban areas with the rural largely being underserved, is likely to have an impact on distance to school that makes children tired as they have to walk long distances, disproportionately affecting more of girls (Colclough et al., 2000) than boys. It also partly explains late age at entry in school (Kamuli, Younger, & Warrington, 2012) that in turn has negative implications for achievement (Wamala et al., 2013) and consequent retention at school. In the same logic since lack of a secondary school had implications for schooling at the primary as was the case in Peru (Ilon & Moock, 1991) and Western Tanzania (Ainsworth et al., 2005), the existence of few secondary schools more so in the villages may discourage progression in school at the lower levels as it may dwarf children's hopes of progression and imply fewer role models in the community.

Because most people in the village are likely to be poor, illiterate or school dropouts, school age children in the villages are likely to suffer what has been termed as "neighborhood effects". In this case, if the majority in an area do not value education, then they may discourage attendance by a child and the parent's reaction to stop this has been found to depend on his

level of education (Anugula, 2010). Indeed the qualitative report of the Uganda National Household Survey found out that a combination of distance to school (where most rural children walk and are not dropped at school or ferried by buses) and distracting factors like video halls, pool tables, sports betting points and karaoke that are an increasingly common occurrence in the rural trading centers were responsible for dropouts in Uganda (UBOS, 2010c). In the same logic, while most "able" respondents in Gulu where the qualitative field survey was done reported educating their children in Kampala for better quality reasons, a good number of the same parents also raised the issue of avoiding "bad groups" that would affect children's education within their communities.

Again in the rural areas, there are more cases of learner and teacher absenteeism (The World Bank, 2013). The former was found to be a serious problem as one for every three children in Ugandan primary schools would not attend school daily and 47% of the children had been out of school one month prior to the survey conducted by Boyle et al.(2002). Because of demand for child labor at the household level, a common feature in the rural areas, learner absenteeism, one of the "manifestations" of silent exclusion as described by Lewin (2007c) and Hunt (2008) was more of a rural than an urban phenomenon (UBOS, 2011) and has been found to have implications for learning outcomes and retention in school (Hossain & Zeitlyn, 2010; Karugaba, 2013).

Given that the urban advantage benefits only 20% of all the children as seen at univariate level (Annex1), improving retention at primary and consequent access to secondary for the rural folk should be the main preoccupation of policy makers and implementers given the demographic preponderance of the rural children and the extent of their vulnerability. In the spirit of equity that is at the heart of EFA Goals, better policies to enhance enrolment, retention and progression to secondary should target the rural children that tend to be more vulnerable than their urban counterparts. In the event that this is not realized, the advantages of education such as its impact on labor productivity and human capital, morbidity, mortality and fertility as well as enhancing social mobility out of poverty, all of which may enhance the demographic transition and engender sustainable development, risk not being realized.

The urban advantage seen in the previous section does however, not preclude situations of educational exclusion even in towns. Indeed studies in Uganda and elsewhere show that in the urban areas, some children are educationally excluded. In the case of Uganda, Kyeyune (2012) documents challenges to children's schooling in the urban areas as lack of secondary schools in some urban suburbs, crowded classrooms, poor feeding and regular absenteeism to earn a living for children of the poor. Other challenges included distractions like film shows, city idlers and petty businesses that impacted retention in school for especially disadvantaged children and progression to the upper levels.

In the slums of Kenya and especially Nairobi, higher cases of dropouts at primary than the situation in rural Kenya, was a result of poor quality schools, child labor, limited access to secondary schools and risky behaviors like consumption of drugs, alcohol and sexual activity (Mugisha, 2006). In Ouagadougou (the Capital of Burkina Faso), Pilon (2002a) found out that there were intra-urban differences in supply and demand for education whereby the outskirts were both inhabited by peasants and migrants and largely served by private providers in terms of schools and that, this greatly affected schooling of children. Because most of the parents in the outskirts could not afford the schools in their vicinity, their children would move longer distances to access schools affordable by parents and hence distance to school was still a main factor. The latter was additionally exacerbated by traffic jams, pollution and accidents in the context of a poorly organized public transport system.

5.4 Region of Residence

Different regions are endowed differently in terms of climate, fertility of soils, topography, rainfall patterns and other natural resources all of which may determine the main economic activity that may also have implications for incomes and labor demand at the household level hence determining schooling outcomes. In addition, various regions have various historical experiences such as early exposure to western education by Christian missionaries, which has been found to impact school supply in the early colonial times, and hence give a historical advantage to some regions over others.

Region of residence was a strong factor determining access to secondary schooling for boys and girls in 2006 and 2010. In 2006, children in the North (OR=0.716) and West (OR=0.663) were less likely to have accessed secondary education than the ones in the Central. The ones in the East were equally less likely to have enrolled at secondary than those in the Central but this was not statistically significant. While boys in especially the Eastern and Western Regions were less likely to have accessed secondary education than their male counterparts in the Central, it is the girls in Northern and Western Uganda that were less likely to have enrolled at secondary than their female counterparts in the Central.

The patterns observed already are not very different in 2010 whereby children in the North (OR=0.698) and West (OR=0.737) were less likely to have accessed secondary education than the ones in the Central. Looking at this by sex, males were more likely to be excluded in the West (OR=0.635) while it is females in the North that were the most disadvantaged (OR=0.610).

Since the reasons for educational exclusion of females shall be discussed under section 5.10, the emphasis of the discussion here shall be on reasons for exclusion of children in especially the North, versus those in the Central

This study endeavored to understand and justify differentials in demand for education on the basis of some studies done in Uganda and other developing countries as to be seen hereunder.

Income being one of the strongest correlates of access to education, differentials in demand at the regional level is most likely related to differentials in incomes or poverty levels between the regions. As per 2010 (figure 15), 46% of the population in northern Uganda was below the poverty line, contrasting sharply with 24% in East, 22% in West and 11 % in the Central Region (UBOS, 2010b).The direct and subtle effects of income or wealth on educational outcomes need not be overemphasized.

Differences in demand could also be related to differences in the supply of schools. As was seen in chapter three, the northern region was deficient both in terms of supply of schools (figure 22) and classrooms (table 6). While this is a more complex problem where the supply of education is in the hands of non-state actors like the situation in Uganda, it also has implications for distance to school. Indeed, Kampala (the capital located in Central) was found to have the

shortest distance to all educational facilities while the North had the longest distance to especially private schools (UBOS, 2010b). Distance may in turn affect age at enrolment whose implications for achievement and retention are well discussed. In this same logic, the proportion of children who started school late was highest in the North and lowest in the Central (Uganda Bureau of Statistics and ORC Macro, 2001).

In terms of quality of schools as vindicated by achievement of students in numeracy and literacy, the Central Region had the best schools as evidenced by the highest proportion of children with the required competencies while the north had the worst schools (UNEB, 2012, UWEZO; UWEZO-Uganda, 2011).

One other reason why the northern region has lagged behind generally and in terms of education is due to the Civil War by the *Lord's Resistance Army* that raged on in the area for about 20 years. This war that broke down the economic and social fabric of the region, had of course, far reaching implications for education in northern Uganda. The implications of war for education are indeed enormous as some studies have documented.

In this regard, following an analysis of 43 countries in Sub-Saharan Africa between 1950 and 2010, Poirier (2012) summaries the implications of war for education as death of children and teachers, loss of income due to displacement, disability and therefore lessened activity by household heads, child soldiering, displacements, destructions of school infrastructure and a lessened budget for social services at the national level. In addition, even when children were in camps, forced recruitment and abductions were found to directly affect the education of boys and girls as they were responsible for low attendance and poor teacher retention (Colclough et al., 2000; M. Sommers, 2005).

Some of the effects of war are long-term and cannot be solved overnight. Findings from the field show that a good number of students that were previously abducted manifested with Post Traumatic Stress Disorders that affected their concentration and learning at school. Other effects that stood out from the field findings were: - higher levels of poverty because of prolonged low production at household level, an increased proportion of child headed households, more cases of land conflicts sometimes resulting in deaths of parents, a higher "dependency syndrome" among the people because they were used to handouts in camps, higher

rates of HIV/Aids, teenage pregnancies and early marriages because of a prior permissive lifestyle in the camps, etc. All these have implications for learning and schooling outcomes in general and access to secondary schooling, in particular.

The extent of post war trauma can be seen in this response by a teacher after being asked what could be done to improve access to secondary education in Northern Uganda:

> "……*I think psychosocial support is one of them because many of these students still suffer trauma as a result of the war. There is a girl who was born when parents were fleeing and placed by the mother near one of the homes. Other people later landed on her because she was crying and took her and now this child is in Seiner two. One day, one of the children in the family where she lives told her that "why are you also ordering us around, do you know that this is not your home?" The girl became so mad about the statement that she wanted to end her life. She later shared her problem with me after which I tried to talk to her and discuss the matter with her guardians and other stakeholders. We all came together and the guardians opened up to her and told her how they had picked her when she was a baby. We convinced her that she was lucky because the guardians loved her and that is why they were educating her"* (Male, Graduate Teacher, Director of Studies at a Rural Mixed Secondary School, Age 47)

5.5 Age of Child

In several studies, age has been found to be negatively related with access to education in general, and secondary education, in this particular case (Kobiané, 2006; Siddhu, 2011; Takahashi, 2011; Wells, 2009).

In this study however, an increase in the age of a child was associated with a higher likelihood of ever enrolling at secondary and this was generally true for all children in 2006 and 2010, but more so for females than males. The probable explanation for this is that this study did not look at "current enrolment status at secondary" but rather educational attainment due to the challenges of having very few observations in the event of considering "current enrolment". Indeed among the children in the numerator were, *inter alia*, children that had completed

secondary, dropped out of secondary or at post-secondary institutions that were likely to be older.

5.6 Marital Status of household head

While the marital status of the household head was found to have no impact on access to secondary education by members in his/her household in 2006, it was a strong factor five years later. Indeed in 2010, children under polygamous heads were less likely to access secondary education than those under monogamous heads (OR=0.729) and this affected more of girls.

These findings are corroborated by a study in Ghana where Lloyd & Gage-Brandon (1994) found out that the number of "same father" younger siblings had a negative effect on educational outcomes of children while the number of "same mother" siblings had no effect. Could the negative effect be a result of resource dilution as found out by Buchmann (2000) in Kenya where children from polygamous marriages were less likely to be enrolled due to "more needs and less resources"? Buchman termed this "the worst case scenario of the resource dilution effect"?

Besides, polygamy that is often characterized by marital conflicts that have implications for children's discipline (Mestry et al., 2007), hatred as well as envy between the wives and or children, may not provide a conducive atmosphere for learning and progression in school.

While children under divorced, separated or widowed heads seem to be less likely to access secondary education, these categories are not statistically significant.

As was observed at the bivariate level, children whose heads were never married were about three times (OR=2.500) more likely to access secondary education than the ones under monogamous household heads and again this effect was stronger for females (OR=3.126) than for males (OR=2.110). At bivariate analysis, these were found to be largely rural based older brothers or sisters and with at least secondary education. These results resonate with Pilon's findings in Togo where children "fostered" in households without other children had higher

chances of accessing primary education than households where there was at least a child of the household head (Pilon, 1995).

Could it be that parents exercise control over the incomes of their older children for them to educate their younger siblings as was found out in Kenya (Gomes, 1984)? Findings from the field study indeed show that the phenomenon of staying with and educating (paying fees for) a younger brother or sister or close relative like a nephew or niece was not uncommon. What stood out also is that these relatives would be educated in cheaper schools compared to the children of the head, in a situation where the head was married.

Important to note is that, not all elder children support the education of younger siblings or relatives. This phenomenon is strongly dependent on an interaction of several factors on the side of the "sponsor" i.e. birth order, willingness and ability of the person to educate others, preparedness to postpone his/her own marriage and the level of cooperation between the "sponsor" and the parents. If it happens that the first or second born is willing to postpone marrying and or help, has had some level of education and some level of ability and most likely appreciates the role of parents towards his education, then this will benefit younger siblings and be a good precedent that may be replicated in the family. The benefits would be much less if the probable "sponsor" is lower in birth order even when he/she has the ability and willingness because most of the children in the family may have dropped out. On the other hand even if he/she is the first born but not well educated and most likely not able, this will not help as this individual may not appreciate the role of education or have the means to educate others besides the fact that he/she is likely to marry fast.

5.7 Main Occupation for Household

The main source of income for the household is another variable that may determine socio-economic status and influence schooling outcomes. Generally in 2006, the main source of income seems not to have much influence on access to secondary education.

The effect of the main source of income is more evident in 2010 for all children as well as males and females, separately. What seems to stand out from this analysis is that children whose heads largely earned from wages (or salaries) were about twice (OR=1.673) as more likely to be have enrolled at secondary than those under subsistence farmers and this was true for male children (OR=1.624) as well as their female (OR=1.636) counterparts.

A situation of better or worse schooling outcomes for children under salaried employees and subsistence farmers, respectively is corroborated by earlier findings in developing countries and Sub-Saharan Africa, in particular (Bajracharya, 2010; Kobiané, 2006; Pilon, 1995; Roach, 2009; Rolleston, 2009; Wayack-Pambè & Pilon, 2011).

Household heads that were employed were more likely to be more educated, earning better and having more stable incomes, more resident in the urban areas and more appreciative of the value of education as already discussed, all of which enhance better schooling outcomes for children. Since the point of departure for this study is more of why some children are excluded and not necessarily why some are retained, the reasons for why children of subsistence farmers were less likely to access secondary education are elucidated hereunder.

Children of peasants are more likely to be resident in villages, be located further from schools, enroll late and more unlikely to have all the required school necessities, all of which influence retention in school and progression to the next level. As has been found elsewhere, children of peasants are quite often called upon to provide labor especially during the times of harvest and this, impacts attendance, achievement and dropout (Colclough et al., 2000). In peasant households, while girls are generally trained to look after their siblings, fetch water, collect firewood, peel bananas, sweep the house etc., boys are often oriented towards looking after cattle and doing other extramural tasks. Because of what has been explained already, the

opportunity costs of schooling are higher for children of subsistence farmers to the extent that the probable long term benefits from formal education may be outweighed by the short term gains in form of labor largely needed to support the largely poor households (UNICEF, 2005).

5.8 Relationship to Household Head

The relationship of a child to the household head has been found to impact chances of accessing education for children. In several studies, biological children of the household head have been found to have better chances of accessing secondary education than other relatives and non-related household members (Kakuba, 2012; Rolleston, 2009; Wayack-Pambè & Pilon, 2011).

For this study, the relationship between a child and the household head and its impact on children's access to secondary education is largely both insignificant and ambivalent. In 2010 however, females unrelated to the household head were less likely to have enrolled at secondary (OR=0.381) than the daughters of the household head and other relatives and this was significant at 5%. Further analysis of the data indeed reveals that 46% of female non-relatives were surveyed in the urban areas as compared to only 16% of the male non-relatives. These results are corroborated by findings according to Pilon (2005) following a study of several countries in West Africa (Burkina Faso, Cote d'Ivoire, Ghana, Guinea, Mali, Niger, Senegal and Togo) where chances of primary schooling were highly compromised for especially girls in the urban areas of the countries studied.

Indeed in Uganda, with increased urbanization, better opportunities of education for women/girls, more possibilities of off farm employment and higher chances of female labor force participation, it is increasingly common for households (especially urban because they are more in need and or have the means) to employ girls of school going age as "house girls" as they are popularly known to help in babysitting and other household chores.

Even though these young girls come into urban areas to look for work and usually after dropping out of school, *Platform for labor rights*, a labor rights organization in Uganda reported

that they are often made to work for long hours for their age, are normally poorly remunerated or not paid at all and subjected to assault but also sexual abuse within the employing households (Daily Monitor, 2013). In addition, the work they engage in infringes on their right to education in light of UNICEF's definition of child exploitation as cited by Bruyninckx & Pilon (2010). This calls for policy to address the challenges of why they are not retained in school in the first place and the suffering they endure in the employing households as, they are supposed to enjoy their rights as children like any other.

Experience from other countries shows that indeed not all children unrelated to the household head or spouse are house helpers. In the context of poor quality and unevenly distributed schools in the rural areas, some parents may send some of their children (more so girls given the negative impact of distance to school for their safety and education) to their "friends" or "relatives" in anticipation for the children accessing better education, just only for the latter to be subjected to much domestic responsibilities and or exploitation often leading to their right to education being compromised as has been found in Haiti (Bruyninckx & Pilon, 2010) . This scenario cannot be denied in the case of Uganda and more research needs to be done to confirm the extent to which it is a reality.

5.9 Proportion of children under five

Most quantitative studies that have used census or household survey data have often made use of the proportion of children in the household that is under five (or six) to estimate the extent of child work but also the commitment of resources to the care of the children, all of which may negatively affect schooling outcomes. Although the effect of the proportion under five on schooling outcomes is not so consistent, some studies have found a negative effect of a higher proportion of the under-fives on access to secondary education (Kakuba, 2012; Rolleston, 2009; Takahashi, 2011; Wayack-Pambè, 2012).

Though not statistically significant, children surveyed in households with a bigger number of the under-fives were less likely to have accessed secondary education than the ones in

households with no child or with one child aged below five years. The negative effect of the proportion of the under-fives on access to secondary was particularly significant at 10% for males in 2010 (OR=0.616).

5.10 Sex of Child

Findings at this level resonate with the ones at the bivariate level. Indeed while females were only slightly more likely to be enrolled in 2006 (OR=1.054) than their male counterparts, the gender gap seems to disappear in 2010 and this is corroborated by prior studies in the same country (Kakuba, 2012; UBOS and ICF International Inc, 2012; Wells, 2009).

As has been seen elsewhere, gender gaps tend to narrow where overall enrolments are generally high (Colclough, Rose, & Tembon, 2000; Lewin, 2007b;Easterly, 2009; Lewin, Wasanga, Wanderi, & Somerset, 2011) but additionally for the case of Uganda, the efforts of the Girls Education Movement (GEM) that has sensitized communities about the role of educating the girl child (UNICEF, 2005) cannot be underestimated.

While the general picture seems to be fine with regard to enrolling at secondary for girls, this masks challenges with regard to retention at that level where girls are more disfavored (UNICEF, 2005), this being more true in the north and north east parts of the country than elsewhere (MoES, 2012a). In addition, with regard to achievement (performance), girls generally lag behind boys (UNEB, 2012; Wamala et al., 2013).

One strong aspect that is often concealed by country level statistics is gender inequity at the regional level. Indeed, looking at access to secondary level by region brings out the fact that girls in northern Uganda were more likely to be excluded from secondary education in 2006(OR=0.644) and five years later (OR=0.611) and this contrasts with findings from most of the other regions. Several reasons could explain this as to be seen hereunder.

Since the northern region was found to be the poorest in terms of average incomes of household heads and the proportion of the people below the poverty line (UBOS, 2010b), it may

not be wrong to argue that girls' education is constrained by poverty as was the case in Malawi (Kadzamira & Rose, 2003). Indeed in cases of scarcity, it is the education of the girl child that suffers most as found out by Boyle, Brock, Mace, & Sibbons (2002), following a comprehensive study of six low income countries (i.e. Uganda, Zambia, Bangladesh, Nepal, Kenya and Sri Lanka).

While poverty could partly be the explanation for poor education outcomes for the girls, Colclough et al. (2000) contend that gendered outcomes of under enrolment is a product of culture than poverty.

This study made efforts to understand region specific reasons why girls were disadvantaged with regard to accessing secondary education in the north. This was not very easy because no comprehensive study of this nature has been carried out throughout northern Uganda. With the help of isolated qualitative studies done in some parts of northern Uganda though, this study was able to isolate causes like:-culture where education of girls was blamed for making them "prostitutes", negative community attitudes where parents often preferred to marry off their daughters in return for bride price, lack of separate stances for girls in schools and lack of sanitary pads for girls, especially in the early stages of their menstruation (Kakuba & Kahunga, 2008; Kakuba, Katsirabo & Katunguka, 2011).

In addition, other studies have linked the problem to the fact that girls have to walk long distances to school and hence are exposed to harassment and rape by wrong people on the way and a gendered division of labor at the household level where girls are often involved in fetching water, firewood and doing most of the household chores (Kamuli et al., 2012). This often leads to fatigue, poor achievement and abandonment of school.

Distance to school is a challenge in two ways; in the first place men harass girls and sometimes rape them leading them to become pregnant and or get disgusted with schooling but secondly, the fear that their daughters may be harassed and or impregnated makes parents reluctant to send "old" girls to school as being impregnated is culturally regarded as a sign of poor upbringing especially by the mothers and a shame to the parents.

The culture of valuing cows (especially in the north-east) and hence promoting early marriages in a situation where abortion is illegal, culturally unacceptable and mechanisms to do it are largely wanting (Boyle et al., 2002; Kamuli et al., 2012) were also other reasons explaining higher dropouts for girls in the north east part of Uganda.

These results are corroborated by field findings where several respondents pointed to teenage pregnancy and early marriages as the main reasons for girls' dropouts. To elucidate this, an official working for an NGO sponsoring children in greater northern Uganda at secondary, pointed out that even where fees of the children were met by the NGO, most of the girls who dropped out of the program did so because of early marriages, teenage pregnancy and poor academic performance, in that order.

5.11 Proportion of Older adults

In 2006, an increase in the number of older adults (60 and above) in a household was associated with reduced chances of accessing secondary education by children in that household although this was largely significant for males. In 2010, while this factor is still significant for males, the results seem to contradict what was observed in 2006 as an increase in the number of older adults was associated with increased chances of enrolment at secondary for the males.

In a situation of high adulthood mortality especially for males, could these old people enhancing the education of boys be females that come in to supplement household income and improve educational outcomes as was the case in Kenya (Kabubo-mariara & Mwabu, 2007)? The contradiction in the results over the two periods may also be related to the quality of data, especially in 2010.

5.12 Age of household head

Both extremes on the continuum of age of the household head may influence access to secondary education negatively. Young household heads may themselves be vulnerable and have no resources to invest in education of their siblings while the very old heads may be too weak to work and invest in the education of their children or people under their roof. These results seem to show that generally, older heads were more likely to have their children enrolled at secondary than younger ones although this was significant in 2010. Indeed, the chances for accessing secondary were higher for middle aged heads (OR=1.368) although this was significant at 10%.

Given that the dependent variable was educational attainment and due to issues related to late entry into school and late progression, the positive correlation between age of the heads and educational attainment may be explained by this fact.

5.13 Sex of household head

While some studies have found that children under female heads have better chances of education, sex of the household head as for this study was found to have no influence on access to secondary education by children. This was true for 2006 and 2010 as well as for males and females. Interestingly, a prior study that used Uganda Demographic and Health Survey data for 2006 and 2011, found that children under females heads were more likely to access secondary education than those under their male counterparts (Kakuba, 2012). While this study considered the youth aged 18-24 years, the general deviance in the findings points to data quality issues these being results of survey data.

5.14 Household size

The effect of household size on access to secondary education seems to be ambivalent and only significant for males in 2010. Indeed, in 2010, an increase in household size seems to increase the chances of males' enrolment at secondary.

5.15 Presence of natural father in household

Both the presence /absence of the natural father in the household hood and or paternal orphanhood status of children had no effect on their chances of accessing secondary education in 2006 and 2010. While in 2010 paternal male orphans seemed to be slightly at an advantage, this was only significant at 10%.

5.16 Presence of natural mother in household

As seen in section 5.15, the presence /absence of the natural mother in a household as well as maternal orphanhood status of children had no effect on their chances of accessing secondary education in 2006 and 2010. These findings are corroborated by those by Lloyd & Blanc (1996) where orphanhood was found to have no effect on schooling outcomes in seven countries in Sub-Saharan Africa. In the same logic, the effect of orphanhood on education was found to be ambivalent given the role of the extended family (Ntozi, 1997) and or Non-Governmental Organizations, in cushioning the otherwise detrimental effects (Kobiané et al., 2005). This however may mask the effects of orphanhood on schooling at the regional, district or even lower levels.

5.17 Concluding Remarks

As has been seen, the reasons why the majority of children do not access secondary school are more related to dropouts at primary than failing to enroll in school in the first place

and making a transition from primary to secondary. This implies therefore that efforts to work towards the attainment of the MDGS and EFA goals and probably accessing secondary schooling, should be geared more towards fighting dropouts and less of improving access to basic education and transition to secondary.

Socio-economic factors like household income, main source of employment and education level of the household head remain strong correlates of retention in school and progression to the next level, before and after the universal secondary education initiative of 2007 leading to questioning the "equity and social justice considerations" at the center of the policy. If a child continues to access secondary school because he/she is from a better placed household, then the role of the policy that will not cause social mobility out of poverty for especially "first generation students" that badly need it for themselves, their younger siblings and to kick start the breaking of the viscous cycle of disadvantage, is in question.

The effects of socio-economic factors on accessing secondary schooling may be direct and indirect. While the direct ones are clearly discernible and can therefore be more easily dealt with, the indirect ones may be both long term and are likely to operate through what has been termed as "manifestations of poverty" to influence learning outcomes e.g. achievement and schooling outcomes like retention in school and progression to higher levels.

Household income or welfare may influence access to secondary education through dictating, *inter alia,* age at entry into basic education, the chances of attending pre-primary education, type of school attended, the health and nutritional status of children, regularity of school attendance and the type of school equipment a child may have access to, all of which have far reaching implications for learning and therefore schooling outcomes. Indeed most of the income related factors that influence schooling do so through their impact on achievement (performance).

Rural-urban and regional differentials in demand for secondary schooling may also be related to differentials in income levels given a range of income related factors that still influence primary schooling and that secondary school provision is increasingly in the hands of non-regulated non-state providers. Contrary to the prognosis of stakeholders in education at the EFA summit in Dakar, that private providers would help provide an alternative and hence reduce

pressure on public educational infrastructure, they are largely urban based and attended by the children of the "minority rich", have taken up a disproportionate share of the best teachers, school administrators and quality parents that would help improve conditions in the public schools. This rural-urban (or even private-public) dichotomy, risks recycling advantage or disadvantage and exacerbating the gap between the rich and the poor whose implications for social and political stability and sustainable development leave a lot to desire.

Besides, spatial differences in demand for education seem to be rooted in inequities in supply of education as evidenced by differences in the number of schools and or classrooms at the regional level. This is vindicated by the fact that the initiative to establish new schools (especially at secondary level) is almost an exclusive responsibility of private actors that rely on either demand and or the vigilance of parents (in case of community or church schools). How then will underserved communities be brought on board if government does not take the initiative to build schools, badly needed to redress these spatial differences, in the spirit of "universalizing education"?

Besides, the "concentration" of good education in the central and especially Kampala and bad education in the periphery, especially in the north and north-east, are two realities on both sides of the same coin. As it is true that education is one major determinant of income and hence personal and societal growth and development, then this phenomenon will trigger (if it has not) an unnecessary dichotomy where being in the central will be associated with being better-off socio-economically speaking while being in the rural and more so in the north will be equated to being condemned to perpetual doom. The massive rural urban migration by especially *boda-boda* (motor cycles commonly used for transport in the urban areas) riders into the city (something the middle class is disgusted with) is partly a consequence of spatial inequities in educational opportunities that risk being exacerbated if policy doesn't redress them.

Whereas gender differences in access to secondary schooling seem to have been eclipsed, other issues like retention of females at secondary, poor achievement of girls and inequities at lower geographical levels especially in the northern part of the country need to be redressed. The need is more real especially given the role of women's education in enhancing fertility decline,

better health, nutritional and educational outcomes for children, all of which may accelerate the demographic transition and cause economic development.

While an increase in the number of the under-fives was associated with less chances for secondary schooling, the role of elder children in educating their younger siblings, that probably moderates, the impact of family size on children's education cannot be underestimated. Its sustainability however is questionable in a context of increased urbanization, modernization and nuclearisation of families.

Whereas there is a strong debate on why the poor cannot educate their children with one side arguing that they are not able and the other contending that they do not care, this study agrees with the argument of Boyle et al. (2002) when they state that "the poorest and their children indeed value education and usually have clear and rational reasons for not participating or participating infrequently" (p.45) following a study of six countries (i.e. Uganda, Zambia, Bangladesh, Nepal, Kenya and Sri Lanka). Indeed, the fact that universalization of education has been followed by massive enrolments, especially by children of the poor and or illiterate parents, just only for them to drop out thereafter, gives credence to these authors' argument. It also implies that the solution to enhancing retention in school and consequent access to secondary schooling has more to do with further subsiding education and or economically empowering households and less of "sensitizing" parents on the importance of education.

In the final analysis, dropping out (or retention) of school is a complex matter for not only does it operate through many intermediate factors and over a long time, but also because it can be more of a result of a combination of the main factors. To expound on the last point, a girl child, from the rural, born to illiterate and poor parents and in a community that is biased against education of girls, will almost never dream of attaining some reasonable level of education because of the unfortunate combination of all those factors. Solutions to dropouts and improving access to secondary therefore involve understanding and internalizing the complexities surrounding the interactions among intermediate factors as well as the main factors influencing learning and educational outcomes but also the "long term" dimensions they may exhibit.

Since the main thrust of this study was "access" to secondary education that of course may be constrained by dropouts at primary as discussed, the next chapter will tackle access from

the perspective of transition. Who is likely to transit to the next level and what factors influence transition? Are they different from the ones seen? Do they operate through similar intermediate factors etc.? These and others are the questions to be responded to in the next chapter.

CHAPTER SIX : EVOLUTION OF INEQUALITIES IN ACCESSING SECONDARY SCHOOLING: A TRANSITION MODEL.

While the previous chapter tackled access to secondary schooling from a global perspective and emphasized reasons for dropouts for children of secondary school age that were not at secondary, this chapter tackles access to secondary from a "transition perspective". Indeed it would be a strong assumption to imagine that all children do not access secondary because they did not complete primary. The other novelty in this approach is that it endeavors to understand whether the factors that influence access to secondary generally and transition in particular, are different, but also whether they operate through similar or dissimilar pathways to affect access to secondary schooling.

After the primary cycle and as has been observed in the rest of Sub-Saharan Africa (Lewin, 2007; Ohba, 2012), the number of children admitted to the next level in Uganda is limited to the number of places available. This is compounded by the fact that about 69% of secondary schools (as opposed to 30% of primary schools) are privately owned (figure 6), a good number of government schools are boarding schools and therefore almost as expensive as private schools and that most of these schools do not implement the Universal Secondary education Program. After sitting a nationally managed Primary Leaving Examination (PLE), children are selected to access various schools that include the old prestigious church founded but also called "government schools", other schools founded, run and managed by church organizations, the for-profit privately owned schools, community schools that are largely founded and managed by the communities and the "USE" schools, that are largely locally (district or sub-county) based newly founded government day schools.

In principle, any pupil who obtains aggregates [10]4 to 28 is eligible for secondary school. However, due to inadequacy in supply of secondary schools, even obtaining the first grade (from aggregate 4 to 12) is not enough for a child to enroll in especially the old prestigious government schools. Taking the example of Primary Leaving Examination results for 2013 released in January 2014, of all the 560,784 candidates who sat for the final exams, only 52,786 (9.4%) passed in division (grade) one (New Vision, 2014) and yet even for these, getting a place in a top or even middle level secondary school is quite often not obvious.

Whereas there is a national selection exercise to determine who should go to which school, the practice is that immediately after the PLE results are out, parents (mostly the urban elite) move from school to school trying to get vacancies for their children. The selection often takes some children on merit but the majority of children, especially in the prestigious government schools, are taken through "backdoor methods". Indeed, over and above the good performance of the pupil, obtaining a vacancy, especially in the "old church founded government" schools is largely influenced by parents' social and political connections, their ability to pay and to some extent, their religious affiliation.

According to Ministry data, transition between primary and lower secondary has indeed improved from 51% in 2006 to 65% in 2011(MoES, 2012b). While this is an impressive milestone with regard to improving transition, it does not take into consideration the increase in absolute number of children that have been completing primary seven over the years (despite low survival rates to primary 7 in relative terms) that may in turn be related to the annual growth rate of the population in general, and the growth rate of the schooling population, in particular.

In this study it was not very possible to measure transition (from the etymological sense of the term) on the basis of the datasets available. In the first place those who transit should have sat and passed PLE but we did not have a question on this important piece of information in the datasets. Besides, while in 2010 a question was asked on the grade attended in the preceding

[10] Aggregate 4 implies that the pupil has obtained distinctions 1 in each of the four examinable subjects i.e. English, Mathematics, Science and Social Studies. On the other hand 28, implies obtaining at least "pass" 7 in each of the subjects. Beyond 28, the pupil has failed and is not supposed to progress to the next level and or benefit from the "USE" subsidy. In practice though, some of these pupils are admitted in some private schools.

year as well as at survey time, these two questions were not asked in 2006 and so comparability was not possible. In addition, in the case of 2010, the observations were so few that any meaningful multivariate analysis could not be done.

As a way out, this study looked at the children aged 13-24 who had completed Primary 7 (last grade of the primary cycle) as opposed to children in the same age cohort who had enrolled past the primary level. A binary outcome where “having ever enrolled at a post-primary institution” was thus created taking the value 1, while “completing P7 and not going beyond” took the value 0. Whereas this scenario may not measure transition over a two year period, it is the closest possible alternative to exploring determinants of transition.

Like in the previous chapter presentation of findings in this chapter is on the basis of the strength of variables in explaining transition to secondary. In this regard, socioeconomic factors like household wealth and education of the head come first followed by a socio-demographic factor like marital status of household head and then community level factors like region and place or residence. Factors that are least significant like sex of child and head, residential and survival status of the father and relationship to the household head come last.

Results of a logit model for all children and then by sex are presented in table 13 and the discussion follows thereafter. As seen in the previous chapter, interpretation of results is by use of Odds Ratios for categories or variables that were statistically significant.

Table 13: Evolution of Inequalities in making a transition to secondary for 2006 and 2010

	2006 Children (13-24 Yrs)			*2010 Children (13-24Yrs)*		
	All	**Male**	**Female**	**All**	**Male**	**Female**
	N=1334	**N=608**	**N=726**	**N=1170**	**N=522**	**N=648**
Variable /category	OR	OR	OR	OR	OR	OR
Residence						
Rural[RC]						
Urban	1.854**	1.557	2.186**	1.019	0.730	1.236
Wealth status						
Poor[RC]						
Middle	1.392*	1.406	1.352	1.443*	1.481	1.512
Rich	2.716***	2.849***	3.002***	3.559***	5.278***	3.374***
Region						
Central [RC]						
Eastern	1.273	0.996	1.605	0.959	0.699	1.386
Northern	1.196	1.254	1.157	0.754	0.669	0.910
Western	0.606**	0.475**	0744	0.573**	0.428*	0.729
Age of Child	1.204***	1.227**	1.196**	1.057*	1.066	1.040
Sex of Child						
Male[RC]						
Female	1.124			0.875		0.869
Relationship to head						
Own Child[RC]						
Other Relative	1.018	0.833	1.142	0.685*	0.689	0.725
Non Relative	0.490	0.520	0.543	0.774	0.424	1.193
Education of head						
None[RC]						
Primary	1.454	1.272	1.361	0.551**	0.596	0.470**
Secondary & above	2.654***	2.724**	2.131**	2.358***	2.092	3.161***
Sex of head						
Male[RC]						
Female	1.361	1.865	1.043	1.499	2.385	1.351
Marital status						
Married (monogamous)[RC]						
Married (polygamous)	0.950	0.604*	1.502	0.791	1.668	0.440**
Divorced/separated	0.822	0.396*	1.633	0.418**	0.196**	0.580
Widowed	0.511***	0.525	0.519	1.288	1.039	1.377
Never married	2.534	2.489	2.376	4.616**	5.614*	5.352
Age of head						
Less than 30[RC]						
31-59	2.301**	1.846	2.533*	2.020**	2.524*	1.856*
60 and Above	2.605**	2.683	2.322	1.489	1.124	2.271
If natural father is in hh						
Yes[RC]						
No, Alive	0.723	0.686	0.773	0.956	1.055	1.005
No , Dead	0.636	0.562	0.689	0.951	1.240	0.847
If Natural mother is in hh						
Yes[RC]						
No, Alive	1.532*	2.208**	1.134	1.545*	1.078	1.737
No , Dead	1.480	1.715	1.349	0.876	0.871	0.666

Main occupation of hh						
Subsistence farming[RC]						
Commercial farming	1.130	1.076	1.155	0.931	1.475	0.474
Wage employment	1.089	0.993	1.142	1.573*	1.548	1.643
Non agric. enterprises	0.851	0.827	0.909	0.780	0.379	1.548
Property Y & Transfers	1.195	0.921	1.463	1.070	0.522	1.717
Household size						
1-4[RC]						
5-9	1.200	1.466*	1.024	1.571*	1.801*	1.728
10 & Above	1.827**	2.936**	1.206	1.751	1.655	2.036
Children below 5 Years						
0-1[RC]						
2	0.989	0.698	1.626	1.095	1.172	1.130
3 & Above	0.777	0.873	0.845	0.372***	0.392*	0.303***
Adults (60 & Above)						
None[RC]						
One	0.955	0.643	1.266	1.123	1.169	0.914
2 and Above	0.774	0.464*	1.242	1.170	2.191	0.711

RC, Reference Category, ***significant at 1% , **significant at 5% : * significant at 10%

6.1 Household Wealth

Household income is one factor that consistently influences transition to secondary school for girls and boys in 2006 and 2010. While in 2006, a child from a household with middle level of income was slightly more likely to have enrolled at secondary, this was only significant at 10% implying that, children from households in the poor and middle income levels were almost equally disadvantaged with regard to transition. In the same logic, a child from the top 25th quintile of household income was three times (OR=2.716) more likely to make a transition to secondary school than the one from the poorest household. In 2010, the situation was not very different. A primary 7 leaver from an average household (in terms of income) was slightly more likely (OR=1.443 also significant at 10%) to have enrolled at secondary while the one from the richest household was about four times (OR=3.559) more likely to have enrolled at secondary than the one from the poorest household. While in 2006, income seemed to be a stronger factor with regard to the transition of girls, in 2010 it turns out to be a stronger factor with regard to that of boys. Intriguingly, income seems to be a stronger determinant of transition after the Universal Secondary Education Policy but also an almost exclusive privilege of children from the top 25th percentile of household wealth. The latter conclusion resonates with that of Lewin when he states

that “secondary schooling excludes most children from below the 20th percentile of household income in low enrolment countries” (Lewin, 2007b p.4).

Challenges with transition are most likely to be related to the cost of secondary schools more so in the era of increased privatization of secondary education provision and the fact that most of the good schools at this level are boarding schools. With the help of field data, this study was able look at the costs involved in making a transition to various secondary schools in the Northern (most educationally deprived) and Central Regions (most educationally endowed) of Uganda as can be seen in table 14.

Table 14: School Requirements for Term I in some Secondary Schools in Northern & Central Regions by type in 2013

[11]Requirements	Northern Region				Central Region			
	Government, Catholic founded Girls , Boarding school	Private for profit Boarding Mixed School	Government Universal Secondary Education Mixed ,Day School	Private, Mixed day & boarding school implementing "USE".	Government Catholic founded Girls, Boarding school	Private for profit Boarding Mixed School	Government Universal Secondary Education Mixed, Day School	Government, Makerere University founded Mixed, Day& Boarding school
Tuition fees	4,400	520,000		198,200	41,000	858,000		661,400
Uganda Martyrs University	500							
Library/Textbooks	6,000				128,000			
Utilities (Electricity/Water)	10,000				103,000			
Bridge Financing	10,000							
Capital Development /Construction	46,500	70,000	12,000	10,000	534,750		20,000	180,000
Teachers' Resource Centre	500			1,500				
Uganda National Students' Association	800		300	2,000				
Food fee /lunch	180,000		70,000	85,000	207,600		30,000	
Church Contribution	1,000		1,000					
Practical Subjects	12,000							
School Bus /transport	30,000		8,000		16,000			
Parents Teachers Association fees/Administration	75,700		60,000		144,000		30,000	
Secondary School Science and Mathematics Teachers	1,000		1,000	1,000	1,000			
Co-curricular	10,100							
ICT Digital Science	7,500		8,000					
Maintenance	5,500							
Sports Activities	1,000			5,000	5,000			
National Association of Secondary School Teachers of Uganda	500		500					

[11] These costs exclude transport to school, expenses on uniform, other scholastics, clothing etc.

Haircut		1,000						
Bag of cement			30,000					
Boarding fees (Optional)				275,000				
Bank Charges	2,500	2,500	3,000					
PTA Membership				2,000				
Answer booklet fee				23,500				
Science fee				5,000	9,900			
Medical fee				5,000				
Hard broom drier				7,000				
Hard/soft broom				1,500				
Identity card /Badge /Magazine				2,000		10,000		15,000
Admission fee						50,000		
Ream of Paper							15,000	
Total (Shillings)	405,500Shs	593,500Shs	193,800Shs	623,700Shs	1,205,550Shs	918,8000Shs	151,000Shs	856,400Shs
Government contribution[12]	41,000Shs	None	41,000Shs	47,000ShS	None	None	41,000Shs	None
Parents' contribution (Shillings)	**364,500Shs**	**593,500Shs**	**152,800Shs**	**576,700Shs**	**1,205,550Shs**	**918,800Shs**	**110,000Shs**	**856,400Shs**
Parents' contribution (Euros)	**111€**	**180€**	**46€**	**175€**	**365€**	**278€**	**33€**	**260€**

Source: Constructed by author using field data for Gulu district, Northern Uganda and Wakiso, Kampala and Mukono districts , Central Uganda

[12] Government contributes 41,000Shs per student per term for USE students in Government schools and 47,000Shs per student per term for USE students in Private schools partnering with Government to implement the USE Program.

Table 14 presents the average costs (for term I) of accessing secondary education in Northern and Central Uganda. While these statistics may not be representative for the whole country and exclude costs on uniforms, stationery and other personal effects for the students at the beginning of the year, they give insights into the extent of the burden in making a transition to secondary in non-government and "government" schools in the country. It should be noted that the north is a region that is most educationally deprived and the poorest, while the Central region is the richest and presents with the best educational outcomes. As per 2010, the average monthly household income for the north was about 141,400Shs(43€) while that for the central was 389,600Shs (118€) (UBOS, 2010b).

Some conclusions may be drawn from the data in table 14 thus (i) an average northerner (from northern Uganda) would need an equivalent of his/her four months income to pay for one child in a private for profit secondary school for term I; (ii) an equivalent of close to three months income to pay for one child's first term's school requirements in a government boarding secondary school; (iii) slightly more than his/her monthly income to enable a child access education in a USE, presumably "free secondary school" ; and (iv) while average monthly incomes were higher in the central region, the costs of accessing secondary school were equally higher than in the north.

For the case of the Central region, on average, a parent would need to mobilize an equivalent of his/her three months' salary to enable one child make a transition to a top government school (ranked by performance), an equivalent of his/her two months' salary to enable their child enroll for first term in both an averagely good government or private secondary school and approximately one third of their salary to enable a child transit to a [13]USE school. A closer look at the tables brings out the fact that not all government schools are Universal Secondary Education (or free) schools and that where government shares the responsibility with parents, the contribution of parents is by far higher than that of government in all the schools including the purely USE schools where it is about three to four times that of government.

The last point is corroborated by remarks of a head teacher in a rural USE school thus:

[13] The charges for accessing a USE school for the Central Region appear to be unusually low implying that the respondent could have hidden some costs from the researcher for fear of being interrogated by government officials.

"I think USE is adding very little and indeed very little because when you look at the government contribution, you find that parents are paying 3-4 times than what the government is giving." (Head teacher in a USE Rural Mixed School, Graduate, and 52 Years Old)

The situation of making a transition to secondary is more complex than these statistics may portray because of the following reasons. First, there are other requirements to meet like uniforms[14], scholastics, transport to school, personal effects, clothing and sometimes medical care. Secondly most households have several children to look after (total fertility rate for Uganda was about 6.2 (UBOS and ICF International Inc, 2012). Thirdly, there are more demands at the household level like feeding, school dues for other children, medical care, rent, fuel and energy, transport and communication, household and personal effects etc. Finally because most people are engaged in peasant agriculture, income is dependent on seasons and hence not stable as these seasons do not necessarily correspond to school opening.

6.2 Education of household head

Education of the household head seems to be a very strong factor explaining differentials in transition outcomes for children in 2006 and 2010. In 2006, a child whose head had at least secondary education was about three times (OR=2.654) more likely to transit to secondary than his/her counterpart whose head had never been to school. While in 2010, children whose heads had primary education were less likely to transit than children of uneducated heads (OR=0.551), again children under heads with at least secondary education were about two times (OR=2.358) more likely to have transited than the ones of uneducated heads. Three important remarks need to be made here i.e. (i) in the recent past, education of the head seems to be a stronger factor for females' transition than that of males;(ii) inequalities in making a transition by education of head seem to have slightly diminished and finally; (iii) despite the previous point, educational chances continue to be largely recycled since children under both illiterate and primary level heads (who never accessed secondary) seem to be equally disadvantaged with regard to making a transition. The last

[14] It was not possible to get data on the cost of school uniforms for all the schools under comparison.

point could probably be explained by increasing income inequalities in Uganda in the recent past given that education was found to be a key determinant for the inequalities (Ssewanyana & Kasirye, 2012), constraints of education supply at the post primary level, the issue of boarding schools and the fact that secondary education is increasingly managed and run by non-state actors.

Educated parents are more likely to be urban based and enjoy advantages of supply of secondary schools, have their children study in private primary schools and hence perform better, have the financial means to meet the scholastics and probably private tutoring of their children and provide the right environment for their performance. In addition, because of the lobbying that takes place to get a vacancy at the post-primary level, chances of getting a vacancy are higher for the educated owing to their political, social and economic capital.

6.3 Marital Status of household head

In 2006, all children under widowed heads were less likely (OR=0.511) to have made a transition to secondary whereas for the boys, failure to transit was largely due to divorce or separation of parents (OR=0.396). In the more recent past (2010), all children were less likely to transit due to divorce/separation of parents (OR=0.418) although this was a stronger factor for the male children (OR=0.196) while for the females, the chances of transition were largely dwarfed by polygamy (OR=0.440). As already seen in the previous chapter, children under heads that were never married were about five times (OR=4.616) more likely to transit than the ones under monogamous heads and this was more beneficial to boys (OR=5.614) than girls. Both the negative effects of polygamy and positive effects of especially single male headship on secondary schooling had been documented in a prior study (Wayack-Pambè & Pilon, 2011).

While polygamy may imply “resource dilution” (Buchmann, 2000) and hence less affordability of secondary education, its nuanced effect on girls’ transition could be due to the fact that in the event of scarce resources, it is often education of the girl child that is mostly affected (Boyle, Brock, Mace, & Sibbons, 2002).

The Qualitative Module of the Uganda National Household survey indeed reported that divorce of parents was one of the reasons for not being in school as at survey time and that this often led children to engage in small businesses hence affecting their education (UBOS, 2010c).

The role of elder children in looking after younger ones was found to be a common phenomenon according to field findings. While this phenomenon may be moderating the otherwise negative relationship between "sibship size" and children's schooling, it is dependent on several factors such as:- education level of elder children, their willingness both to help and postpone their own marriage as well as their ability (as denoted by having a stable income) to pay for others. Anecdotal evidence seems to present that it is more common among older generations that grew up in the village and less common among the young generations that have been born and bred in towns.

6.4 Region of Residence

In the previous chapter children in the West and the North (especially girls) were generally excluded from secondary education as discussed. At this level, findings show that while children from all the other regions were not necessarily less likely to make a transition to secondary than their counterparts in the Central, children in the West and more so males were less likely to transit to secondary than all children in the other regions in 2006 and five years later. This is surprising given that the west was not as deficient as say the East in terms of school supply and wealth potential as seen already but given that the exclusion is also gendered (affecting largely the boys) could be related to some challenges in the region like work outside homes and other distractions that affect retention of the boys in school.

6.5 Place of Residence

In 2006, children surveyed in urban areas were more likely (OR=1.854) to have made a transition to secondary than the ones in rural areas and urban residence was a stronger factor for girls' (OR=2.186) than boys' transition. In 2010, place of residence

seems to have no influence on transition as children in both rural and urban areas were almost equally likely to make a transition. The advantages of urban residents with regard to better educational outcomes (and transition in this case) were adequately discussed in the previous chapter. The rural-urban differentials in educational outcomes were related to differences in , *inter alia,* incomes and household investment in schooling; number, distribution and quality of teachers and schools, "quality" of parents and degree of parental involvement ; quality and frequency of school supervision and home environments.

That children in the rural areas were not any more disadvantaged may be because of the fact that the "Universal Secondary Education" Program had been implemented slightly more than 2 years before and as has been seen elsewhere, such initiatives are normally followed by "mass enrolments" especially by the formerly excluded although experience shows that these same children have a higher tendency of dropping out.

The rural advantage could also be related to government's effort of building government founded secondary schools commonly known as "Seed Schools" largely in the rural areas and targeting the underserved sub-counties with the help of an African Development Bank loan of US$85 million (Ssewanyana et al., 2011). While all sub-counties are yet to be served (by 2008, 271 sub-counties did not have a public or private secondary school) as reported by Ssewanyana et al.(2011), and the quality in these schools is largely wanting (MoES, 2012a), this indeed enabled children, in the previously underserved areas to access some school within their vicinity.

Improvement in transition to secondary schooling because of the USE Policy is attested to by a female parent, a Ministry of Education official in Gulu district and an official of an NGO supporting children in secondary school in northern Uganda, in that order:

> *"Oh …I think USE has somehow helped the formerly disadvantaged because I can see many people have enrolled in school. Now, even those who could not afford secondary education can at least try to raise something small to send their children to school"*. (Female Parent, Market Vendor, Primary 4 dropout, Widow***)***

> *"USE has at least improved access because according to the government policy,*

these USE schools, especially day schools are not supposed to charge fees beyond a certain limit". (Ministry of Education Official, Graduate)

"Yes, it has helped children who are focused but for students who are not focused it has not helped so much. It has helped those who could not access in any way through the small payments that they could not have afforded". (Official working for an NGO in the region, requested that the NGO and his identity remain anonymous)

Challenges with regard to the quality of education in the USE schools, was reiterated by one Ministry official in the district thus:

"The issue is quality because now if you take your child to the UPE or USE schools, the child may try but may not really achieve much". (Ministry of Education Official at the District Official, Graduate, also parent)

The other explanation is that the rural-urban dichotomy in educational outcomes may largely be due to children's failure to enroll into basic education in the rural areas but more so, high dropouts especially among the rural children for reasons that were adequately discussed in the previous chapter. In other words, if the rural children can complete Primary seven, then they are likely to proceed to secondary and therefore tackling the rural–urban education divide may involve more of combating dropouts and less of being preoccupied with transition.

6.6 Age of Child

Several studies have found a negative relationship between age of a child and access to secondary school as already seen in the previous chapter. In addition, even studies that have focused on transition, age has also been found to be negatively related to transition (Siddhu, 2011). In this study however, the general discernible pattern is that the chances of transition increase with a slight increase in the age of a child. While this is true for all children in 2006 (OR=1.204) and 2010 (OR=1.057), it is particularly significant for both males and females in 2006. The positive association between age and transition could be

explained by the fact that in this model, the focus was “ever having transited” and not “current transition status”. It means that in the numerator we have, *inter alia*, children that completed secondary and those that were still, enrolled at post-secondary institutions that were likely to be older.

6.7 Household size

An increase in household size seems to be associated with higher chances for children’s transition to secondary in 2006 and 2010. In 2006, a child who was surveyed in a household with (10 & above) members was approximately twice as more likely to have transited than the one from a household of less than five members. Household size was particularly beneficial for boy’s transition. In 2010, still a child that was found in an averagely sized household (5-9 people) was more likely to transit (OR=1.571) and this again was more beneficial to boys as had been documented in Burkina Faso, albeit with regard to accessing primary school (Kobiané, 2006).

The positive effect of household size on secondary schooling is well documented following studies in Cameroun (Wakam, 2003), Bangladesh (Ahmadi et al., 2005) and Ouagadougou, the capital of Burkina Faso (Wayack-Pambè & Pilon, 2011) although in the latter case it was largely true for male headed households. This positive effect could be related to the fact that other members come into the household to help in household and other work that may in turn improve household income, thus enabling some children (especially those of the biological head) to progress with education (Kobiané, 2006). It could also be related to the fact that work in the home is spread amongst siblings hence improving attendance as was the case in Ethiopia (Colclough et al., 2000) and hypothesized to be true following a quantitative study of Demographic and Health Survey data for 26 countries in Sub-Saharan Africa (Kravdal, Kodzi & Sigle-Rushton, 2013).

6.8 Age of household head

Both extremes on the continuum of the age of household head may influence access to secondary education negatively. While young household heads may have no resources to

invest in the education of their younger siblings, the very old heads may be too weak to work and invest in the education of people under their roof. Indeed these results tend to agree with the above assertion as children under middle aged heads (31-59) tend to have more chances of transition than the ones under younger heads or the older ones. Besides, in 2006 children, especially females under older heads (60 and above) were equally more likely to transit. Could this be related to improved ability of the heads as they were likely to have accumulated assets?

6.9 Presence of natural mother in household

Children whose mothers were alive but elsewhere, i.e. not in the household were more likely to have made a transition to secondary than the ones with mothers present in 2006 and 2010. While in 2010, this was true for all children (OR=1.545), in 2006 it was largely true for boys (OR=2.208).

The fact that mothers outside the home help educate their children resonates with literature found elsewhere where despite access to fewer resources; mothers are known to invest more in their children's wellbeing. This could be related to the mothers working in a different area such as a city, another region or district or even abroad and sending assistance to the children. Indeed, the second most important reason as to why remittances (both from within and abroad) were sent /received was to cover education expenses (UBOS, 2010b). The fact that the assistance is more directed to the boys may imply that these mothers have more confidence in the returns of boys' education that in turn may benefit them, more so in old age as remarked already.

6.10 Proportion of children under five

There is a general tendency of a decline in the chances of making a transition to secondary with an increase in the proportion of children aged below 5 years in a household although this is statistically significant in 2010. Indeed the probability of making a transition is lowered for all children (OR=0.372) but a slightly bigger factor for girls (OR=0.303) than boys (OR=0.392). Otherwise put, girls are slightly less likely (odds reduce by 70%) to

transit to secondary than boys (odds reduce by 60%) with an increase in the number of children under five in a household (3& above in this case).

The negative effect of the proportion of under-fives on access (not necessarily transition) to secondary schooling is corroborated by prior studies in Uganda and elsewhere (Kakuba, 2012; Rolleston, 2009; Takahashi, 2011; Wayack-Pambè, 2012). In addition, a more recent study involving a statistical analysis of DHS data for 26 countries in Sub-Saharan Africa indeed found that an increase in the number of "preschool aged children" tended to reduce both; transition to secondary and post primary educational attainment and that this affected girls more than boys (Kravdal et al., 2013).

The fact that some of the older children are at the point of transiting to secondary while others are very young (despite some few cases that these are children of other people) is but reminiscent of high fertility in a situation where child spacing is very limited and uptake of contraceptives is very low (only 24% of all women in the reproductive age group of 15-49 were using some method of contraception) (UBOS and ICF International Inc, 2012).

While increased demand for labor to care for the under-fives more so by the girls cannot be dismissed as a probable explanatory factor, the more plausible explanation for this negative relationship may be the "dilution" of household resources because of, *inter alia*, high levels of morbidity among the under-fives and hence increased expenditure on health in a country where health service provision is largely private and therefore costly. It should also be remembered that poorer households also tend to have more children (UBOS and ICF International Inc, 2012).

6.11 Proportion of Older adults

Unlike in the previous chapter where an increase in older adults was associated with better chances of education especially in 2010, in this case this factor was, statistically speaking, not associated with transition to secondary in both 2006 and 2010.

6.12 Main Occupation for Household

The main source of income for the household does not seem to have strong implications for children's transition in 2006 and 2010. While children under households earning largely from salaried jobs were more likely to make a transition in 2010 (OR=1.573), this was significant at 10%. This could be related to the fact that the observations were generally few given that this variable had many categories and that "transition was defined" in accordance with the data that was available.

6.13 Relationship to Household Head

The effect of the relationship of a child to the household head on transition to secondary school is largely non-significant. As has been found elsewhere, relatives to the household head as well as non-relatives were largely less likely to have transited to secondary than the children of the household head but this was only significant for "other relatives" and only in 2010 (OR=0.685). The fact that "other relatives" that had completed primary 7 were less likely to transit may be related to the fact that they came into the receiving households to study but could not probably due to financial constraints in the sending and or receiving households. It may also be due to the fact that they just came to stay in the new households after they could not enroll at any post primary institution.

6.14 Sex of household head

In line with other findings that have attempted to look at correlates of access to secondary schooling (Kakuba, 2012; Rolleston, 2009), children under female household heads were more likely to have made a transition to the secondary level than the ones under male heads although in this study, this was largely not significant.

6.15 Sex of Child

Sex of the child does not seem to affect his/her chances of transition to secondary school, at least at the national level. These findings are in agreement with results in the prior chapters as well as other studies in the same country as seen already and point to the fact that indeed the gender gap in education is increasingly being bridged. As already seen however, retention of girls at the post primary level is more problematic more so in the north and north east parts of the country (MoES, 2012a). This is partly due to late entry into secondary (Wells, 2009), which, in the context of long distances to school, a gendered division of labor at household level, poor facilities for girls at school level and negative attitudes to girls' education in some of the communities, often leads to dropouts. Early marriages and teenage pregnancies, partly related to some of the factors mentioned, are also responsible for poor retention of girls at the post primary level as found out from the field interviews.

6.16 Presence of natural father in household

Both the presence /absence of the natural father in the household and or paternal orphanhood status of children had no effect on their chances of making a transition to secondary education in 2006 and 2010.

Having looked at factors affecting transition and overall access to secondary, it may be important to understand where most challenges are, which in turn may guide policy on where to put most emphasis while redressing education inequalities. To get a more global picture, the main significant variables across various models are looked at in the subsequent section.

6.17 Evolution of Inequalities by level of access

As already pointed out, here we are interested in seeing how inequalities evolve along the education ladder. To make this possible, this study includes a model on access to

primary education (whose overall results are in annex 5). The variables considered are the ones that were consistently significant across the different models and these happen to largely be socio-economic and community level variables as to be seen shortly.

Table 15: Evolution of Inequalities in accessing various levels of education in 2010

Variable /Category	Access to Primary (9-12 Yrs)	Transition to Secondary (13-24 Yrs)	Access to Secondary ; Global Model (13-24 Yrs)
Wealth status			
Poor[RC]			
Middle	1.360**	1.443*	1.610***
Rich	1.569***	3.559***	3.061***
Education of head			
None[RC]			
Primary	2.225***	0.551*	1.036
Secondary & above	3.016***	2.358***	4.350***
Residence			
Rural[RC]			
Urban	1.817**	1.019	1.665***
Region			
Central [RC]			
Eastern	0.779	0.959	0.986
Northern	0.652**	0.754	0.698**
Western	0.706	0.573**	0.737**

RC, Reference Category, ***significant at 1%, **significant at 5%: * significant at 10%

Table 15 presents the evolution of inequalities at entry, transition and global access to secondary that takes into account, the aspect of dropouts. The age group considered for primary was 9-12 given that in Uganda, like the case in most of Sub-Saharan Africa, a good number of children enroll in school late. This study was thus looking at, *inter alia*, the chances for accessing basic education or otherwise put; the probability that a child ever enrolls in school. Age 9 was taken to be the lower threshold because by that age, chances that a child may enroll are indeed slim as about 81% of the children that enroll in primary 1 are aged between 4 and 8 years (MoES, 2011a). Looking critically at table 15, one would come up with the following conclusions.

It is largely socioeconomic and community level factors that strongly affect access to basic education, retention in primary school and transition to secondary. Household wealth

is a factor that determines access to basic education, retention in primary and transition but also a stronger factor the higher the level of education.

Education of the household head is equally a more important factor at the higher levels of education but seems to influence retention more than transition. Rural children seem to be most disadvantaged with regard to; both initial enrolment and retention in school but not transition to secondary. While with regard to region the pattern is not so consistent, one may say that children in Western Uganda who were not necessarily excluded at initial enrolment, were less likely to be retained at primary (had 26% less chances of progression) but most importantly to transit to secondary (had 43% less chances of transition).

On the basis of household level-socioeconomic variables i.e. household wealth and education of the household head one can deduce with a high degree of confidence that inequalities in access tend to be exacerbated as one ascends the education ladder.

6.18 Concluding Remarks

While older children were more likely to have transited from primary to secondary, the sex of a child had no influence on transition outcomes, before and after USE, confirming an earlier observation that indeed the sex gap has increasingly been bridged. At the post primary level however, girls were still more likely to dropout than boys for reasons explained in this chapter.

Household income remains one of the main stumbling blocks to transition even after the democratization of secondary education. In addition, it is clearly discernible that children whose parents were both in the bottom 50th and middle 25th percentiles of household income were equally disadvantaged with regard to transition to secondary. A more intriguing remark is that household income seems to be a stronger factor influencing transition in the aftermath of USE than before leading to question the equity and social justice dimensions of the “universalized access” to secondary education. The latter observation could partly be explained by deficiency of supply in secondary school provision, increased privatization of secondary education supply as well as income inequalities and much higher costs of secondary schooling even in the so called “government” (public)

schools. Affordability becomes more complex in a situation where there are several children to look after, more needs to settle for children in school and at home and the main income source for the majority is subsistence agriculture. It should be remembered that the latter is subject both to: vagaries of nature, averagely low incomes due to poor methods of farming and seasonality of harvest, hence unpredictability of income.

In line with the previous point, it is clear that children whose parents never attended secondary school were equally disadvantaged with regard to transition to secondary. Parents' education was found to influence transition through income that often determines attendance of a private primary school hence better performance in PLE, the parents' ability to afford requirements for secondary education and the socio-political networks that influence obtaining a place in especially good secondary schools.

While polygamy, widowhood and especially divorce or separation were strong factors impeding transition, elder brothers/sisters were found to play a big role in helping their younger siblings to transit to secondary schooling. Besides, mothers that were staying away from home were instrumental in funding secondary education for their children, especially boys.

While household size was generally positively related with transition, this being related to employment of other members into these households and or sharing of work among the many children, children in households with a higher number of children aged below five years were less likely to make a transition.

Whereas children resident in the rural areas were more disadvantaged with regard to transition in 2006, this gap seems to have been bridged five years later. This could be related to a policy to build "seed" schools in the rural areas in the recent past but may also be due to the fact rural children are largely affected by dropouts at the lower level, than transition. Besides, children but especially boys in Western Uganda had the biggest challenges with transition. As observed in the previous chapter, socio-economic factors and to some extent socio-demographic factors remain instrumental in influencing transition.

Other than rural–urban residence, most of the categories of children (those of the poor, illiterate, from the West of the country, in socially unstable homes, etc.) that were excluded from transition to secondary before the USE policy of 2007 remained so in 2010.

In fact, the poor seem to be worse off after the Policy than before implying that the Policy did not help them.

In the final analysis, factors affecting access to secondary education globally are not very different from those affecting transition although the pathways through which they operate may differ. Indeed general access is greatly affected by dropouts at primary that are triggered by a multiplicity of proximate determinants that may also have a temporal dimension, while transition has more to do with issues related to affordability of secondary school. Finally, although the net benefits of education are associated with higher, rather than, lower levels of education, challenges in accessing education tend to be exacerbated with the level of education.

Accessing secondary education is one thing and accessing quality secondary education is yet another. As already seen, some schools especially the prestigious catholic founded boarding schools tend to offer better quality education than other types of schools. This study therefore shall endeavor to understand inequalities surrounding access to boarding versus day schools in order to integrate dimensions of “physical access” with “meaningful access” as to be seen in the next chapter.

CHAPTER SEVEN : EVOLUTION OF INEQUALITIES IN ACCESSING BOARDING

This chapter explores the phenomenon of boarding schools, the extent to which it is prevalent, how boarding facilities are rated and which children access them. Besides, on the basis of quantitative data, the study explores the evolution of inequalities in accessing boarding facilities by individual, household and community level factors. This study is interested in understanding more the phenomenon of boarding schools as they are relatively fewer, more expensive, attended by fewer students and believed to be of better quality as defined by academic performance in this case.

While several scholars have explored issues of access to several levels of education and the effect of privatization of education on access, little has been done with regard to accessing boarding schools, more so in Sub-Saharan Africa. For the studies that have used secondary data (mainly Census and DHS data), it was not possible to study the issue of accessing boarding schools as this question is rarely included in the questionnaires of the surveys mentioned.

The phenomenon of boarding schools is not widespread in the West i.e. Europe and the United States and where it exists, reasons for placing some children in boarding facilities are varied. They include being, *inter alia*, an appropriate place for disadvantaged and or struggling children, an opportunity where gifted children interact and share more amongst themselves and avenue to accommodate children staying far from schools (Ginoglu, 2012; Katrina, 1997; Lewin & Lu, 2011; Bass, 2013; Cookson & Persell, 1985). The latter scenario was more prevalent in China as a result of reduced schooling cohorts (caused by fertility decline) and hence closure of some schools, massive rural-urban migration and or the absence of a well-developed rural transport network (Lewin & Lu, 2011).

In the United States or the United Kingdom, boarding or residential schools, especially the elite ones are both highly selective at entry and have been found to create and maintain social class differences as well as exacerbate class cleavages (Cookson & Persell, 1985).

In Africa (Uganda in this case), boarding schools were designed according to European (British in this case) models of education. Having been established by largely Christian missionaries, one school of thought postulates that they were meant to Christianize the indigenous people but also impart colonial language and culture and hence "emancipate" the young generation from "backward" cultures (Smith, 2009). Indeed in most of these schools, speaking English and not the mother languages, was and still is strictly enforced and the education they dispense is widely criticized for being largely based on the colonial model.

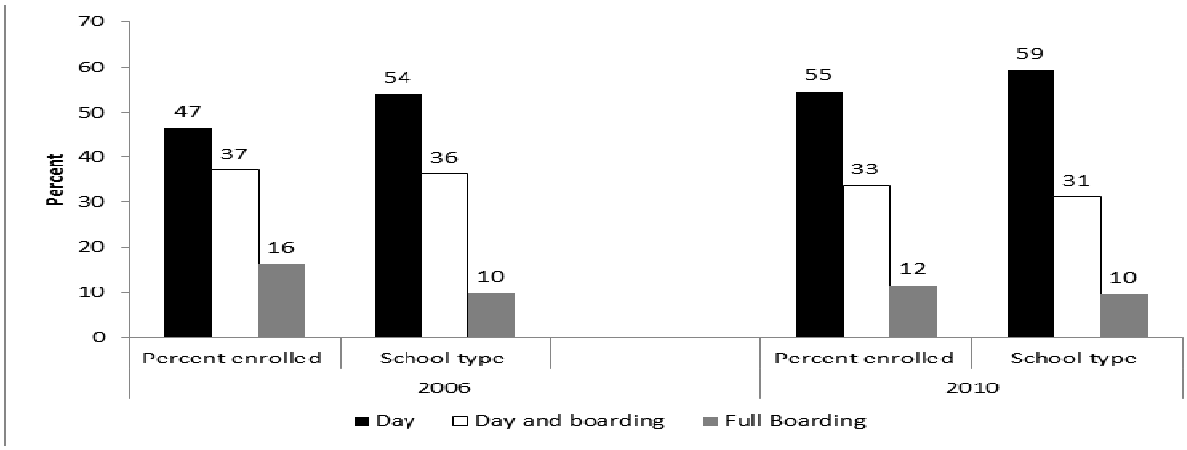
Before "inequalities in accessing boarding facilities" is tackled, it may be important to understand them a bit further i.e. What are they? What is government policy about them, to what extent are they prevalent, how are they valued in terms of academic performance and generally, and which children are more likely to access them?

In the Ugandan education System, especially at the secondary level, students may enroll in a day school, boarding school or day and boarding school. From the perspective of students, they can either be boarders (stay at school) or day students. Boarders are brought to school at the beginning of the term, stay and feed at school and normally go back home at the end of the term. The common practice is that their parents or caretakers can visit them once a term (on visitation day), that is also a moment for the parents to discuss with the children and their teachers the academic performance of the children.

Prior to 1989, a greater part of operational costs for boarding schools was met by government. It is in this vein that the Education Policy Review commission recommended (Recommendations 52 & 53) that all government aided secondary schools were to be day schools and that where they were boarding (as some were already), the costs of boarding were to be met by parents (MoES, 1989). This prior recommendation that was later endorsed by cabinet through the Education White paper (MoES, 1992) is indeed reinforced by the Ugandan Constitution and Education Act that unambiguously pronounce themselves that the provision of education and training is the responsibility of the state, the parent or guardian and other stakeholders (Government of Uganda, 1995, 2008). Indeed the practice is that all costs in boarding schools (some of which are called government schools) are an exclusive responsibility of parents.

In order to study inequalities with regard to accessing boarding, it is important to look at the extent to which this phenomenon is prevalent. Basing on data by the Ministry of education, it was not possible to estimate the number of boarders versus day students at secondary level. It was however possible to estimate the proportions enrolled in each type of school or the proportion of schools that were; day, boarding and then day and boarding as seen in figure 34.

Figure 34 : Students enrolled by school type and type of secondary school in 2006 & 2010



Source: Drawn using data from the Ministry of Education and Sports

Both in 2006 and five years later, it can be seen that there were more students enrolled in day secondary schools, followed by day and boarding schools and lastly, full boarding schools. This pattern is also true tackling this issue from the supply perspective. Indeed, there were largely day schools, followed by day and boarding schools and lastly, full boarding schools. It can also be said (as per Ministry data) that while day schooling seems to have gained momentum, boarding schooling seems to have remained marginal over the five year period.

Building from the previous chapters that largely explored inequalities in accessing secondary schooling, this chapter goes further to look at inequalities in accessing a boarding facility. Since some boarding schools have been known to create and perpetuate social classes elsewhere, is there likelihood that this is being replicated in Uganda? Are boarding schools necessarily better than day schools? Since boarding schools are generally fewer, is there a selective process to attend them? Is this process equally eliminative against some children and if so, which children does it take on and which ones does it eliminate? How has this evolved after the Universal Secondary Education Policy of 2007?

Qualitative and quantitative data are used to respond to most of the questions raised. On the quantitative side, the Uganda National Household Survey collected data on the "current school attendance status" of children and type of school attended for the various levels of education.

For the purpose of this study it was possible to delineate the children aged 13-24 that were attending secondary school and above at the time of the surveys and, the type of school attended. These types included; day, boarding and day and boarding secondary schools. With the help of data on the variable "distance to school" that was collected only from day students, it was possible to identify children in category three that were day pupils/students versus those who were boarders. Consequently, a variable with a binary outcome; boarders versus day students, was created. Indeed on the basis of these datasets and with reference to children aged 13-24 attending secondary and above, most of the children were day scholars/students in both 2006 (54%) and 2010 (60%) and the proportion of boarders registered a slight decline over the 5 year period (Annex 3).

7.1 The place of boarding schools in the Ugandan Education System

On the basis of qualitative data, it was possible to understand further the phenomenon of boarding schools and possibly respond to some of the questions posed earlier. In Uganda, most of the purely boarding schools are largely old schools established in the colonial times and within the first 20 years of independence. They are also largely missionary founded, but were taken over by government and so are called "government" schools. Foundation bodies still play a big role in the running and management of the schools and they determine who comes into the schools, the amount of fees to be paid, who they can employ as a teacher, how much they can pay them (if they have to top up their salaries as government pay is usually small and sometimes delays), etc. Government, on the other hand, provides the curriculum to be taught, is the source of and manages national examinations, pays teachers' salaries, sometimes provides textbooks, helps or solicits funding to help in construction of some buildings in the schools and is in charge of monitoring and overseeing standards through support supervision.

Through field interviews, it was possible to understand further, from the perspective of various stakeholders (parents, teachers, head teachers, district school administrators,

NGO officials, etc.), the phenomenon of boarding schools by exploring their advantages/challenges in juxtaposition with those of day schools as summarized in table 16.

Table 16 : Comparison of day and boarding schools, a perspective of respondents

Boarding Secondary Schools	Day Secondary Schools
Advantages	**Advantages**
i. Increased contact with the teacher and so more help to students ii. More socialization with other children from diverse socio-economic and cultural backgrounds iii. Improved discipline of students as teachers always talk to and monitor them more closely iv. More time for reading and concentration v. More time for discussions amongst students vi. Better academic performance vii. Most boarding schools are old and have good facilities viii. Possibility of giving remedial lessons to weak students ix. Children tend to work under pressure and on competition x. Convenient for parents that are very busy or stay away from their homes	i. Children learn more (socially and culturally) from parents ii. These schools are generally more affordable
Disadvantages/Challenges	**Disadvantages/Challenges**
i. Children lack parental care more so in case they are homesick ii. Possibility of indulging in deviant behavior like smoking , drug abuse and homosexuality iii. Increased financial burden to parents iv. Failure to progressively monitor the performance of a student by parents, more so if he/she is a weak student v. Poor accommodation facilities like congestion in dormitories vi. Children revise from as early as 5.00 am and sometimes go to bed as late as 10.00pm hence lack time to socialize enough, rest and for entertainment. vii. In some schools lessons start as early as 6.30 am and go up to 7.30pm hence children are psychologically tortured viii. In some schools children lack space for play and exploration	i. Children tend to be derailed by distractions at home like domestic chores ii. Children are distracted by bad peers and or drunkards or rapists (for the girls) on the way iii. Noise pollution on the way and in some homes iv. Distractions in poor neighborhoods because of football matches on TVs, sports betting and bars. v. Arriving late at school due to long distances, poor topography & bad weather causing fatigue and lessening time for school vi. Children may lack guidance with their homework from less educated or very busy parents vii. Tendency to relax on the part of children viii. Children are more prone to accidents on the way

Source: Derived from field data by author

According to table 16, various stakeholders presented several advantages and disadvantages of boarding schools. In this vein, these same respondents seem to present numerous challenges (and less of advantages) related with day schooling. As per field findings, it is looks like boarding schools were generally better rated than day schools. Going further, this matrix is placed in a wider context of literature on boarding schools elsewhere and some of the points raised are elucidated hereunder.

Preference for boarding schools was largely related to better academic performance in these schools (Gaskins & Mastropieri, 2010; Stickney, 1977 ; Bass, 2013) at both

Ordinary and Advanced level in Uganda. Indeed, while as per 2011 there were 2,564 secondary schools in Uganda (MoES, 2011a) a list of the top 202 schools at Ordinary level (as rated by the number of students scoring grade 1) is overwhelmingly dominated by boarding or day and boarding schools and less of day schools (Annex 2). Besides, it is also clearly evident that the first 34 schools in the country were all boarding schools and that of the 50 best schools, only two were day and boarding while the rest were exclusively boarding schools.

Boarding schools may be doing better because entering these schools is highly competitive and partly determined by students' performance at PLE (Primary Leaving Examination) that in turn, is partly determined by the type of school attended at the primary level. According to field findings, most of the children that enroll in boarding schools have attended private and or boarding government schools that are of course largely inaccessible for children from poorer socioeconomic backgrounds. It may thus imply that better performance at secondary level is strongly correlated with the "quality" of children that are admitted. It should also be noted that while some of these are government schools, government has no control over who should access them as this is largely determined by the performance of pupils, the ability of parents to pay and sometimes the social or religious connections of parents. Whereas these quality schools would be the surest path of social mobility out of poverty for talented children from disadvantaged backgrounds, they are expensive, most often more than twice as expensive as day schools hence end up excluding children who are rural based or from poorer backgrounds.

Besides, most boarding schools are old schools founded by churches in the colonial period and some few years after independence. While they were taken over by government in principle, they still enjoy support from both government and the founding churches. As a result, they are better facilitated in terms of dormitories, classroom infrastructure, laboratories, libraries, good toilet systems, teachers' accommodation within the schools, extra pay for teachers as well as support supervision from the foundation body and government. In addition, they tend to have a strong body of influential and well-connected alumni that may not only support them financially but lobby for them (say for funding) and give advice on matters of management.

Over and above the good facilities and high selectivity of students at entry, there are other advantages of boarding schools like more time for reading and discussion among

children, better control of discipline by teachers, an increased spirit of competition and less distraction, that tend to improve their performance (Bass, 2013). To vindicate this point, even where children were under the same management, learning environment and entered with closely similar marks like in the case of "day and boarding schools, children in the boarding section were found to outperform their counterparts in the day section as remarked in the excerpt that follows;

> *"I have not tried to analyse that and compare but I always see only about 1 or 2 children who are in the boarding section not doing all that well compared to day students. The majority (in the boarding) perform well."* (Head Teacher, Day and boarding Private Secondary School partnering with Government to implement USE)

On the other hand, one main reason why most parents did not enrol their children in boarding schools was the costs associated with them (table 18). It should be remembered that boarding schools are by far more expensive than day schools and that most children that enter them have largely attended private and or boarding facilities at primary that are almost as expensive as boarding secondary schools. This may imply that boarding schools are, not only, likely to create social classes, but also perpetuate the reproduction of social elites.

Boarding schools were also presented (albeit by few but more educated respondents) as not being good for especially students that would get homesick as the latter often lacked parental love and care to comfort them. Besides, some respondents associated being in boarding with indulging in deviant behavior like smoking, excessive drinking, drug abuse and homosexuality. This phenomenon was seen to negatively impact emotional, behavioural and psychosocial development of children as documented elsewhere (Gaskins & Mastropieri, 2010; Ginoglu, 2012; Rollins & Cross, 2014).

Against the backdrop of very little support supervision from the Ministry of education and given that secondary education is increasingly in the hands of a less regulated non-government sector, children (in a good number of schools) are subjected to too much reading and often wake up as early as 4 or 5:00 am and go to bed as late as 10:00 pm with virtually no time for sports, recreation, manual work and interpersonal socialisation. This is compounded by the fact that some schools have very little space for extracurricular activities.

Congestion in dormitories, increased insecurity due a recent wave of fires in some boarding schools in Uganda and poor feeding practices (Luo et al., 2009) in some boarding schools, were some of the other challenges raised through interactions with various stakeholders.

In conclusion, while boarding schooling seems to be associated with some challenges that impact the emotional and psychosocial development of a child, boarding schools are highly regarded as per field interviews and in the entire country, owing to their outstanding academic performance and probably because of a wide range of distance and home environment related factors that negatively impact learning in day schools.

In light of what has been said, this study was able to investigate the factors linked to accessing boarding facilities by sex and how these have evolved after the introduction of USE in 2007. Which children are able to access boarding and how has this changed over time? Are the correlates of accessing boarding facilities similar for boys and girls? Are these factors more at individual, household or community level? What is the role of the boarding school system in reducing or increasing inequalities in accessing "good" education?

7.2 Evolution of Inequalities in accessing boarding

This study is predicting the probability of being a boarder as compared to being a day student at post primary level and the extent to which this has evolved between 2006 and 2010. As already said, the reference population is all children aged 13-24 who were attending secondary school and above at the time of the surveys. This is done on the basis of individual, household and community level factors as in the previous chapters.

Besides, factors that were found to be largely insignificant at preliminary modeling stage were eliminated from the final model and results are presented by order of importance with the most significant variables being explained first. Quantitative data is triangulated with field data to enrich the argument.

Table 17: Evolution of Inequalities in accessing a boarding facility

	2006 Children (13-24 Years)			2010 Children (13-24Years)		
	All	**Male**	**Female**	**All**	**Male**	**Female**
	N=1349	**N=666**	**N=683**	**N=947**	**N=508**	**N= 439**
Variable /category	OR	OR	OR	OR	OR	**OR**
Residence						
Rural[RC]						
Urban	0.806	0.846	0.730	0.675*	0.597	0.749
Wealth status						
Poor[RC]						
Middle	1.929***	1.949*	2.237**	2.471**	2.433**	2.830**
Rich	6.018***	5.700***	7.831***	4.609***	5.710***	3.977***
Region						
Central [RC]						
Eastern	1.623***	1.371	2.001**	1.348	1.052	1.638
Northern	6.484***	10.164***	4.243***	8.976***	8.663***	9.319***
Western	1.925***	1.927**	1.913**	1.757*	1.666	1.699
Sex of Child						
Male[RC]						
Female	1.162			0.813		
Relationship to head						
Own Child[RC]						
Other Relative	0.697**	0.536***	0.787	0.618**	0.842	0.443***
Non Relative	0.622	0.668	0.629	0.838	1.276	0.431
Education of head						
None[RC]						
Some education	0.728	1.381	0.405**	2.021**	1.458	3.187*
Sex of head						
Male[RC]						
Female	1.375	1.253	1.447	1.325	1.349	1.407
Marital status						
Married (monogamous)[RC]						
Married (polygamous)	0.815	0.864	0.841	0.883	1.265	0.555
Divorced/separated	1.156	2.134	0.741	1.334	1.205	1.285
Widowed	0.733	0.524*	1.161	0.824	0.881	0.659
Never married	0.404***	0.568	0.353*	0.158***	0.129***	0.216**
Household size						
1-4[RC]						
5-9	0.759	0.944	0.695	0.692	1.036	0.487
10 & Above	0.629	0.650	0.694	0.828	1.040	0.621
Children below 5 Years						
0-1[RC]						
2	0.632**	1.015	0.466***	1.025	1.084	0.997
3 & Above	0.879	1.200	0.730	0.555	0.885	0.320
Adults (60 & Above)						
None[RC]						
One	0.871	0.970	0.729	1.350	1.035	1.679*
2 and Above	0.683	0.861	0.460**	1.399	1.028	1.674

RC, Reference Category, ***significant at 1%, **significant at 5%: * significant at 10%

7.2.1 Household Wealth

In 2006, a child from a household with middle level income was more likely (OR=1.929) to access a boarding facility than the one from the poorest household while the one from the richest household was six times (OR=6.018) more likely to access boarding than the one from the poorest household. In 2010, a child from a household with middle level income was about three times (OR=2.471) more likely to access boarding than the one from the poorest household while the one from the richest household was five times (OR=4.609) more likely to be a boarder. It should also be noted that while household income was a stronger factor for females than males in 2006, it was a stronger factor for males five years later.

Indeed, as with regard to the effect of household income on other schooling outcomes, this factor seems to be one of the strongest determinants of accessing a boarding facility. It was possible to obtain raw statistics on the costs of accessing various types of secondary schools and as can be seen in table 18, boarding schools were the most expensive in both Northern and Central Uganda. Although these findings are not representative for the entire country, they portray the extent to which boarding schools are "inaccessible" as corroborated by quantitative data at national level. In fact in the Central region, it is more problematic to access a government boarding school than a private for profit one implying that the phenomenon of boarding schooling may be more responsible for recycling disadvantage than private schooling. In the Central region, the cost of accessing a prestigious boarding government secondary school is about 8 times higher than that of accessing a day school.

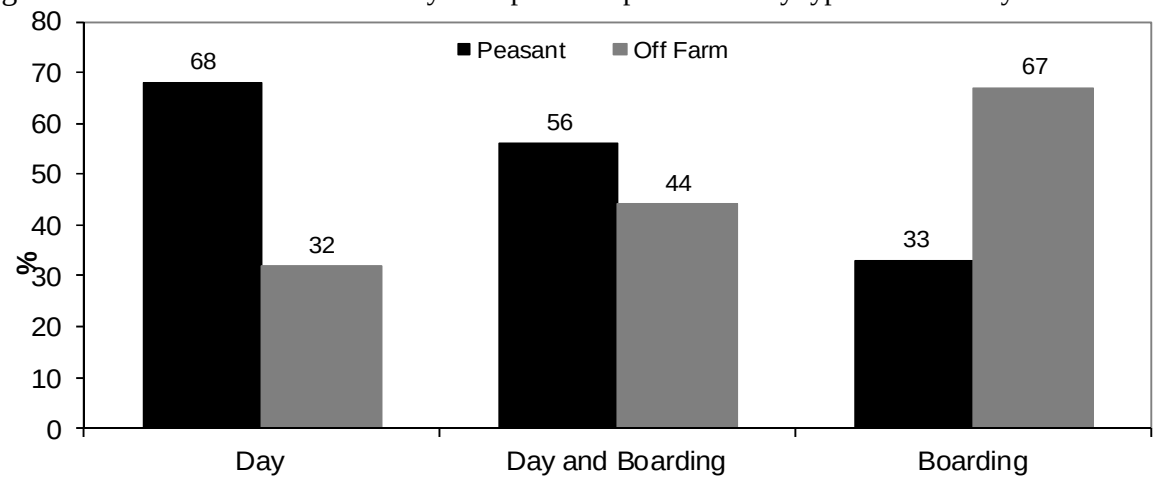
Table 18: Cost of accessing term I by type of School in the North & Central in 2013

	Northern Region				Central Region			
	Government, Catholic founded Girls , Boarding school	Private for profit Boarding Mixed School	Government Universal Secondary Education Mixed, Day School	Private, Mixed, day & boarding school implementing "USE".	Government Catholic founded Girls, Boarding school	Private for profit Boarding Mixed School	Government Universal Secondary Education Mixed ,Day School	Government, Makerere University founded Mixed, Day & Boarding school
Total (Shillings)	405,500Shs	593,500Shs	193,800Shs	623,700Shs	1,205,550Shs	918,800Shs	151,000Shs	856,400Shs
Total (Euros)	**123€**	**180€**	**59€**	**189€**	**365€**	**278€**	**46€**	**260€**

Source: Collected from Schools in both regions during the fieldwork

In addition to collecting data on the costs of accessing various types of schools, it was also possible to record data on the occupation of parents by school type for some selected secondary schools. Again, the fact that boarding schools are an almost exclusive prerogative of the rich is vindicated. Indeed as per figure 35, it is not surprising that while two-thirds (67%) of students in boarding schools were children of parents engaged in off farm activities (largely salaried employment and trade), a slightly higher proportion (68%) of students in day schools constituted children of peasant farmers (engaged largely in subsistence farming).

Figure 35 : Distribution of Students by Occupation of parents and by type of Secondary School



Source: Constructed using raw data from schools in and around Gulu town, Northern Uganda

It should be remembered that the results in figure 35 are not necessarily representative of the whole country. They were arrived at following a field study of the main

secondary schools in and around Gulu town in Northern Uganda. The field interviewer was able to access application forms for children recruited into year one in 2013 in six of all the schools visited for the fieldwork as presented in table 19. These forms had data on, *inter alia*, the main occupation of parents or caretakers and it is this data that is presented here. In each of these schools, the first 100 children were selected from the admission lists of students in year (senior) one for 2013. In most of the schools visited, students admitted in year one ranged between 100 and 200.

Table 19 : List of schools by type for selected students

SN	***Name of Schools***	***Boarding type***	***Ownership***	***Mixed or single sex***	***Children selected***
1	Gulu High School	Boarding	Government	Mixed	100
2	Gulu Central Secondary School	Day & boarding	Private	Mixed	100
3	Trinity College Secondary school	Day & boarding	Private	Mixed	100
4	Sacred Heart Secondary School	Boarding	Government	Girls	100
5	Gulu Secondary School	Day	Government	Mixed	100
6	Koch Ongako Secondary School	Day	Government	Mixed	100

Source: Field Data

As already seen in the previous chapter and on the basis of field findings, boarding schools are both more expensive than day schools and more selective at entry. This implies that they are largely accessed by parents who are able to enroll their children in good primary schools (most likely private and or boarding that are themselves expensive) for them to obtain the grades to access the good boarding schools.

In addition, with almost no regulation and control from government, most of these schools fix charges at their discretion sometimes to top up teachers' salaries. The net effect of this is that a child from a poor background is likely to remain excluded from accessing boarding.

Besides, parents are required to provide a long list of other needs (clothing, beddings, personal effects, pocket money, etc.) that the child must take to school. In most cases, students are checked at entry to ensure that most, if not all, the items have been brought.

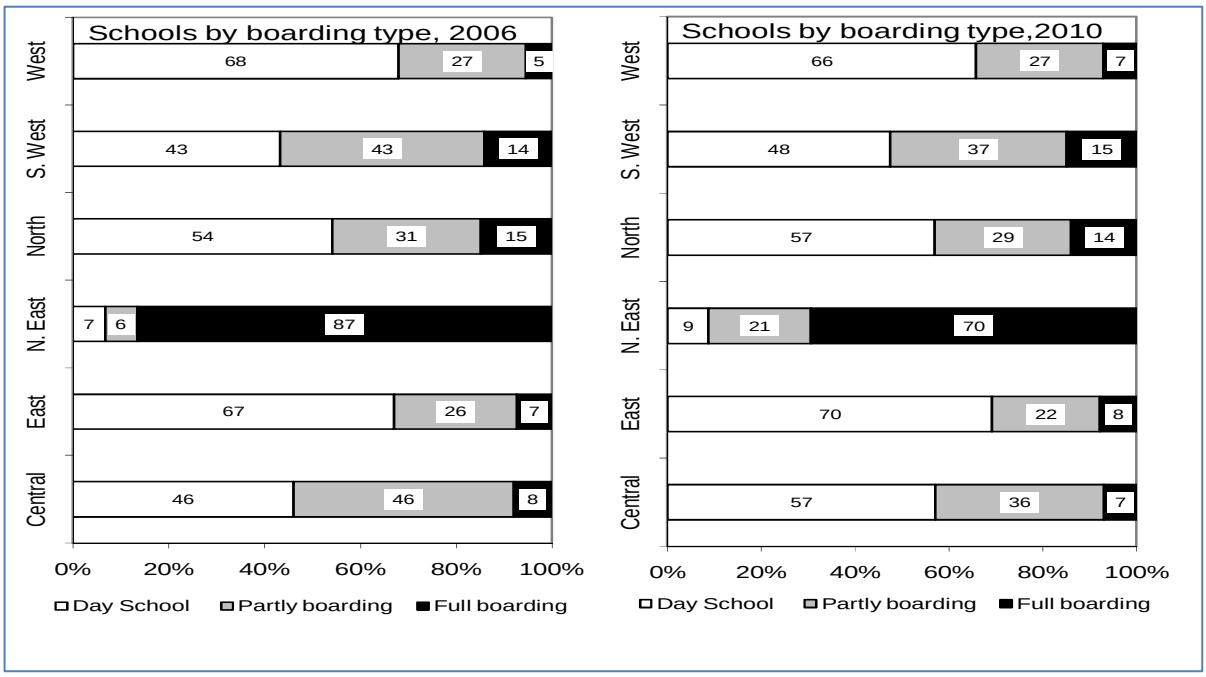
7.2.2 Region of residence

In 2006, children surveyed in all the other regions were more likely to access a boarding facility than the ones from the Central region. Accessing boarding was more pronounced for children in the Northern region, than for the rest of the regions. In 2010, while children in all the other regions seemed to have been at an advantage with regard to accessing boarding, once again this was largely true for children in Northern Uganda. Besides, in the more recent past (2010), parents from the north seem to be increasingly embracing boarding schooling for their children and this was more true for girls than boys, vindicating field findings where most parents were against day schooling for especially adolescent girls. The fact that boarding schooling is largely a non-central region phenomenon, could be related to inadequacies in supply and distribution of schools in a context of a poorly developed transport network system as has been found elsewhere (Ginoglu, 2012; Katrina, 1997; Lewin & Lu, 2011).

As per figure 36 the Northern region (especially the north east) seems to boast of a comparatively large proportion of boarding schools than the rest of the regions. This should be understood against the background that it had/has the smallest population (22% of the total vs 27% for the central) as per 2002 Population and Housing Census (UBOS, 2002) and that the net enrolment rate at secondary was lowest in the north (i.e. 15% vs 40% for the Central region) as per Annex 3 and as corroborated by results in the preceding three chapters.

Besides given that the north is largely sparsely populated as the distance to education facilities was shortest in the Central region and longest in all other regions, especially the North (UBOS, 2010b), parents have no option but to place their children in boarding facilities.

Figure 36 : Secondary Schools by type and region in 2006 & 2010



Source: Constructed using raw data from Ministry of Education and Sports

One other likely explanation for this is the increasing tendency for parents in the north to educate their children in boarding facilities in the Central Region as a way to keep them away from wrong elements in their local communities, but also enable them access what they consider to be better education. Excerpts from the field vindicate these assertions;

> *"By responding to pressure from my wife because she always says. "I do not want my children in those schools but I want them in good schools." If you witness from the bus fares these days(it was time for going back to school), you will realize that most of the Acholi (predominant ethnic group in Gulu , Northern Uganda) children are being taken to Kampala (the capital, Central Region) to access better schools"* (Head teacher, Rural USE , Government Day School ,Graduate, aged 52)

This was in response to a question as to why this head teacher of a government USE school preferred to enrol his children in other schools other than the one he was heading.

As already alluded to, some parents take their children to Kampala (or Central Region) schools to avoid bad groups in their communities as one parent remarked:

"When he was a day scholar in Gulu Secondary School, I talked to him to keep away from bad peer groups which he tried but I was still worried and that is why after his "O" level here, I decided to transfer him to Kampala" (Widowed female parent, business woman, Gulu Municipality)

It should be remembered that in this chapter we are looking at the chances of being a boarder as compared to being a day student and not accessing secondary or not. It thus implies that the few children in the north that manage to access secondary (Annex 3) are largely enrolled in boarding facilities as a result of, *inter alia* , having less and unevenly distributed secondary schools, but also that parents in the north are increasingly enrolling their children in Kampala (the Central region) boarding schools for better education.

7.2.3 Relationship to household head

In 2006 and 2010, both relatives and non-relatives to the household head were less likely to enroll in a boarding facility than children of the household head, although it is the former category that was statistically significant. In the previous chapters, household members that were related or unrelated to the household head were less likely to have accessed secondary schooling than the biological children of the household head although most of these categories were not significant. In this case, children of the household head still present with more chances of being boarders while relatives to the head (for those that have an opportunity to access secondary) are less likely to be boarders but rather day students. At this level, and following a bivariate analysis between relationship to the head and current secondary school enrolment status, it is clear that relatives of the household head are not necessarily excluded from secondary education but rather access some form of secondary schooling (as day students). Increased costs involved in sending and keeping a child in a boarding facility imply that households may decide to enroll only their children at secondary especially in boarding, and or enroll their relatives in cheaper day schools or even employ them in family businesses to be able to raise fees for their biological children in boarding schools.

Indeed according to field findings, other children (largely relatives to the head) that were enrolled in especially secondary school were largely attending the "more affordable"

day schools in which case they would also be able to do some work for the receiving household before and or after school.

7.2.4 Marital Status of household head

While we have previously seen that children under single household heads were more likely to be enrolled at secondary than all the other categories of children, we see here that they have the least chances of enrolling in a boarding facility in 2006 and five years later. Besides, males under widowed parents were less likely to be boarders in 2006 than their female counterparts. These findings resonate with the idea presented in section 7.2.3 and point to a phenomenon where some children stay in other homes and access some schooling in those households.

Indeed this study has documented in the previous chapters that a good number of children were staying with their elder unmarried relatives, that were largely with secondary level of education and rural based. In line with the previous argument, it may mean that a good number of children stay with and access day secondary schooling under the roof of unmarried heads. Looking at the quantitative data, one may not be sure that these non-relatives to the head were sent to their elder relatives to access some secondary education or were invited by their relatives to attend secondary schooling at the cost of the elder brother or sister. Findings from the field though tend to show that indeed it is very common for elder children to look after their younger siblings or relatives and doing so in a cheaper day school is often preferred more so if the relative has to pay for several children. This excerpt may elucidate this point:

> *"Actually relatives whom I am supporting are many and I can only bring them to boarding when they are in candidate classes (senior 4 or 6). I am doing this because I am overwhelmed since I have many students that I am supporting and I am also a student"* (Head teacher, Graduate, Day and Boarding Private School in Gulu Town, married, with one Child in Primary 1)

Indeed, a good number of single household heads who were looking after some children at the time of fieldwork, pointed out that they were paying for the education of their

siblings, cousins, nephews and nieces in nearby day schools as these are generally cheaper, hence being able to take on more than one relative, in need.

7.2.5 Education of household head

Education of the household head as a predictor of children's schooling outcomes did stand out prominently in the previous chapters. In this case, it does not appear to be a straight forward predictor of accessing boarding. While in 2006, females whose parents had some education were less at an advantage with regard to enrolling in a boarding facility, in 2010, all children (OR=2.021), but more so females (OR=3.187) whose parents had some education were more likely to have been boarders. The contradictions in the direction of coefficients may be related to the number of observations generally and missing data in this variable, given than it was derived from other variables.

7.2.6 Household size

Though not generally significant, an increase in household size seems to be related with lowered chances of being a boarder for children in the household in question. This observation could be related to dilution of household resources given that boarding schools are by far more expensive than day schools as seen already.

7.2.7 Proportion of Children under Five

As has been seen in many other studies previously, an increase in the proportion of children under five years in a household is associated with less opportunities for accessing a boarding facility although this is statistically significant for all children in 2006 (OR=0.639) but more particularly, females (OR=0.479). In 2010, this factor is largely not significant although the differential disadvantage for girls that existed in 2006 seems to have disappeared. As already seen, having many under-fives is associated with increased costs

and expenditure towards the health and nutrition of these children as well as higher labor demands to look after the children.

The negative implication of this factor for especially access to boarding by females may be explained by two things : lessened household resources whose negative differential impact on girls' education has been documented in prior studies (Boyle et al., 2002) and increased household labor demands from "grown up girls" in a context of a gendered division of labor at the household level.

7.2.8 Proportion of Older Adults

The proportion of adults aged 60 and above in a household seems to present ambivalent implications for access to boarding in 2006 and five years later. While in 2006 it is generally associated with lessened chances of accessing a boarding facility but significant for females (OR=0.454), in 2010 is seems to be associated with increased chances of accessing boarding for especially females, although this is significant at only 10%. This problem can be explained by differences in the number of observations in the different categories over the five year period.

7.2.9 Non-significant factors

Other factors like place of residence, sex of the child and sex of the household head seem not to predict access to a boarding facility in 2006 and 2010. The fact that the sex of a child is not a strong determinant of accessing boarding resonates with earlier findings that the sex gap in education has largely been diminished. With regard to the sex of the household head, females seem to be more likely to have their children enrolled in boarding facilities than males although this variable is not statistically significant.

Though largely not significant, children in the urban areas were less likely to be boarders than the ones in the rural areas. As already seen, this could be related to the fact that in the rural areas, secondary schools are fewer and of course unevenly distributed given the absence of a good road transport network to link children in remote areas to secondary schools.

7.3 Concluding Remarks

Although boarding schools at secondary level are relatively fewer, being educated in a boarding facility is very highly regarded largely because of good performance in these schools than in the day schools. In the same logic, if access to secondary education is to be tackled from the perspective of meaningful learning as defined by Lewin & Little (2011) and not "mere physical access", then most children who do not access especially boarding secondary facilities in Uganda, are denied access to meaningful secondary education.

This is more compounded by the fact that despite Universal Secondary education, boarding schools that would provide hope to poor parents by educationally emancipating their children are both very selective at entry and quite expensive since by policy their expenses are met by parents or benefactors. As seen, the paradox is that most of these good boarding so called government schools that partly receive funding from government (tax payers' money) cannot be accessed by the poor and leads to questioning the social justice and equity considerations inherent in universalizing secondary education.

Boarding schools provide superior education because they have better infrastructure since they enjoy support from government, the founding churches and strong bodies of influential alumni. Besides, they are very selective of the children they recruit, can afford to top up teachers' salaries and provide other incentives, are able to control discipline in schools and their children have ample time to concentrate, all of which have a strong bearing on performance.

As has been seen with regard to all the other educational outcomes, household income is one biggest factor that explains differentials in accessing boarding facilities by boys and girls before and after the USE Policy of 2007. Not only it is costly for most parents to raise the fees and other requirements demanded by boarding schools, the competitive cut off points by these schools imply that most children that enter them have attended good private and or boarding primary schools whose charges are as high as (if not higher) the

ones in most secondary schools. As expected (because the costs of boarding are borne by parents), the USE Policy did not have any impact on alleviating inequalities in accessing a secondary boarding facility as children in the lowest wealth quintile were largely as equally likely to miss out on being borders before the USE Policy as they were after.

While the Central region was found to be more educationally privileged than all other regions with regard to accessing secondary education, boarding schooling was more associated with children surveyed in other regions and this could be related to inadequacy in supply of secondary schools and spatial inequities in distribution of the schools. Able parents have the option to place their children in boarding schools and for the majority that cannot the implications may range from placing them in easily accessible day schools, to removing them from school altogether, even at the lower levels. Spatial inequities with regard to supply of especially more affordable day secondary schools before the 2007 Policy have largely remained making access to especially boarding secondary schooling an almost exclusive prerogative of the rich few in especially the traditionally deprived regions like the north.

On examining the probability of accessing boarding schools by relationship to the household head, it is unambiguously certain that children not related to the household head were less likely to benefit from the quality schooling dispensed by boarding schools. This may be explained by the fact that biological parents make “rational decisions” in times of scarcity of resources and or higher financial demands but also that a good number of households place their children in other households closer to education facilities, as has been seen elsewhere, for them to access especially day secondary schooling.

While it had been concluded that single heads i.e. elder brothers or sisters play a big role in educating their younger siblings, it is evident in this chapter and following field findings that indeed most of these single heads enroll these siblings in cheaper day schools to be able to pay for as many dependants as they could but also benefit from the labor and or company of these dependants.

In the final analysis, the Universal Secondary Education policy of 2007, has failed to eclipse inequalities in accessing boarding schools as the categories of children that were excluded from boarding i.e. the poor, the ones unrelated to the household head and the ones under single heads were consistently less likely to be boarders before and after the Policy.

Besides, that most parents in especially the predominantly poor north continue to place their children in boarding facilities, more so after 2007, is reminiscent of government failure to equitably supply day secondary schools in the previously underserved areas. While the dilemma with boarding schools would be with regard to the prior policy (Education White Paper of 1992) about boarding schools, one questions the rationale of an equity-driven Public Policy that does not address what seems to be an inescapable cycle of social reproduction by availing equality of opportunity (especially to accessing good education) to all.

GENERAL CONCLUSION

The study of evolution of inequalities in accessing secondary schooling was largely inspired by a myriad of advantages that are associated with sustained meaningful education and by the fact that these advantages are largely beneficial to all and not only a few individuals. Indeed, development is not only inextricably linked to equity (or equality) but any definition of development, especially sustainable development must exhibit equity dimensions.

In the spirit of the EFA and MDG goals, the Ugandan government was among the first governments in Sub-Saharan Africa to universalise primary education in 1997 and secondary education in 2007. This was indeed great commitment by Policy to spread advantages of education and engender enjoyment of the right to education by all.

Universalization of primary education in the context of high population growth rates and by implication large cohorts of school age children, led to a surge in enrolments more so for the formerly excluded groups of children like girls, orphans, the poor, and children from remote areas, who were generally older for entry into school due to prior exclusion. A surge in enrolments, in a context of a limited budget from government and an overburdened and less motivated (had lost PTA allowances) teaching staff led to enrolment shocks that manifested in form of, *inter alia*, high pupil teacher and classroom ratios, inadequacy of textbooks and building infrastructure as well as shortage of water supply and sanitation facilities all of which have led to decline in quality. The decline in quality is clearly manifested in an increased proportion of children that fail to master basic competencies in literacy and numeracy by grade six, over the years.

In response to declined quality in public schools and increased demand for education, private providers came in to quench the demand of especially the middle class that could not stand the decline in standards in the public schools. Indeed, the proportion of schools that are privately owned has greatly increased over the past decade and quality education, especially at the primary level is increasingly being associated with private education.

Whereas it is generally agreed that the private sector may help free space in public schools and or enable government concentrate on concerns of children in public schools,

increased privatization of education in an economy characterized by corruption and little efforts to redistribute wealth through, *inter alia*, progressive taxation, may have negative implications for equity. Privatization of education has resulted into denying the poor access to quality education in the private schools, declined quality of education in public schools as good teachers and or administrators are taken over by the private sector, less involvement of "quality" parents in management of public schools and hence reduced chances of benefitting from their economic, social and cultural capital and reduced chances that the rich may help their poorer relatives as they are also constrained with high fees in private schools, all of which may engender, nourish and perpetuate social class cleavages whose implications for all tend to be negative.

As expected and seen elsewhere, while enrolment in school was generally universalized and remains to be so, progression in school has remained largely selective and eliminative to the extent that close to 70% of children who enroll in grade one of primary have continued to drop out before completion of primary seven in the past decade. Besides, whereas the proportion of children that would make a transition after grade seven (P7) has slightly improved, this has neither eclipsed inequalities that existed before in this regard nor increased transition in real terms as the rate at which the population is increasing surpasses, by far, the percentage increase in transition.

Indeed, completion of primary and transition to secondary remain a prerogative of largely children from better socio-economic backgrounds, urban areas and the central region even after the Universal secondary education Policy. Children in households below the 25th top percentile of household income, those in the rural, the ones in the East, West and North, and those under households whose heads had less than secondary education remain largely excluded from secondary schooling despite universal secondary education. In fact in the latter case, children with less educated heads were more likely to be excluded in 2010 than five years earlier leading to questioning the social justice dimensions of the policy if it does not show signs of arresting what seems to be an inescapable cycle of social reproduction.

This study endeavored to distinguish between factors influencing general access from those predicting transition as this was critical because of high levels of attrition at the primary level. Indeed, most children are excluded from secondary schooling because they have not completed primary and less because they have failed to make a transition.

Efforts to bolster secondary schooling should therefore be more preoccupied with combating dropouts at primary than improving transition. Since household socio-economic status (largely income and education of head) stands out as a major factor impeding completion of primary, that in turn negatively affects access to secondary, it is important that mechanisms through which this operates be clearly understood as they are both complex and sometimes exhibit temporal dimensions that affect not only learning outcomes but also schooling outcomes like retention and progression in school. Household socio-economic status impacts retention and by implication progression in school through dictating, *inter alia*, age at first enrolment, the possibility of attending preschool, type of school attended, parental involvement in children's work, regularity of attendance, children's feeding habits and health status, children's access to the required scholastics, distance covered to access school and the amount of work a child is exposed to, all of which impact learning and schooling outcomes.

The socio-economic status of households is so critical a factor that it largely explains rural-urban and regional differentials in accessing secondary schooling. Besides, inequities in supply of education by place of residence and region, in the wake of increased involvement of private providers in education provision, equally explain spatial differentials in demand for secondary schooling. Given that the role of government in establishing its own schools remains very limited, one wonders how it shall redress rural-urban inequities in demand for secondary schooling. This is more important given the demographic preponderance of rural children and the extent of their vulnerability lest Uganda misses out on the numerous advantages of education and the possibility of benefitting from the demographic transition.

While children in the Central region were most likely to have completed primary and accessed secondary, the North and especially for girls, remains the most disadvantaged region due factors related to generalized poverty, culture, inadequacy of schools and the effect of the 20 year LRA war whose impact still lingers on to date.

Whereas the numbers making a transition were seen to have increased over the five year period, this has failed to stop an increase in the number of children out of secondary school and dampen inequalities in making a transition. On the contrary, inequalities in making a transition by household income and education level of heads seem to have worsened over the five year period. Results show that making a transition remains an almost

exclusive privilege for children in the top 25th percentile of household income and whose parents had a minimum of secondary education, implying a clear scenario of social reproduction despite universalized education. Transition may have become more difficult because of increasing income inequalities, increased privatization of secondary education, higher costs of boarding schools whose burden in on parents, increased selectivity into the quality boarding schools in disfavor of children who have attended public primary schools, reduced number of available secondary school places given increased demand, absence of secondary schools in some places and an increased financial burden to parents even in the so called "USE" Schools.

While the rural urban gap in transition seems to have disappeared implying that rural children are largely affected by dropouts at primary, it was largely boys in the West that had least chances of making a transition. Besides, the role of elder siblings in educating younger ones especially in day secondary schools as well as the negative role of divorce and or polygamy on making a transition stand out as other factors influencing transition.

It is one thing to access secondary school and yet another to access good secondary education that is increasingly associated with boarding schools especially at secondary. Whereas these schools are not as numerous as day schools and are attended by fewer children, they are generally the best schools in terms of performance in the country. The paradox about these schools is that while some are government schools, government policy is that the costs of boarding (that happen to be high) are supposed to be met by parents. Whereas most of these are quality schools that would be ideal for children of the poor to jump start the process of social mobility, they are inaccessible to the poor. They are largely inaccessible because of (i) the competitive grades required at intake that presuppose prior good education in a private primary school, (ii) high charges in terms of school dues and other requirements and (iii) the fact that parents of the poor children lack the socio and cultural capital to get a place at these schools. Spatial inequities in supply for secondary education in especially the North and North-East explain both a disproportionately bigger supply of boarding schools in the area and lowered demand for secondary schooling.

It looks that challenges of access are exacerbated by the fact that government is playing a subsidiary role in matters of education supply, access and equity while unregulated private providers are increasingly getting involved in the provision of this otherwise basic service with far reaching implications for sustainable development. The subsidiary stance by

government may be a corollary of its capacity to finance education in terms of the percentage of GDP it will commit to education. This is influenced by the strength of the entire economy that in turn has a bearing on the amount that will be spent per child, in the context of large schooling cohorts, low levels of government revenue and widespread corruption. This whole scenario should be understood against the backdrop of increasingly less foreign aid to the country in general and the education sector in particular.

The main contribution of this study is that it pioneered into investigating the evolution of inequalities in accessing secondary schooling in Uganda while considering the pre and post USE period. Besides, this study endeavored not only to distinguish between factors associated with overall access from those related to transition but also mapped pathways through which these factors operate to impact access to secondary schooling. Last but not least, this study is among the pioneer studies into investigating inequalities in accessing boarding facilities (some of which are government schools) that tend to offer better quality education in Uganda and whose costs are by policy met by parents. It clearly shows how the phenomenon of boarding schools contributes to increasing inequalities.

Challenges in this study included, the fact that a bigger age group of 13-24 was used to measure past and present access to secondary schooling instead of the cohort 13-18, the official age of secondary schooling, to measure current access. This may have introduced some bias in the results. Besides, the time for measuring inequalities after the USE policy of 2007 was rather short (about 2 years) to enable one talk of evolution of inequalities in the etymological sense of the word. In addition, the measurement of transition was an approximation due to lack of data on the children that had sat primary seven and transited or failed to transit in the subsequent year in the two datasets. The dataset for 2010 was found to have missing data on some critical variables that could have compromised the overall quality of the results. Besides, because this study was largely based on cross-sectional data, some other information could not be easily established. A case in point is that it was not possible to understand if some children in a household were being paid for by other people outside the household. EMIS data that is often collected at school level has been found to have some inadequacies as evidenced by variations in some of its statistics when compared to other data sources. Triangulation of this data made it possible to surmount some of the weaknesses of any of the data sources used.

Future research on this topic using Census data would endeavor to measure correlates of initial access, retention, transition and access to boarding by region for the relevant age groups. In addition, a study on interregional migration for schooling purposes would provide interesting insights into regional inequities in especially accessing quality schooling.

Other areas of interesting research include investigating the evolution of inequalities over a longer period, investigating correlates of transition while considering children that sat for the Primary Leaving Examination, conducting a study on the long term impact of the war in the north on learning and schooling outcomes and a retrospective study endeavoring to understand education trajectories of individuals and or the role of relatives /brothers/sisters in educating their younger siblings.

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Annex 1: Univariate Analysis for General Model

	2006			2010		
		Frequency	%		Frequency	%
Residence	Rural	6,225	81	Rural	6,562	82
	Urban	1,430	19	Urban	1,461	18
	Total	**7,655**	**100**		**8,023**	**100**
Wealth status	Poor	3,431	45	Poor	3,392	42
	Middle	1,856	24	Middle	2,091	26
	Rich	2,368	31	Rich	2,540	32
	Total	**7,655**	**100**		**8,023**	**100**
Region	Central	2,398	31	Central	2,309	29
	Eastern	1,790	23	Eastern	2,212	28
	Northern	1,340	18	Northern	1,533	19
	Western	2,127	28	Western	1,967	24
	Total	**7,655**	**100**		**8,021**	**100**
Sex of child	Male	3,696	48	Male	3,763	47
	Female	3,959	52	Female	4,260	53
	Total	**7,655**	**100**		**8,023**	**100**
Relation to hh head	Own Child	4,083	53	Own Child	4,422	55
	Other Relative	3,329	44	Other Relative	3,385	42
	Non Relative	244	3	Non Relative	217	3
	Total	**7,656**	**100**		**8,023**	**100**
Education of hh head	None	973	13	None	982	12
	Primary	4,710	63	Primary	4,817	61
	Secondary & Above	1,794	24	Secondary & Above	2,128	27
	Total	**7,603**	**100**		**7,927**	**100**
Sex of hh head	Male	5,635	74	Male	5,624	70
	Female	2,020	26	Female	2,399	30
	Total	**7,655**	**100**		**8,023**	**100**
Marital Status of head	Married monogamously	4,360	57	Married monogamously	4,653	60
	Married polygamously	1,531	20	Married polygamously	1,434	17
	Divorced/separated	400	5	Divorced/separated	488	6
	Widow/widower	1,002	13	Widow/widower	1,096	13
	Never married	362	5	Never married	352	4
	Total	**7,655**	**100**		**8,023**	**100**
Age of household head	Less than 31	1,629	21	Less than 31	1,999	25
	31-59	4,690	61	31-59	4,837	60

	60+	1,336	18	60+	1,186	15
	Total	**7,655**	**100**		**8,023**	**100**
Age of child	13-18	4,541	59	13-18	4,747	59
	19-24	3,114	41	19-24	3,276	41
	Total	**7,655**	**100**		**8,023**	**100**
Household size	1--4	2,042	26	1--4	2,308	29
	5--9	4,120	54	5--9	4,395	55
	10+	1,493	20	10+	1,318	16
	Total	**7,655**	**100**		**8,023**	**100**
If natural Father in hh	Yes	1,584	41	Yes	2,436	58
	No, Alive	1,013	27	No, Alive	1,168	28
	No , Dead	1,231	32	No , Dead	613	14
	Total	**3,828**	**100**		**4,217**	**100**
If natural Mother in hh	Yes	1,940	51	Yes	3,059	73
	No, Alive	1,088	28	No, Alive	863	20
	No, Dead	796	21	No, Dead	295	7
	Total	**3,824**	**100**		**4,217**	**100**
Main Occupation of hh						
	Subsistence farming	4,017	54	Subsistence farming	3,650	46
	Commercial farming	298	4	Commercial farming	385	5
	Wage employment	1,220	17	Wage employment	1,653	21
	Nonagricultural enterprises	1,330	18	Nonagricultural enterprises	1,639	21
	Property Income ,remittances &transfers	350	5	Property Income ,remittances &transfers	620	6
	Org. support &others	148	2	Org. support &others	63	1
	Total	**7,363**	**100**		**8,010**	**100**
Children < 5	0-1	5,416	71	0-1	5,694	71
	2	1,595	21	2	1,741	22
	3+	642	8	3+	588	7
	Total	**7,655**	**100**		**8,023**	**100**
Adults	None	5,069	66	None	5,297	66
	One	1,640	22	One	1,817	23
	2+	948	12	2+	908	11
	Total	**7,655**	**100**		**8,023**	**100**

Annex 2: List of top 200 Secondary Schools at Ordinary Level in 2012

No.	SCHOOL	Div 1	TOTAL	% Div 1	STATUS	FOUNDER BODY	SEX
1.	MT. ST. MARYS NAMAGUNGA	134	134	100.0	Boarding	Catholic	Single Sex
2.	ST. MARY'S COL. KISUBI	189	191	99.0	Boarding	Catholic	Single Sex
3.	ST. MARY'S SS, KITENDE	399	410	97.3	Boarding	Private	Mixed
4.	UGANDA MARTYRS NAMUGONGO	252	260	96.9	Boarding	Catholic	Mixed
5.	NTARE SCHOOL	245	253	96.8	Boarding	Government	Single Sex
6.	ST. HENRY'S COL. KITOVU	112	117	95.7	Boarding	Catholic	Single Sex
7.	NAMILYANGO COL.	171	181	94.5	Boarding	Catholic	Single Sex
8.	LONDON COL – ST LAWRENCE	48	51	94.1	Boarding	Private	Mixed
9.	KISUBI SEMINARY	44	47	93.6	Boarding	Catholic	Single Sex
10.	NADIKET SEMINARY MOROTO	14	15	93.3	Boarding	Catholic	Single Sex
11.	SEETA HIGH	171	187	91.4	Boarding	Private	Mixed
12.	NDEJJE SSS	179	202	88.6	Boarding	Anglican	Mixed
13.	IMMACULATE HEARTS G/S	172	198	86.9	Boarding	Catholic	Single Sex
14.	ST. JOSEPH'S SS, NAGGALAMA	137	158	86.7	Boarding	Catholic	Mixed
15.	GAYAZA HIGH SCH	162	187	86.6	Boarding	Anglican	Single Sex
16.	NABISUNSA GIRLS' SCH	201	233	86.3	Boarding	Muslim	Single Sex
17.	NAALYA SS NAMUGONGO	137	161	85.1	Boarding	Private	Mixed
18.	TURKISH LIGHT ACADEMY K'LA	57	67	85.1	Boarding	Private	Mixed
19.	ST.JOSEPH'S VOC SCH-MBARARA	102	121	84.3	Boarding	Catholic	Single Sex
20.	NOTRE DAME ACADEMY BUSEESA	32	38	84.2	Boarding	Private	Mixed
21.	TRINITY COL. NABBINGO	143	170	84.1	Boarding	Catholic	Single Sex
22.	ST. JOSEPH'S GIRLS' NSAMBYA	186	224	83.0	Boarding	Catholic	Single Sex
23.	MARYHILL H/S	181	218	83.0	Boarding	Catholic	Single Sex
24.	OUR LADY OF AFRICA, SEETA	83	100	83.0	Boarding	Catholic	Mixed
25.	MERRYLAND H/S ENTEBBE	81	98	82.7	Boarding	Private	Mixed
26.	KING'S COL. BUDO	182	224	81.3	Boarding	Anglican	Mixed
27.	ST.JULIAN H/S K'LA	21	26	80.8	Boarding	Private	Mixed
28.	MBARARA HIGH SCH	157	198	79.3	Boarding	Anglican	Single Sex
29.	TORORO GIRLS' SCH	137	186	73.7	Boarding	Government	Single Sex
30.	KAWEMPE MUSLIM SS	161	220	73.2	Boarding	Muslim	Mixed
31.	KIIRA COL. BUTIKI	102	144	70.8	Boarding	Government	Single Sex
32.	ST KIZITO SS KABOWA	19	27	70.4	Boarding	Catholic	Mixed
33.	SEETA H/S MUKONO	147	213	69.0	Boarding	Private	Mixed
34.	IGANGA SEC. SCH	160	236	67.8	Boarding	Government	Single Sex
35.	MAKERERE COL. SCH	163	242	67.4	Day/Boarding	Anglican	Mixed
36.	KIBULI SEC. SCH	185	277	66.8	Boarding	Muslim	Mixed
37.	BWERANYANGI GIRLS' SCH	140	216	64.8	Boarding	Anglican	Single Sex
38.	BUKINDA SEMINARY KABALE	14	22	63.6	Boarding	Catholic	Single Sex
39.	KITABI SEMINARY	47	76	61.8	Boarding	Catholic	Single Sex

40.	GOMBE SSS	163	270	60.4	Boarding	Muslim	Mixed
41.	SOS H. GMEINER SS KAMPALA	18	30	60.0	Boarding	Private	Mixed
42.	ST. ANDREA KAHWA COL. HOIMA	111	187	59.4	Boarding	Private	mixed
43.	ST. PAUL'S SEMINARY KABALE	29	49	59.2	Boarding	Catholic	Single Sex
44.	JINJA COL.	90	155	58.1	Boarding	Government	Single Sex
45.	BP. CYPRIANO KIHANGIRE	140	243	57.6	Day/Boarding	Catholic	Mixed
46.	NAGONGERA SEMINARY	19	34	55.9	Boarding	Catholic	Single Sex
47.	BUDO SS K'LA	129	232	55.6	Boarding	Private	single Sex
48.	NAMIREMBE HILLSIDE	37	67	55.2	Boarding	Private	Mixed
49.	ST. KAGGWA BUSHENYI H/S	29	53	54.7	Boarding	Catholic	Single Sex
50.	ST.JOSEPH OF NAZARETH K'LA	27	50	54.0	boarding	Private	Single Sex
51.	ARCH. BP FLYNN SS-PADER	14	26	53.8	Day/Boarding	Catholic	mixed
52.	DR. OBOTE COL. BOROBORO	67	127	52.8	Boarding	Government	Single Sex
53.	ST. MARY'S COL. ABOKE	25	49	51.0	Boarding	Catholic	Single Sex
54.	CENTRAL COL MITYANA	56	110	50.9	Day/Boarding	Private	Mixed
55.	BISHOP CYPRIAN H/S-NAGGALAMA	41	81	50.6	Boarding	Catholic	Mixed
56.	ST. LAWRENCE HORIZON-KAMPALA	25	50	50.0	Boarding	Private	Mixed
57.	ST.CHARLES LWANGA SEM RUKUNGIRI	15	30	50.0	Boarding	Catholic	Single Sex
58.	NAALYA SS BWEYOGERERE	68	140	48.6	Boarding	Private	Mixed
59.	SACRED HEART SS MBARARA	70	145	48.3	Boarding	Catholic	Single Sex
60.	ST. THEREZA GIRL'S BWANDA	64	133	48.1	Boarding	Catholic	Single Sex
61.	MULLUSA ACADEMY WOBULENZI	29	61	47.5	Boarding	Private	Mixed
62.	KATIKAMU SEC. SCH	104	220	47.3	Boarding	Private	Mixed
63.	HILTON H/S MUKONO	64	139	46.0	Boarding	Private	Mixed
64.	BUSOGA COL. MWIRI	55	125	44.0	Boarding	Anglican	Single Sex
65.	BAPTIST HIGH SCH-KITEBI	42	96	43.8	Day/Boarding	Private	Mixed
66.	ST ADRIAN SEM KABALE	17	39	43.6	Boarding	Catholic	Single Sex
67.	OUR LADY O.G.C. GAYAZA	93	222	41.9	Boarding	Catholic	Mixed
68.	ST. PAUL'S COL. MBALE	30	72	41.7	Boarding	Catholic	Mixed
69.	GAYAZA ROAD SS KAMPALA	27	65	41.5	Day/Boarding	Private	Mixed
70.	BLESSED SACRAMENT KIMAANYA	63	154	40.9	Day/Boarding	Catholic	Mixed
71.	ST. EDWARD'S SCH. BUKUUMI	22	54	40.7	Boarding	Catholic	Mixed
72.	MENGO SEC. SCH	200	492	40.7	Day	Anglican	Mixed
73.	ST. LAWRENCE SS-KAMPALA	31	78	39.7	Day/Boarding	Private	Mixed
74.	ST AUGUSTINE COL WAKISO	57	145	39.3	Day/Boarding	Catholic	Mixed
75.	ST. MARIA GORETTI KATENDE	68	173	39.3	Boarding	Catholic	Single Sex
76.	KYEIZOOBA GIRLS' SEC SCH	93	240	38.8	Boarding	Government	Single Sex
77.	BUKALASA MINOR SEMINARY	11	29	37.9	Boarding	Catholic	Single Sex
78.	LUBIRI SEC. SCH	116	309	37.5	Day	Government	Mixed
79.	RUBAGA GIRLS SEC. SCH	34	91	37.4	Boarding	Catholic	Single Sex
80.	MBOGO HGH SCH	70	188	37.2	Boarding	Private	Single Sex
81.	ST. JOSEPH'S COL. , LAYIBI	54	149	36.2	Boarding	Catholic	Single Sex
82.	CHRIST THE KING SS KALISIZO	47	130	36.2	Boarding	Catholic	Single Sex
83.	ST. JOSEPH'S SEMINARY ABOKE	9	25	36.0	Boarding	Catholic	Single Sex

84.	ST MARYS VOC SCH	37	103	35.9	Boarding	Private	Single Sex
85.	ST. PETER'S SS-NSAMBYA	76	212	35.8	Day/Boarding	Catholic	Mixed
86.	BRILLIANT HIGH SCH-KAWEMPE	33	93	35.5	Day/Boarding	Private	Mixed
87.	ST. MARY'S COL. LUGAZI	39	112	34.8	Boarding	Private	Mixed
88.	KITEREDDE SEC. SCH	33	95	34.7	Day/Boarding	Catholic	Mixed
89.	SEROMA CHRISTIAN HIGH SCH	58	167	34.7	Boarding	Private	Mixed
90.	GREEN HILL ACADEMY KAMPALA	25	72	34.7	Day/Boarding	Private	Mixed
91.	ST. ALOYSIUS SS BWANDA	12	35	34.3	Boarding	Catholic	Single Sex
92.	STANDARD COL. NTUNGAMO	53	155	34.2	Boarding	Anglican	Mixed
93.	MITYANA MODERN SS	61	179	34.1	Day/Boarding	Private	Mixed
94.	KYAMBOGO COL. SCH	91	269	33.8	Day	Government	Mixed
95.	MAKINDYE SS	27	81	33.3	Day	Private	Mixed
96.	SACRED HEART MUBENDE	10	30	33.3	Boarding	Private	Mixed
97.	BOARDING SS-KAMPALA	18	54	33.3	Boarding	private	Mixed
98.	MPOMA BOYS SS	7	21	33.3	Boarding	Private	Single Sex
99.	MUNTUYERA H/S KITUNGA	50	153	32.7	boarding	Government	Single Sex
100.	ST. STEPHENS COL. BAJJA	28	86	32.6	day	Private	mixed
101.	KISOZI H/S NATETE	25	77	32.5	day	Private	Mixed
102.	ST. KALEMBA SEC. SCH	47	145	32.4	Boarding	Government	Mixed
103.	TALENTS COL MUKONO	23	71	32.4	Day/Boarding	Private	Mixed
104.	ST. J. BOSCO SEMINARY HOIMA	11	34	32.4	Boarding	Catholic	Single Sex
105.	ST. PETER'S COL. , TORORO	45	142	31.7	Boarding	Government	Single Sex
106.	TESO COL. ALOET	83	262	31.7	Boarding	Government	Single Sex
107.	SEDES SAPIENTIAE ACAD. RUSHERE	16	51	31.4	Boarding	Private	single Sex
108.	NSAMBYA HILLSIDE H/S	10	32	31.3	Day/Boarding	Private	Mixed
109.	LOWELL G/S NSIMBE	20	65	30.8	Boarding	Private	Single Sex
110.	KIBIBI SEC. SCH	50	163	30.7	Boarding	Muslim	Mixed
111.	NYAKASURA SCH	36	120	30.0	Boarding	Government	Mixed
112.	NABUMALI HIGH SCH	44	148	29.7	Boarding	Government	Mixed
113.	KIGEZI HIGH SCH.	39	132	29.5	Boarding	Anglican	Mixed
114.	ST. CHARLES LWANGA KALUNGU	13	44	29.5	Boarding	Anglican	Single Sex
115.	SSAKU SS WOBULENZI	23	80	28.8	Boarding	Private	Mixed
116.	ST. KATHERINE SEC. SCH	46	161	28.6	Boarding	Government	Single Sex
117.	MUNTA ROYAL COL BOMBO	16	56	28.6	Boarding	Private	Mixed
118.	KANJUKI SS KAYUNGA	47	165	28.5	Day/Boarding	Private	Mixed
119.	KISUBI HIGH SCH	28	99	28.3	Boarding	Private	Mixed
120.	MITA COL, KAWEMPE	22	78	28.2	Day/Boarding	Private	Mixed
121.	APOSTLES OF JESUS MOROTO	5	18	27.8	Boarding	Catholic	Single Sex
122.	ST NOA'S GIRLS SS ZZANA	18	65	27.7	Boarding	private	Single Sex
123.	NEW HOPE ACADEMY-LUWERO	8	29	27.6	Day	Private	Mixed
124.	CLEVERLAND H/S MBARARA	32	117	27.4	Day/Boarding	private	Mixed
125.	MANDELA SS-HOIMA	66	242	27.3	Day/Boarding	Private	Mixed
126.	NKUMBA SS-ENTEBBE	33	123	26.8	Day/Boarding	Private	Mixed
127.	STELLA MARIS COL. NSUBE	36	137	26.3	Boarding	Catholic	Single Sex

128.	ST MARK'S COL. NAMAGOMA	41	157	26.1	Boarding	Private	Mixed
129.	ST. MARY'S COL. RUSHOROZA	45	173	26.0	Boarding	Catholic	Mixed
130.	BISHOP'S SS MUKONO	72	277	26.0	Day/Boarding	Anglican	mixed
131.	ST. JOSEPH SS NANDERE	9	35	25.7	Day/Boarding	Government	Mixed
132.	SOROTI MUNICIPALITY SS	21	82	25.6	Day/Boarding	Government	Mixed
133.	ST. CELICIA GIRLS-BUSHENYI	24	95	25.3	Day	Community	Single Sex
134.	SEAT OF WISDOM SS KASAWO	29	115	25.2	Day	Private	Mixed
135.	LAKESIDE COL. LUZIRA	57	229	24.9	Boarding	Private	Mixed
136.	BUGEMA ADV. SEC. SCH	34	138	24.6	Day/Boarding	SDA	Mixed
137.	HOPE SENIOR SCH , NAKIREBE	15	61	24.6	Day	Community	Mixed
138.	GOODHEART SS-JINJA	28	114	24.6	Day	Community	Mixed
139.	NTUNGAMO HIGH SCH	26	106	24.5	Day/Boarding	Private	Mixed
140.	NGORA HIGH SCH	49	201	24.4	Boarding	Government	Mixed
141.	KABALEGA SEC. SCH	27	112	24.1	Boarding	Government	Single Sex
142.	BULOBA H/S	42	175	24.0	Boarding	Private	Mixed
143.	BUDINI SEC SCH	58	243	23.9	Boarding	Government	Mixed
144.	KAWANDA SS	30	128	23.4	Day/Boarding	Private	Mixed
145.	ADUKU SEC. SCH	25	108	23.1	Day	Government	Mixed
146.	SEETA H/S-GREEN CAMPUS	35	152	23.0	Boarding	Private	Mixed
147.	BLESSED DAMIAN SS MASINDI	8	35	22.9	Day/Boarding	private	Mixed
148.	MARGARET SS KIKAAYA	10	44	22.7	Boarding	Private	Mixed
149.	WANYANGE GIRLS SCH	41	182	22.5	Boarding	Anglican	Single Sex
150.	IBANDA SEC. SCH	31	138	22.5	Boarding	Catholic	Single Sex
151.	LANGO COL. , LIRA	22	98	22.4	Boarding	Government	Single Sex
152.	ST. KIZITO H/S BETHANY	21	94	22.3	Day/Boarding	Government	Mixed
153.	KYEBAMBE GIRL'S SEC. SCH	41	184	22.3	Boarding	Government	Single Sex
154.	ST BALIKUDEMBE KISOGA	22	99	22.2	Boarding	Private	Mixed
155.	HOLY CROSS LAKE VIEW JINJA	23	105	21.9	Day/Boarding	Catholic	Mixed
156.	ST MARY'S SS NAMALIGA	21	96	21.9	Boarding	Catholic	Single Sex
157.	ST. JOSEPH'S COL. OMBACI	33	151	21.9	Boarding	Catholic	Single Sex
158.	USHINDI SEC SCH	10	46	21.7	Day/Boarding	Government	Mixed
159.	ST.JOSEPH 'S H/S NAKIREBE	10	46	21.7	Day/Boarding	Private	Mixed
160.	KINAWA HGH SCH MUGONGO	37	172	21.5	Boarding	Private	Mixed
161.	SENTAH COL-MBARARA	23	107	21.5	Day/Boarding	Private	Mixed
162.	ADWARI SS LIRA	26	121	21.5	Day/Boarding	Government	Mixed
163.	ST.GEORGE SS-MASAKA	15	70	21.4	Day/Boarding		Mixed
164.	KAJJANSI PROGRESSIVE SS	52	243	21.4	Boarding	Private	Mixed
165.	HOMELAND COL KYOTERA	7	33	21.2	Day/Boarding	Private	Mixed
166.	GOOD SAMARITAN H/S NANSANA	11	52	21.2	Day/Boarding	Private	Mixed
167.	KITANTE HILL SEC. SCH	49	232	21.1	Day	Government	Mixed
168.	KISORO VISION SCH	29	138	21.0	Day/Boarding	Private	Mixed
169.	ST. PETER'S SS-NAALYA	27	129	20.9	Boarding	Private	Mixed
170.	NYAKABANGA SS-BUSHENYI	23	110	20.9	Boarding	Private	Mixed
171.	MEHTA SEC. SCH LUGAZI	19	91	20.9	Day/Boarding	private	Mixed

172.	LUGAZI HOMESTONE SCH	39	187	20.9	Day/Boarding	Private	Mixed
173.	ST. CHARLES LWANGA KASASA	10	48	20.8	Boarding	Catholic	Single Sex
174.	ST. LEO'S COL. , KYEGOBE	26	125	20.8	Boarding	Catholic	Single Sex
175.	NAMAGABI SS KAYUNGA	43	207	20.8	Boarding	Muslim	Mixed
176.	MBALE SEC. SCH	78	380	20.5	Day	Government	Mixed
177.	KICHWAMBA HIGH SCH	17	83	20.5	Day/Boarding	Private	Mixed
178.	NAMIRYANGO SS-KAMPALA	22	108	20.4	day/Boarding	Private	Mixed
179.	JERESSAR H/S SOROTI	59	293	20.1	day/Boarding	Private	Mixed
180.	ST LUCIA HILL SCH NAMAGOMA	22	110	20.0	Day/Boarding	Private	Mixed
181.	ST. STEVEN SS-KATAKWI	6	30	20.0	Day/Boarding	Private	Mixed
182.	MBOGO COL-KAMPALA	23	115	20.0	Day/Boarding	Private	Mixed
183.	PRINCESS DIANA SCH K'LA	6	30	20.0	Day/Boarding	Private	Mixed
184.	ST.ANDREA KAAHWA SCH.KOOKI	16	80	20.0	Boarding	Private	Mixed
185.	COMBONI COL. LIRA	18	91	19.8	Boarding	Catholic	Single Sex
186.	MPIGI MIXED SS	15	76	19.7	Day/Boarding	Government	mixed
187.	LUWERO SEC SCH	46	234	19.7	Day	Government	Mixed
188.	CITIZEN'S HIGH SCH-MBARARA	10	51	19.6	Day/Boarding	Private	Mixed
189.	ST. KIZITO HIGH, NAMUGONGO	19	97	19.6	Day/Boarding	Private	Mixed
190.	BUKOYO SEC. SCH	40	205	19.5	Boarding	Muslim	Mixed
191.	ST PAULS SS BUKINDA	17	88	19.3	Day/Boarding	Government	Mixed
192.	ST HENRY'S COLL GANGU	24	125	19.2	Day/Boarding	Private	Mixed
193.	KAKOOLA H/S WOBULENZI	9	47	19.1	Day/Boarding	Private	Mixed
194.	KIBUBURA GIRLS' SS	26	136	19.1	Boarding	Government	Single Sex
195.	ENTEBBE SEC. SCH	29	152	19.1	Day/Boarding	Government	Mixed
196.	ST. CHARLES LWANGA-BUSHENYI	8	42	19.0	Day/Boarding	Private	Mixed
197.	ST. KIZITO SS-KAMPALA	28	147	19.0	Day/Boarding	Private	Mixed
198.	KABOWA H/S K'LA	27	143	18.9	Day/Boarding	Private	Mixed
199.	SEETA HILL COL-MUKONO	10	53	18.9	Day/Boarding	Private	Mixed
200.	MASAKA SEC. SCH	81	430	18.8	Day/Boarding	Muslim	Mixed
201.	LUBIRI HIGH SCH	29	155	18.7	Day/Boarding	Private	Mixed
202.	KASHAKA G/S MBARARA	27	145	18.6	Boarding	Government	Single Sex

Source the Weekly Observer Newspaper

Annex 3: Univariate analysis for children currently attending Secondary School and Above

		2006			2010	
		Frequency	%		Frequency	%
Enrolment Status	Day student	491	54	Day Student	556	60
	Boarder	425	46	Boarder	370	40
	Total	**916**	**100**		**926**	**100**
Residence	Rural	588	64	Rural	617	66
	Urban	333	36	Urban	321	34
	Total	**921**	**100**	**Total**	**938**	**100**
Wealth Status	Poor	173	19	Poor	210	22
	Middle	185	20	Middle	196	21
	Rich	563	61	Rich	532	57
	Total	**921**	**100**	**Total**	**938**	**100**
Region	Central	408	45	Central	379	40
	Eastern	195	21	Eastern	251	27
	Northern	88	9	Northern	138	15
	Western	230	25	Western	170	18
	Total	**921**		**Total**	**938**	**100**
Sex of Child	male	442	48	male	497	53
	female	479	52	female	441	47
	Total	**921**	**100**	**Total**	**938**	**100**
Relationship to head						
	Own Child	562	62	Own Child	583	63
	Other Relative	317	34	Other Relative	322	34
	Non Relative	42	4	Non Relative	33	3
	Total	**921**	**100**	**Total**	**938**	**100**
Education of head	None	58	6	None	69	7
	Primary	393	44	Primary	374	41
	Sec &+	450	50	Sec &+	478	52
	Total	**901**	**100**	**Total**	**921**	**100**
Sex of head	Male	628	68	Male	629	67
	Female	293	32	Female	309	33
	Total	**921**	**100**	**Total**	**938**	**100**
Marital Status of head	Married monogamous	484	53	Married monogamous	505	54
	Married polygamous	172	19	Married polygamous	148	16
	Divorced/separated	70	8	Divorced/separated	50	5
	Widow/widower	137	15	Widow/widower	134	14
	Never married	58	5	Never married	101	11

	Total	**921**	**100**	**Total**	**938**	**100**
Household size	1--4	250	27	1--4	243	25
	5--9	502	55	5--9	512	55
	10+	169	18	10+	183	20
	Total	**921**	**100**		**938**	**100**
Children< 5	0-1	739	80	0-1	736	78
	2	133	14	2	155	17
	3+	49	6	3+	47	5
	Total	**921**	**100**	**Total**	**938**	**100**
Adults	None	607	66	None	581	62
	One	202	22	One	224	24
	2+	112	12	2+	133	14
	Total	**921**	**100**	**Total**	**938**	**100**

Annex 4 : Data for figures

Data for figure 2

Total Population	1980	1991	2002	2010
School Population	12,600,000	16,700,000	24,400,000	33,900,000
School Population	1,368,552	2,807,000	8,010,104	9,600,279

Data for figure 3: Primary and Secondary school enrolments

	1996	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Prim	3 068 625	5 303 564	5 806 385	6 288 239	6 559 013	6 900 916	7 354 153	7 633 314	7 377 292	7 223 879	7 362 938	7 537 971	7 963 979	8 297 780	8 374 587	8 022 540
Sec	256 731	255 335	265 676	276 228	518 931	539 786	655 951	683 609	697 507	728 562	814 087	954 328	1 088 744	1 194 454	1 225 692	1 258 084
Total	3 325 356	5 558 899	6 072 061	6 564 467	7 077 944	7 440 702	8 010 104	8 316 923	8 074 799	7 952 441	8 177 025	8 492 299	9 052 723	9 492 234	9 600 279	9 280 624

Data for figure 4: Survival cohorts to end of primary

	P1	P2	P3	P4	P5	P6	P7
1988-1994	100	73	65	61	48	34	28
1990-1996	100	82	72	56	48	42	35
1994-2000	100	80	88	99	96	91	68
1997-2003	100	61	52	45	39	33	22
2001-2007	100	71	69	61	54	45	28
2004-2010	100	64	65	60	54	45	30

Data for figure 5

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Enrolment in P 6	568 943	629 177	702 201	760 685	752 008	759 220	763 253	761 212	795 021	833 559	852 364
Enrolment in P 7	384 403	428 004	460 109	485 703	473 482	479 951	468 438	470 272	515 729	546 505	544 531
Pupils sitting for PLE	304507	326771	365891	373664	401936	410363	404935	419206	463631	488745	490374
Enrolment in S1	154 461	155 937	183 257	179 305	180 067	178 806	208 861	277 950	291 797	296 400	324 487

Data for figure 6 Proportion of privately owned schools

	Primary	Secondary
2006	19	65
2007	20	67
2008	26	69
2009	28	70
2010	30	69

Data for figure 9

Years	1950-1955	1955-1960	1960-1965	1965-1970	1970-1975	1975-1980	1980-1985	1985-1990	1990-1995	1995-2000	2000-2005	2005-2010
Total Fertility Rate	6.90	6.95	7.05	7.12	7.10	7.10	7.10	7.10	7.06	6.95	6.75	6.38
Under Five Mortality Rate	271	246	220	195	187	185	183	180	168	152	124	102

Data for figure 10

ASFRs	15-19	20-24	25-29	30-34	35-39	40-44	45-49
1950-1955	177	307	301	258	212	90	34
1985-1990	185	318	311	265	213	93	35
2005-2010	150	329	308	238	156	66	29

Data for figure 11 Population of Uganda (in thousands) by age and sex

	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80+
Male	3 318	2 759	2 279	1 890	1 534	1 238	983	767	591	450	349	277	216	162	102	72	49
Female	3 262	2 727	2 260	1 879	1 531	1 237	975	753	576	441	349	287	227	177	117	88	67

Data for figure 12: Evolution of total dependency ratio

	1950	1955	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005	2010
Uganda	85.3	91.8	94.2	96.6	97.9	99.2	100.2	100.9	102.6	105.9	108.1	107.7	105.4

Eastern Africa	79.6	81.7	84.2	86.5	88.4	90.2	91.1	92.2	92.0	89.6	88.7	87.2	85.1

Data for figure 13 Evolution of Uganda's GDP growth rate

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Eastern Africa	5,0	5,5	1,8	2,8	1,7	3,5	2,0	1,8	2,3	3,9	2,2	2,0	0,7	0,1	2,3	3,9	4,9	4,4	3,7	3,4	1,3
Uganda	2,7	0,0	0,0	0,0	-1,3	0,0	1,4	-4,0	-12,5	-2,5	1,9	7,8	6,3	-4,6	-0,3	1,5	6,4	7,8	6,9	6,2	5,5

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
-1,5	4,1	0,1	3,6	6,7	3,4	3,0	3,0	2,1	5,1	2,1	2,7	6,2	6,1	6,3	6,9	13,6	4,4	7,3	5,7
4,6	7,1	10,8	9,4	6,2	5,5	9,7	6,5	4,4	8,8	7,1	6,2	5,8	10,0	7,0	8,1	10,4	4,2	6,3	4,1

Data for figure 14: Evolution of Uganda's GDP per capita

	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Eastern Africa	160	171	189	218	248	260	261	279	300	328	361	366	367	352	336	343	340	325	341	340	338	323
Uganda	139	150	158	180	212	232	238	249	248	228	235	254	282	303	290	288	317	342	377	321	220	172

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
289	255	262	284	308	322	304	287	281	276	272	291	313	348	387	444	550	534	552	600
179	179	272	309	304	317	296	273	252	254	259	265	307	353	375	447	523	511	531	558

Data for figure 15: Evolution of population below poverty line by region

	2002/3	2005/6	2009/10
Uganda	39	31	25
Central	22	16	11
West	33	21	22
East	46	36	24
North	63	61	46

Data for figure 17: Evolution of Primary Schools and teachers

Year	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Schools	2 551			2 755	2 863	2 937		3 184	3 471	3 663	3 854	3 969	4 294	4 276	4 585	4 945	5 605	6425	7 025	7 351	7 627	7 905	7 684	7 667	8 046
Teachers	19 257			21 471	22 864	24 032	25 394	26 339	27 393	30 321	32 554	34 213	36 442	38 422	40 489	43 967	49 206	57 078		66 101	72 970	75 561	81 418	81 590	78 259

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
8 325	7 535	8 411	8 531	8 531	8 600	9 916	10 597	11 578	12 280	13 332	13 353	13 371	13 576	14 385	14 728	15 962	17 127	17 865
86 821	91 905	84 043	76 111	81 564	89 247	99 237	109 733	110 366	127 038	139 484	145 587	147 242	143 247	150 135	152 086	159 516	168 376	172 403

Data for figure 18: Evolution of secondary schools and teachers.

	1967	1968	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Schools	71		73	73	73	73	73	74	102	102	103	118	120	178	261	285	417	500	508	515	515	510	508	512
Teachers			1 816	1 791	1 753		1 894		2 594	2 662	2 838	3 108	3 202	3 732	4 772	5 617	6 561		10 193	12 000	12 300	12 919	11 069	13 476

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
515	508	557	619	619	621	837	1 633	1 892	1 850	2 198	2 055	1 969	1 961	2 286	2 644	2 908	3 149	3 234
14 660	14 620	16 245	14 447	15 783	15 995	16 206	23 295	30 384	30 425	37 227	38 549	37 313	37 607	42 673	50 767	57 158	65 045	62 921

Data for figure 24 : Evolution of enrolments and rates at Primary

	1963	1964	1965	1966	1967	1968	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Primary Enrolment	507 735	525 867	578 459	633 546	652 027	641 639	729 522	793 530	783 276	#N/A	878 096	970 159	1 016 963	1 139 323	1 204 321	1 223 850	1 302 377	1 246 399	1 581 409	1 730 300	1 930 298	2 117 000	2 203 824	2 309 000	2 417 000	2 366 666	2 276 590
NER (%)																37		41	43				57				

1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
2 576 000	2 403 745	2 177 169	2 305 258	2 636 409	3 068 625	5 303 564	5 806 385	6 288 239	6 559 013	6 900 916	7 354 153	7 633 314	7 377 292	7 223 879	7 362 938	7 537 971	7 963 979	8 297 780	8 374 587	8 022 540
									86	87	85	87	90	93	92	93	95	91	96	97

Data for figure 25: Evolution of enrolments and rates at Secondary

	1963	1964	1965	1966	1967	1968	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Sec enrolment	18282	20447	24345	28067	27019	33698	46626	43722	43558	160762	45476	45231	56884	57882	62790	66175	61869	82991	97752	117090	144526	160000	123479	223000	243000	235032	244778
NER (%)							4			4	4	4	5	5	5	5	5	5	8	7	8	9	10	11	12		11

1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
231000	230256	151029	183056	256259	256731	255335	265676	276228	518931	539786	655951	683609	697507	728562	814087	954328	1088744	1194454	1225692	1258084
10	10	10	10	10		10			15	15	17	17	17							

Data for figure 26 : Proportion of females by level of education

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Primary	35	36	37	37	37		38	39	39	40		41	42	42	41	42	42	43	48	41	43	44	44	45	45	44	45	44
O Level					24			35	23	22	23	24	26	28	30	28	29	30	31	34	34	33	33	35	33	33	34	38
A level					22			20	21	21		18	20	20	20	20	23	21	22	22	22	24	33	28	33	34	36	28

1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
45	44	45	46	45	46	47	47	47	48	49	49	49	49	50	50	50	50	50	50
38	38	40	39	39	41	41	41	42	45	45	46	46	46	46	46	46	46	47	47
38	28	28	29	30	32	34	35	38	39	38	40	41	41	41	41	42	42	41	42

Data for figure 27: NERs at secondary by sex

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
M		14	14	17	17	16	16	20	23	25	25	26	26
F		12	11	16	16	14	15	17	20	22	23	24	25

Data for figure 29 Number of Children (13-18) out of Secondary School and Net enrolment rates

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
No.	2 598 071	3 562 933	2 781 658	2 854 898	3 465 124	3 321 233	2 984 018	2 999 922	3 012 369	3 226 482	3 265 831
NER	13	13	17	17	15	15	19	21	24	24	25

Data for figure 30: Education status of children by age for 2006 (%)

Age	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**
None	13	11	12	9	8	9	8	9	5	5	6	5
Dropped out of Primary	8	7	8	8	8	11	8	12	8	8	8	6
Completed Primary 7	10	8	8	5	5	9	9	14	9	9	8	6
Left at Secondary	7	10	8	7	6	7	10	12	9	8	9	8
Finished a course	8	4	9	8	7	9	10	9	9	11	9	8
Still at Primary	16	14	12	10	10	9	7	6	4	4	4	3
At Secondary & Above	9	7	12	12	8	10	10	10	6	6	5	4

Data for figure 30: Education status of children by age for 2010 (%)

Age	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**
None	13	12	12	10	8	10	5	9	5	5	7	5
Dropped out of Primary	8	9	9	7	7	11	8	11	6	8	9	7
Completed Primary 7	7	7	6	6	7	12	10	13	7	9	9	7
Left at Secondary	6	6	5	7	6	9	8	14	6	11	11	12
Finished a course	5	6	7	7	7	9	8	8	5	12	8	17
Still at Primary	17	16	11	13	8	9	5	6	3	4	4	3
At Secondary & Above	7	11	9	11	11	12	9	11	5	6	4	4

Annex 5: Predicting the probability of accessing primary for age group 9-12 years in 2010

Household Wealth status(ref= Poor)	Odds Ratio	P Value
Middle	1.359904	0.036
Rich	1.568508	0.010
Residence(ref=Rural)		
Urban	1.817022	0.016
Sex of Child (ref= Male)		
Female	.9547086	0.709
Sex of head (ref=Male headed)		
Female headed	.9313271	0.707
Region(ref=Central)		
Eastern	.7785093	0.144
Northern	.6522668	0.020
Western	.7058289	0.066
Age of Child	.9887758	0.832
Age of head (ref=Below 30)		
31-59	1.178717	0.407
60+	.5647351	0.052
Marital status (ref=Married monogamously)		
Married polygamously	1.011838	0.935
Divorced/separated	1.458262	0.358
Widow/widower	.9868281	0.958
Never married	.4731259	0.149
Education of head (ref=None)		
Primary	2.224909	0.000
Secondary and above	3.016289	0.000
If Natural father is in hh(ref=Yes)		
No, Alive	1.424635	0.056
No , Dead	1.306523	0.365
If Natural mother is in hh(ref=Yes)		
No , Alive	1.071895	0.745
No , Dead	1.373537	0.195
Relationship to head (ref=Own Child)		
Other Relative	1.093509	0.596
Non Relative	.6306023	0.654
Main Y source of hh (ref=Subsistence farming)		
Commercial farming	.8437722	0.444
Wage employment	.935239	0.699
Nonagricultural enterprises	.9613255	0.808
Property Income ,remittances &transfers	.7356458	0.370
Org. support &others	.4641781	0.047
Household size (ref= 1-4)		
5-9	.7421763	0.132
10+	1.190109	0.517
Number of under-fives(ref= 0-1)		
2	1.232887	0.113
3+	1.063345	0.789
Number of Older Adults (ref=None)		
One	1.110284	0.589
2+	1.129199	0.580