Analysis on Equity Issues in Lower Secondary Education in East Uganda

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Abstract

This paper explores the equity issues in lower secondary education with specific focus on access and learning achievement in East Uganda. The study employs qualitative and quantitative approaches using school and individual level data. The results reveal that inequalities in both access and achievement are sensitive to school and family related factors including student age, household spending on education, education level of household head, latrine stances to student ratio as well as co-educational, urban and large schools. The qualitative investigation indicates inequality issues are real in the school communities. Though learning opportunities are available to both genders, there are voices of resentment regarding school environmental challenges such as inadequate sanitary facilities, ineffective counseling services, low parental participation in school gender activities as well as minimal protection that all pose danger to not only girl students especially, but also school property. The study finds that school stakeholders should have a sense of responsibility to equip schools with adequate facilities and improve safety as these measures can help to retain students, specifically girls, in schools. Collaboration of school managers with women's movements within school communities could show a strong influence in motivating girls' participation in schools as these approaches can break the negative gender stereotyping against girls.

**Key words:** Equity, Inequality, Access, Achievement, East Uganda

1. Background

Over the past 15 years, Uganda adopted mass education in primary schools not only to increase access to primary education, but also to increase girls' schooling opportunities. The accelerated primary school expansion called for expanded access for all, even to secondary schooling since the economic development strategies require human resources with knowledge and skill above the primary level. In effect, Uganda placed priority on expanding access to basic education in 2007 through the introduction of the Universal Post Primary Education and Training (UPPET) Policy (Nishimura & Ogawa 2009; Ogawa 2010). This effort created more places at lower secondary and technical colleges for primary school leavers as it reflects the socio-political realities of much larger numbers of children graduating from the primary schools seeking

secondary places and the systemic need to increase secondary output. The national policy issues emphasize not only equality[1] but also equity[2] in education and economic aspects of life. Equity in education has been a concern of almost all the countries, whether developed, transitional, or in the process of developing. These international policy benchmarks on education are reflected in the National Development Plan of Uganda (NDP 2010/'11-2014/'15), a new overarching national planning and policy framework for service delivery across sectors of government, education inclusive (Government of Uganda, 2010). Attending secondary education and completing it successfully is one of the important determinants of children's future lives in Uganda.

The introduction of free lower secondary education transformed into a dramatic increase in enrollments, with the senior one cohort increasing from 208,861 (110,469 males and 98,392 females) in 2006 to 291,797 (154,923 males and 136,874 females) in 2008. The increased enrollments translated into an increase in transition from primary seven to senior one, from 31 percent (30 percent males and 32 percent females) in 1994 to 68.6 percent (69.7 percent males and 67.4 percent females) in 2007. Moreover, there are noticeable increases in completion rates (but with wide disparities) at lower secondary level (Figure 1). Generally, completion rates increased to 39.0 percent in 2010 (45 percent males and 32 percent females) from 29.0 percent (33 percent males and 25 percent females) in 2006 (29.0 percent). It is evident that gender parity[3] still exists where the boys outnumber the girls across all the dimensions. For instance, the performance of central region (42.4 percent) schools is higher than that of other regions. Moreover, higher progression rates were registered in urban schools where about 75 percent of those students who progressed to the lower secondary level attended urban schools. These trends are a challenge to not only the Ministry of Education and Sports (MoES) but also the country as whole.

**Figure 1: Completion rates at Senior 4 by gender**
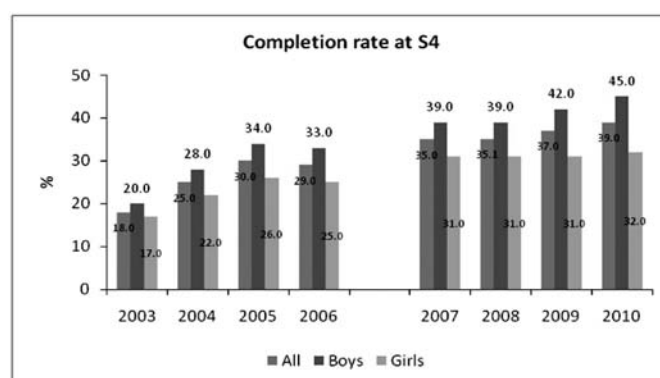
Source: Created by the authors based on MoES (2010) data

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1 Equality is measured by differences in measures of learning like test scores, measures of educational attainment like years completed, or more abstract conceptions like opportunity

2 Equity is more than an issue of fairness and distributive justice. It implies the extent to which the existing intervention to improve/promote quality education is equally distributed

3 In the context of this study, gender parity is defined to mean differences in access (measured by enrolment) to lower secondary education and academic achievement (measured by performance grades).

In East Uganda, the regional area focus of this study, we notice gender differences in school access. Of the 165,050 students registered in lower secondary in 2004, 56.1 percent were male as compared to 43.5 percent female. Nearly similar proportions were recorded in 2008 where males constituted 56.1 percent of enrollment (of the 251,079 students) as compared to 43.9 percent for females. Female students are typically under-represented in secondary education (Figure 2), especially at the lower level and thus a shift in subsidies to secondary education at the expense of primary education would disadvantage female students more than male (MoES 2009). For instance, of the 44,198 students who sat the Uganda Certificate of Education Examinations (UCE) in 2008 from East Uganda, 25,496 (57.6 percent) where male students while 18,702 (42.4 percent) were females, respectively. Similarly, among the males who sat for the UCE in 2004, about 91 percent passed whereas 85 percent of the female candidates passed. Though the gap in the proportion of the passes narrowed between 2004 and 2008, there was a gender gap of students who sat for the UCE between the two periods.

A number of factors tend to limit female access to secondary education. For girls in poor families where the opportunity costs of schooling are particularly high, the question of the value of schooling is of pressing importance. Equity is cited as one of the major challenges facing educational development. The World Bank (1995) argues that public spending on education is often inequitable, when qualified potential students are unable to enroll in institutions because educational institutions are lacking sufficient resources or because of students' inability to pay.

Figure 2: Students who sat and passed UCE
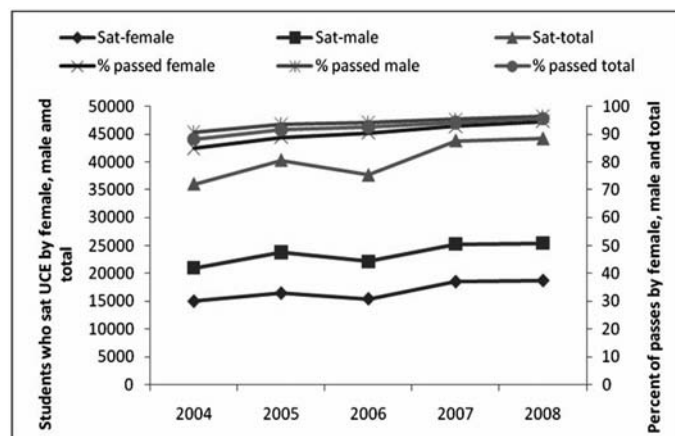
Source: Created by the authors based on MoES (2009) data

In the current period, when many countries are trying to develop their human resources as one element of enhancing growth and international competitiveness, unequal education implies that human potential is being wasted and that some individuals do not have the competencies to perform well in a modern society. From a social point of view, large numbers of under-educated individuals fail to contribute to national prosperity and instead may generate social costs. On the individual level, a lack of adequate schooling and school-based competencies usually leads to lower earnings, higher levels of unemployment, and the many correlates of poor

economic conditions. For instance, in a developing country like Uganda, girls have much less access to education than do boys; moreover, children from families with low socio-economic status usually fare less well than their middle-income peers. They may also suffer lower levels of schooling; there may exist urban-rural or regional differences as well (UNESCO Institute of Statistics 2005). However, the interaction between gender and these socio-economic categories has rarely been examined. Hampered by limited data and a lack of comparable definitions and measures, the issues surrounding girls' participation in schooling have been recognized but to a lesser extent addressed.

This study is motivated by the growing concern of various stakeholders about the education inequities manifested in geographical imbalances, socio-economic differences coupled with gender differentials that present considerable challenges to policy-makers (MOES, 2009). This study through empirical investigation attempts to establish underlying factors at the school, student, community and household level that explain gender inequalities in *access to and education attainment* in lower secondary education. Using quantitative measures on school and student-level data, the investigation explores school and community socio-economic effects on gender inequalities in access and achievement. The qualitative approaches mainly evaluated perceptions of practitioners in view of gender mainstreaming in teaching and learning opportunities, leadership roles, social behavior reinforcement as well as parents' support of school gender activities. The study demonstrates that reducing inequality requires concerted efforts from all stakeholders especially at the school, community and household levels. Knowledge of the importance of promoting gender roles and discouraging gender stereotyping should be emphasized both within and outside the school environment. Besides, a conducive learning environment, especially school safety and adequate facilities, are pre-requisites for ensuring students' participation in schools.

2. Problem Statement

In spite of the government's concerted efforts and determination and above all, investment in ensuring quality education for all, Uganda's lower secondary education sub-sector continues to register gender disparities coupled with infrastructure challenges. However, lower secondary education is regarded as foundational for life-long learning and human development especially if it offers more subject- or skill-oriented instruction. This may be a way to achieve equity in education, which is central to educational outcomes. Yet in Uganda's secondary education sub-sector, such equity in education seems to be elusive. Over the years, a number of organizations and individuals concerned with reducing inequity, promoting girls' education, and improving the education outcomes have been struggling to come up with a more comprehensive, all-encompassing definition of "education equity." Broadly, the definition and analysis of education equity entails the consideration of two dimensions, namely: (i) gender inequities in school access; and (ii) inequities attributed to academic attainment.

In line with such global trends and in spite of government of Uganda investment in the

sub-sector to address the equity concerns, the disparities still persist in most dimensions. This study therefore is set to examine the extent and nature of gender disadvantage, and to analyze causes for such disadvantage and identify effective strategies to either reduce or eliminate the inequities. To this end the following research questions are addressed:

i)   How do family socio-economic factors (student age, education of household head, per capita household consumption expenditure, and average annual per student household expenditure) influence gender inequality in lower secondary education?

ii) How do school environmental factors (classroom size, teacher-student ratio, heterogeneity[4] of students' body, latrine stances to student ratio, school location, ownership, size, USE[5] status, co-education, boarding status and classroom-student ratio) affect gender inequality in lower secondary education?

iii) What are the perceptions of the teachers from the educators' point of view on gender inequality in lower secondary schools?

3.   Objectives of the Study

The study intends to investigate the gender equity issues in the lower secondary education in east Uganda from demand and supply sides. Firstly, the study investigates the influence of family socio-economic factors (demand) on school gender inequality. Secondly, it establishes the effects of school environmental (supply) factors that influence students' gender inequality in lower secondary education. Thirdly, the study evaluates the perceptions of the teachers' on gender inequality.

4.   Significance of the Study

Previous studies worldwide have focused on issues related to access and equity in secondary education (e.g. Appleton 1995; LeVine 2006; Stephens 2000). Moreover, MoES (2009) undertook a study to identify success stories associated with access to lower secondary education in Uganda and also document the challenges affecting the implementation of the Universal Secondary Education policy. However, there has been little attempt to address the education equity issues in Uganda especially among gender and socio-economic dimensions, and yet the government is continuing to invest a lot of resources in reducing gender parity and improving household welfare for better education to achieve the MDGs/EFA targets. In effect, analyzing equity issues that affect secondary education quality is very critical for policy makers and education practitioners. The study contributes to understanding the extent to which gender

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4 Implies variations in cognitive abilities proxied by standard deviations of the test scores averaged over mathematics and reading subjects.

5 These are schools implementing the Universal Secondary Education (USE) policy of allowing students to attend school for free in lower secondary schools

parity and household socio-economic status affect the quality of lower secondary education in Uganda. Policy makers are most interested in seeing cause and effect relationships. Besides understanding how resource allocation decisions influence the equality in lower secondary education is crucial, and knowledge of the possible ways to improve these equity dimensions by means of more efficient resource decisions would be useful for policy makers and helpful in understanding the real equity in education.

5. Literature Review

Little is known about the extent of students' gender disparities in lower secondary education in Uganda, and whether it is an important factor influencing the effectiveness of the secondary education system. However, this section discusses literature on gender inequality that identifies the research gap and motivation for this study while acknowledging other research efforts on gender equity. The issue of gender inequality in schooling, access and achievement in particular, has drawn a lot of attention from various scholars.

The issues of school climate, including gender socialization, culture and socioeconomic background, are significant in understanding gender inequality and disparity. Nkomo et al. (2001) argue that in addition to gender, other factors must also be taken into considerations when examining education access and participation. Often, cultural and ethnic factors and socioeconomic background may affect either boys or girls' participation at any school level. From a cultural perspective, it is argued that girls are considered inferior and are discriminated against in education. Some researchers however claim that the main problem is ethnicity and that gender is a less important (significant) factor. These findings suggest that the issue of gender inequality is complicated and multi-dimensional. In Uganda, comparative studies of inequalities in education stem from the 1960s and 1970s, and are mostly based on regional, geographical and socio-economic contexts. These studies generally reveal large differentials but provide scant interpretation of these inequalities. Moreover, the role of the colonial state as the architect of ethnic groups could be another source of regional disparities, through the creation of administrative units that were subsequently labeled in ethnic terms (Oucho 2002). This approach has emphasized the extent to which ethnic consciousness was externally imposed in a context of unequal power relations. The colonial legacy in Uganda created uneven development in educational opportunities. Groups located near the urbanized areas and places of developed infrastructure usually took advantage of these opportunities.

Moreover, Mamleli et al. (2000) indicate that sexual harassment is a key barrier to equality in schooling. They attribute this environment to male dominance in certain societies. They add that girls suffer from sexual violence. Boys suffer as well but girls and even female teachers are the prime victims. However, the mains focus of such studies is gender socialization in which being a boy is perceived as more powerful and appealing to girls, who aspire therefore to act like boys. In Uganda, available literature indicates boys are favored over girls and they are empowered to be masculine. As a result, sexual harassment becomes covertly legitimate

(Mirembe & Davis 2001). However, Mirembe and Davis explored the contradictions in curriculum intervention, sexual harassment and hegemonic masculinity using the ethnography of school culture, with less attention to the equity issues which this present study attempts to address.

Family background and in particular parents' involvement in schooling is important to children's (of either gender) school attendance and achievement. Studies argue that, girls' access to school, and girls' retention and dropout rates are strongly linked to a girl's background including her socioeconomic status, and culture as well as rural-urban area of residence. For instance, parents of a girl whose background is in the middle or upper income quintiles are more likely to send their daughters to school and to see the economic benefits in gaining education (LeVine 2006). The first window of opportunity for children is largely at home. If the parents are supportive and are interested in sending their children to school, then the student, a boy or a girl, has a higher likelihood to stay in school and to perform well. Moreover, teachers-parents' interactions are also a significant component pertaining to gender inequality and the learning environment (Tammy 2007).

From a social point of view, there are mainly three reasons why parents hypothetically might invest more in the education of boys than of girls. First, it may be that the economic returns from girls' schooling may be lower than that for boys. This is only possible if the labor of males and females are imperfect substitutes in some activities. In this case, different amounts of education for girls and boys could be an efficient economic choice. A second possibility is that the social returns for educating boys and girls are the same, but that parents expect more direct benefits from investing in sons if, for example, sons typically provide for parents in their old age, while daughters tend to leave and become part of a different household economic unit. In this case, the wage between private and social returns generates a market failure, and the private decision to invest in girls' schooling is likely to be sub-optimal. Third, parents may simply have a preference for educating boys over girls. A low investment in girls' education would then reflect the underlying population preference and would not imply *per se* a market failure (Gertler & Alderman 1989). In studies from a wide range of developing countries, it is almost never found that the economic returns to girls' schooling is less than the boys, which would make less schooling for girls an efficient choice (Schultz 1993).

Besides parental influence, there are some objective factors that are largely school-based that may determine children's presence at school. For instance, school facilities (i.e. classrooms, sanitary facilities among others) and their conditions have a substantial influence on how boys and girls learn (Walker 2003). The study further argues that many teachers believe that girls need less schooling than boys. In effect, teachers tend to cultivate boys and discourage girls from studying certain subjects, for example, mathematics and science. In some way, female teachers are perceived as more effective in their relationship with their students and could act as role models to young girls who were not familiar with many educated women. Some studies suggest (e.g. Colclough et al. 2000) that girls need female leader figures to be empowered and to cope with puberty, and boys need male leader figures who exemplify caring leadership. Stephens

(2000) argues that female teachers can in particular inspire girls who hardly have chances to interact with working women. Some studies argue that schools' collaboration with parents in the community to promote gender equality while learning to be sensitive to cultural norms may motivate girls' attendance in school (Unterhalter et al. 2005). Besides, Swainson (2000) argues that women's Non-Governmental Organizations are significantly important because they can challenge patriarchal norms that women in government positions have not sufficiently been able to do.

In this paper, the authors are more concerned about how gender and socio-economic imbalances manifest, and as a result, affect the equality in lower secondary education. There should be feasible strategies to increase female participation in secondary education as one major way to reduce education equity in developing countries as the education of women is thought to be one of the most important elements in the development process (Prah 2002; Sutherland-Addy et al. 1995). Gender stereotypes in education and inequity issues manifest in another category where the obstacles to girls' education are built from a girl's perceptions concerning about her academic abilities (Sutherland-Addy et al. 1995). Research in Kenya and Ghana showed that girls are more likely than boys to drop out of school because of negative attitudes and discrimination (Lloyd, Mensch & Clark 1998; Mensch & Lloyd 1999). Unlike boys, their achievement is also poorer when teachers think they are naturally less capable, which is also the case when parents themselves hold their daughters' abilities in lower estimation than those of sons.

The reviewed studies indicate various supply and demand factors that in a way can explain the widening or narrowing of the gender equity gap. Knowledge of the impact of some of these factors on equity in the Ugandan context is still lacking. The present study has examined factors from both the demand and supply sides to not only establish the cause-effect relationships, but also to establish the perceptions/experiences that explain these inequities. Analysis of educational development from an equity perspective is relevant to policy guidance because the proportions of government financing of the different levels of education systems have implications for gender equality and poverty-reduction objectives.

6. Methodology

6.1 Conceptual Framework

One of the issues of concern in lower secondary education in Uganda is the level of equity in education and its effects on the quality education for all. For the purpose of this study, equity in education is defined as *the extent in which the existing quality of education in a country is equally distributed (or made accessible) among students with different socio-economic status.* In other words, it is important to find out whether students of various socio-economic statuses have equal opportunities to develop their competencies in core subjects such as mathematics and English. This paper mainly deals with EFA goal 5 and MDG 3 that emphasize investment

in basic education to eliminate gender disparity and achieve gender equality by 2015. The investment in education is assumed to bring about improved access to schooling, quality education for all as well as women empowerment (Figure 3).

Figure 3: Concept of Schooling using Human Rights Approach
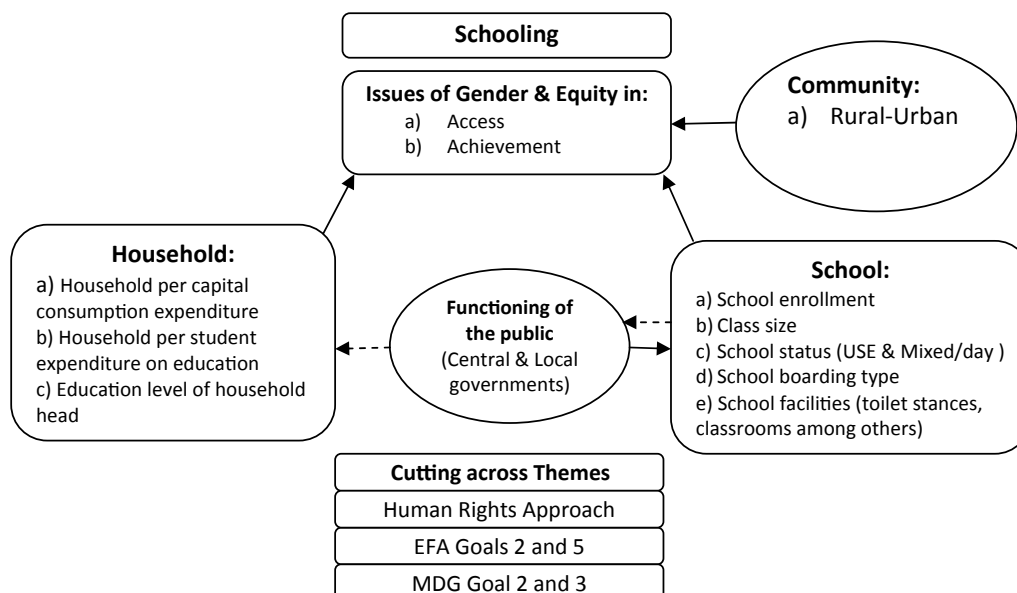
Source: Created by the authors (2012)

In the ideal education system, the quality of education would be equal for all children irrespective of their social economic status (SES). That would mean the opportunities for the development of important vital competencies acquired by students through education do not depend on the factors outside of the student's choice (for example, parents' education level, and financial status of the family, among others). However, in equity assessment, in real conditions, this ideal situation cannot be used as a benchmark. That is why equity in Ugandan education will be assessed within and in-between equity dimensions. Moreover, measuring gender inequality is a multi-dimensional concept. This study limits analysis of gender inequalities to school access and achievement at the lower secondary level. In particular, differences in enrollments and academic attainment between female and male students are considered as measures of gender inequality. In this paper, the authors investigate how school characteristics and family wealth status affect gender disparities, with a primary focus on access and education attainment. Moreover, the perceptions and experiences of the school practitioners are examined within the inequality context.

6.2 Hypotheses

Based on the concept of gender and socio-economic inequities that guided the formulation of research questions and objectives, and the knowledge from the literature, the following hypotheses are formulated:

i)   There exist significant socio-economic differentials attributed to gender disparities among students in lower secondary education.

ii)   Family and school environmental factors have a significant influence on students' gender disparities in lower secondary education.

6.3 Model (Quantitative Approach)

Several studies (e.g. Alderman et al. 2001; Alderman et al. 1995; Durrant 1999; Hazarika 2001; Lloyd et al. 2005; Sathar & Lloyd 1994; Sawada & Lokshin 2001; World Bank 2002) have examined several factors that affect gender disparity using either quantitative or qualitative approaches. In particular, the objective (school) and family factors have been largely examined. A case in point is school access measured by the presence of gender-appropriate schools within the certain location or within some reasonable distance from the school location. The works of Lloyd et al. (2005) while analyzing constraints of policy and culture among the rural girls in Pakistan used a probit model to study school access where the number of assets, school location and type, school completion and asset inequality were used as independent variables. Given the education system in Uganda and the data available (or data limitations), this study employs a modified version of the above adopted model to assess the causal effects of equity differences on secondary education. The study employs a semi-log linear model as stated below:

$$INEQ_{ij} = \alpha_0 + \sum \alpha_{1i}FAM + \sum \alpha_{2i}SXTIC + \beta_1 LOC + \beta_2 OWN + \varepsilon_i \quad (1)$$

where; εi is the disturbance term that follows classical linear regression model assumptions of zero mean and minimum variance i.e. $N(0,\delta_\varepsilon^2)$. $INEQ_{ij}$ is the inequality (measured by the difference between female and male test scores) in school i on subject j (to include mathematics and English subjects), and gender differences in school enrollments. *FAM* is the students' family characteristics (that include student age, level of education of household head, household welfare measured by per capita household consumption expenditure, and average annual per student household expenditure in lower secondary education) and *SXTIC* are school characteristics that include: school size, classroom size, teacher-student ratio, heterogeneity in students' scores/body, toilet stances to student ratio, school (USE, co-education & boarding) status and classroom to student ratio. The location (*LOC*) and school ownership (*OWN*) are variables to control for heterogeneity of schools.

6.4 Data for Quantitative Analysis

In addressing objectives I and II of the study, the authors employ model (I) on a combination of variables analyzed at the school level. The third objective is addressed using qualitative data obtained from the practitioners (school administrators, teachers and students) as well as officials at the MoES and district education officers of selected districts in East Uganda.

The study employs various data mainly from the Uganda National Household Survey Data (UNHS IV-2009) on gender disparity and family socio-economic aspects of students in lower secondary schools. More data from the Education Management Information System (EMIS) and the National Assessment of Progress in Education (NAPE), a department under the Uganda National Examination Board (UNEB) was also obtained. The NAPE survey was conducted in 2009 on senior two students in all the districts of Uganda. However, the study focuses on the eastern region of the country covering 26 districts out of 79 districts covered in the NAPE survey based on education stratification. In the survey, 4,650 (2,669 male and 1,981 female) students were selected from the eastern region. The distribution of the students across the zones is presented in Table 1.

Table 1: Distribution of the sample (Quantitative Analysis)

Zone	Boys	Girls	All
Far East	432 (16.2%)	333 (16.8%)	765 (16.5%)
Mid East 1	431 (16.1%)	401 (20.2%)	832 (17.9%)
Mid East 2	851 (31.9%)	559 (28.2%)	1,410 (30.3%)
Near East	955 (35.8%)	688 (34.7%)	1,643 (35.3%)
Total	2,669 (100%)	1,981 (100%)	4,650 (100%)

Source: Created by the authors based on MoES (2009) data

The subjects areas covered were mathematics and English. The information collected from all these sources was merged to answer the stated objectives. It is worth noting that these data from the three sources are comparable. The UNHS IV and NAPE are large national surveys with weighted samples, and all were conducted in 2009. The EMIS complies and stores regular and annual census data on all secondary schools in the country. The schools file annual statistical reports that are captured by the system. Some of the descriptive statistics are presented in Table 2.

Table 2: Descriptive statistics

	N	Mean	Std. Dev.	Minimum	Maximum
Inequality in Access	86	-93.1	319.0	-1970	1040
Inequality in Achievement (English)	84	-0.01	4.8	-18.5	13.3
Inequality in Achievement (mathematics)	85	-4.8	6.9	-51.5	23.3
Male age (in years)	85	16.1	0.7	12.0	18.8
Female age (in years)	85	15.6	0.6	13.8	17.8
Toilet stances for 100 male students	85	0.17	0.19	0.02	2.5
Toilet stances for 100 female students	85	0.04	0.05	0.003	0.65
Level of education of household head (in years)	79	4.5	0.5	1	17
Log of household expenditure on education	79	12.5	0.7	9.0	14.2
Log of household per capita expenditure	79	11.1	0.4	10.0	12.2
School size (total enrolment) (000's)	85	0.6	0.5	0.1	3.2
Class size	85	131.2	93.4	5	602
Classroom to student ratio	85	2.97	1.93	0	1
Teacher to student ratio	85	0.59	0.48	0	2.4

Heterogeneity of within subject scores	86	13.5	2.29	5.4	20.7
Urban (yes=1)	85	0.4	0.5	0	1
USE status (yes=1)	85	0.6	0.4	0	1
School boarding type (yes=1)	86	0.76	0.42	0	1
School co-education type (yes=1)	86	0.89	0.3	0	1

Source: Created by the authors based on MoES (2009) data

6.5 Qualitative Approach

A wide range of information was collected to include the socio-economic status of households, student and school characteristics, and performance scores. However, objective three (3) utilizes more qualitative information collected during validation exercises. All the data from various sources were used interactively when the need arose.

The qualitative research methods were utilized at the 2nd stage including a survey for the demographics of respondents, focus groups and document analysis. The subjects for the study were mainly grade two students (both male and female) as well as head teachers and selected class teachers of the targeted schools. Three categories of respondents were interviewed for the study: one group was comprised of students, a second group was made up of class teachers directly responsible for managing the targeted students, and the third category was the school leaders who were either represented by the head teacher or the deputy or the Director in charge of studies. Analysis of the data explored possible explanations for and solutions to low (specifically female) enrollment and academic achievement. The information so obtained was categorized in mainly five (5) broad themes that include: Gender in Curriculum (teaching & learning), Learning Opportunities and Performance, Gender in Leadership roles, Social Behaviors and School-Parents' Relations.

This approach was employed to understand the gender issues *from the perspective of practitioners*. Besides, understanding the *reasons and assumptions -the why- behind what practitioners say, what they do, and what they choose not to do* with respect to a situation or decision and usually based on their experiences or perceptions (for example whether they value education, their own experiences in school, or their beliefs about the roles and responsibilities of girls and boys in the learning environment is crucial. In addition, the section also focuses on *the processes -the how-* exploring the interactions between school management and the communities/parents, or between an intervention and its setting; the ways in which decisions are made and actions are implemented; and how schools are changing (or not) as a result of new experience, or a new understanding (such as how gender affects access, retention, and learning achievement).

6.6 Sampling of the Case Schools and Analysis

The in-depth analysis using a qualitative approach gives additional insights into the understanding of equity issues from both the demand (learners) and supply (educators) sides.

The case sample has some schools that are co-educational and at different levels of educational progress as well as varying degrees of infrastructure development. School location also varied from rural to urban areas as well as ownership (i.e. 5 public-government aided schools and 3 private schools). The case schools had initially participated in the National Assessment of Progression in Education (NAPE) 2009 survey. Table 3 presents the distribution of the respondents by case school as well as by region and district. A total of 22 teachers (including head teachers) were interviewed. The majority of the head teachers and teachers were male (N=16 or 74 percent). Most of the head teachers were experienced with an average of 5 years of working experience in leadership positions and 11 years in teaching.

Table 3: Distribution of the respondents among the case schools

District	School	Location	Ownership	Sampling			
				Teachers	Students		
					Male	Female	Total
Mbale (5)	A	Urban	Private	3	5	4	9
	B	Rural	Public	3	4	3	7
	C	Rural	Public	4	5	3	8
	D	Urban	Public	2	4	3	7
	E	Rural	Private	2	5	4	9
Sironko (2)	F	Urban	Private	3	6	4	10
	G	Urban	Public	3	6	3	9
Manafa (1)	H	Rural	Public	2	4	4	8
All (8)				**22**	**39**	**28**	**67**

Source: Created by the authors (2012)
Note: The teachers include a head teacher from every school. Location of the schools is based on EMIS definition and zoning of 2009

Regarding the professional training, a majority (58%) of teachers teach humanities such as English, Geography and History. Since the selection of the teachers was somewhat purposive, a majority (62%) of them taught English subjects followed by 25 percent in mathematics and the rest (13%) biology subjects. The study included a total of 67 students (39 male and 28 female) all from form two. The average age distribution of the students was 16 years for males compared to 15 years for female, which is normally acceptable scenario in Ugandan context.

7. Explaining Gender Inequality based on Model Results

This section explains gender inequality (measured by access and achievements) as a function of school and family socio-economic factors while controlling for student demographics. The inequalities as reflected in model estimates can serve as a benchmark for a useful comparison with the existing literature. The regressions tell us which characteristics are significantly associated with female access and attainment, after controlling for pupil factors. The multivariate analysis provides three different models for each level (see Table 4 and Table 5).

7.1 Household Socio-Economic Characteristics and Gender Inequality

Table 4 provides results on disparity in access. Model 1 shows the importance of household human capital and economic status in increasing the likelihood of girls' accessing education after controlling for student age. For instance, higher levels of education of the parents in the household are significantly (at 10%) correlated with lower levels of gender disparity or gap. This implies increasing education level by say 1 point reduces disparity by 76.2 points (in terms of access). Conversely, increasing household expenditure on education lowers disparity, though the extent of the effect is small and insignificant. This would imply educated parents view the returns on education as more or less equal across gender. The age of the students (both males and females) was examined. The results indicate that the higher average age of male students is significantly connected with lower disparity. Conversely, the higher age of female students is correlated with wider gender gap. The results further indicate that there is averagely less gender disparity (by 198 students) in urban schools than in rural with 1 percent significance in the size of the difference. The adjusted R-squared of 25.6 percent is modest, suggesting that these factors explain only part of the variation in the gender gap in terms of access.

In Model 1, the effects of the level of education of household head and the expenditure on education retain the expected signs and coefficient sizes (though significance vanishes), found in other estimations (Models 2 and 3). The urban dummy keeps its sign effect, but its significance is sensitive to the model selection. In Model 2, school size and female stance ratio have a strong positive correlation with the female access than the male students. In addition, the class size and male stance ratio are connected to male school access even after controlling for the students' demographics. The effect size of the male stance ratio is large, significant and has the expected positive sign. For instance, increasing the school size by 1000 students lowers the gender gap by 433 students. However, the effect of class size on disparity is small, but positive and significant, which is surprising. The explanation could be most schools have secular policies regarding students' study groupings. Big class sizes may make the learning environment unsafe and less attractive to female students. This in a way could discourage female students from attending school and hence widen disparity. Although the size of the effect of the school boarding type is also positive but insignificant, it is worth noting that the schools' factors have maintained their effect sizes, signs and significance levels in the pooled estimation (Model 3). The adjusted R-squared of 70 percent is substantial, implying robustness of the variables that explain a bigger portion of variation in the gender gap.

Table 4: Factors affecting gender disparity on school access

Dependent Variable (Female-Male)	Model 1	Model 2	Model 3
Male age (in years)	-2304.9* (-1.68)	-2232.6** (-2.30)	-2421.4** (-2.53)
Male age squared	71.6* (1.73)	67.3** (2.27)	73.2** (2.50)
Female age (in years)	1445.3 (0.81)	2175.8** (2.39)	2561.6*** (2.89)
Female age squared	-46.6 (-0.83)	-70.3** (-2.41)	-82.3*** (-2.90)
Urban=1	-197.5*** (3.93)		-46.3 (-1.27)
Education of household head	-76.2* (-1.89)		-42.7 (-1.27)
Household expenditure on education	-8.47 (-0.27)		-5.53 (-0.33)
Total school size (enrolment in '000s)		-433.7*** (-6.65)	-414.3*** (-7.05)
Class size		0.84*** (2.62)	0.87** (2.74)
School USE status (yes=1)		-67.10 (-1.14)	-86.1 (-1.33)
School boarding (yes=1)		45.72 (1.39)	31.23 (-0.97)
Toilet-stances to student ratio (female)		-2581.8* (-1.76)	-2725.1* (-1.89)
Toilet stances to student ratio (male)		2900.3** (1.96)	2889.5** (2.20)
Constant	7459.9 (0.62)	1745.5 (0.26)	334.4 (0.05)
Number of observations	79	74	74
F –statistics (P-value)	2.85 (0.01)	21.1 (0.00)	18.2 (0.00)
Adj. R-squared	25.6%	70.0%	71.2%
Root MSE	184.3	118.7	117.7

Source: Created by the authors (2012);

Note: *** sign. at 1%, ** at 5% & * at 10%; t-statistics in parentheses

The results in Model 3 test the relevance of all the pooled variables. The predictive power (71.2%) is substantially high when compared to Models 1 and 2 implying better fit. The pooled model improves the effect size and significance of students' age (both male and female) on lowering gender disparity. However, the size of the effect of the urban dummy and the level of education of the household is reduced, and the significance vanishes. This implies a conducive school environment is pre-requisite in reducing the gender gap. Besides, there is a policy shift of establishing government aided schools in rural areas where demand is high and where there is an effort to objectively lessen the education burden among parents. In effect, parents' education somewhat becomes less significant in reducing the gap. The results also bolster the hypotheses that students' demographics and some school factors such as school size and school sanitary facilities under well implemented USE policy improved progress in education access

for girls, thus narrowing the gender gap. It is important in explaining the lagging access of girls' education in relation to some qualitative aspects such as the school system, curriculum, learning opportunities and school-parents relations, which will be discussed in subsequent sections.

7.2 Explaining Gender Disparity on Achievement in Mathematics and English

The results in Table 5 test the determinants of the disparity in achievement of boys and girls for both reading and mathematics subjects after controlling for students' attributes. Model 1 in both subject cases indicates effects of household characteristics controlling for pupil demographics with low explanatory power (R^2=12.2% and 2.8%). The findings indicate a weak effect (in size and significance) of household expenditure on education and level of education of household head on disparity in achievement for both subjects. For instance, an increase in expenditure on education by 1 percent lowers disparity in English and mathematics by 0.48 and 0.02 points, respectively. However, household expenditure on general consumption is not beneficial to disparity just because the benefits arising from such expenditures may not directly assure students' participation in schools and instead may suffocate other basic necessities that are required by children attending school. Moreover, the age of female students lowers disparity in performance though the effect is insignificant for both subjects, and the coefficients of female age squared for both subjects are exponential since higher levels of age widen gender disparity in achievement. This implies participation in school may be necessary but may not be a satisfactory condition for student achievement. In a general sense, gender and poverty combine to produce educational disadvantages for girls in poor households. This may call for more interacting factors which can be conducive for better teaching and learning so that achievement for girls can be assured.

Model 2 in both subject cases tests the effects of school factors on disparity, controlling for student demographics. The models for both subjects have modest explanatory power of 18.6 percent and 20.0 percent implying the independent factors explain part of the variations in disparities on achievement. The co-educational, teacher-student ratio and female stance ratio effects significantly reduce disparity, with the effect of the female stance ratio large in size for both subjects. Introducing school factors in Model 2 does not alter the expected effects of the demographics on disparity in English as a subject and increases the predictive power by 6.2 percent compared to Model 1. The results further indicate total school enrollment narrows the gap, though the effect is insignificant in both subjects. Increasing heterogeneity of student performance reduces disparity in both subjects, and more significantly in mathematics, suggesting the importance of heterogeneity in fostering girls' education. This implies that an increase in heterogeneity by one unit lowers disparity by 0.22 and 0.76 points in English and mathematics, respectively. Increasing the number of classrooms per student widens the disparity which is a surprising result. This implies more classrooms may initially promote student access, but in the event that other supply factors like teachers, furniture and classroom arrangements necessary for girls' learning are inadequate, an increased number of classrooms may eventually

increase the number of dropouts and/or discourage females from attending school.

Model 3 is pooled with modest explanatory power of 22.4 percent and 22.6 percent for both English and mathematics, largely due to the fundamental importance of school factors compared to others. Emerging from virtually every regression model is the insignificance of female age, school size and expenditure on education variables. However, the effect of school size in sign is consistent across the models, while effects of female age and education expenditures alternate signs suggesting a possible collinearity problem. In Model 2 for the subject of English, the heterogeneity effect is insignificant, but inserting household characteristics in Model 3 makes the heterogeneity effect significant and also improves the significance of classroom ratio and co-education effects, possibly because it captures the average abilities in educational attainment. Heterogeneity is expected to affect learning outcomes through mechanisms operating between students and within schools.

However, in estimating correlates of achievement at the school level, it is important to take into account the different socio-economic settings of school environments considering the share of children attending school. In school communities where not all children attend school, those who continue in school are likely to be more at an advantage and better performers. The results largely indicate that female achievement is highly correlated mainly with school attributes even when student demographics and household socio-economic attributes are controlled. This suggests the importance of investment in schooling as a way of increasing women's' education and participation.

Table 5: Factors affecting gender disparity on school achievement in English and Mathematics

Dependent variable: Differences in female and male mean scores

Independent Variables	English			Mathematics		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Male age (in years)	34.2** (2.41)	27.1** (2.10)	33.3** (2.56)	-9.3 (-0.49)	-15.7 (-1.37)	-12.6 (-1.03)
Male age squared	-0.99** (-2.32)	-0.76** (-1.96)	-0.96** (-2.43)	0.28 (0.49)	0.45 (1.26)	0.36 (0.94)
Female age (in years)	-26.7 (-1.58)	-30.1 (-1.12)	-30.1 (-1.22)	-21.3 (-0.78)	4.2 (0.17)	8.38 (0.32)
Female age squared	0.76 (1.40)	0.85 (0.99)	0.86 (1.08)	0.68 (0.47)	-0.18 (-0.22)	-0.30 (-0.36)
Level of education of Household head	-0.38 (-0.55)		-0.95 (-1.31)	-0.50 (-0.52)		-1.04 (-1.09)
Household per capita consumption expenditure	1.76** (1.98)		1.73* (1.78)	1.60 (1.42)		1.63 (1.42)
Household expenditure on education	-0.48 (-1.11)		-0.86* (-1.80)	-0.02 (-0.03)		-0.31 (-0.45)
Total school size (enrolment in '000s)		-0.02 (-0.03)	-0.48 (-0.74)		-1.01 (-1.04)	-1.38 (-1.42)
Classroom student ratio		0.44* (1.89)	0.44** (2.05)		0.77*** (2.77)	0.72*** (2.58)
Co-educational (yes=1)		-0.69** (-2.17)	-0.82*** (-2.84)		-0.98 (-0.86)	-1.14 (-1.02)

Toilet stances to student ratio (female)	-43.4*** (-3.98)	-40.8*** (-3.88)			-25.9** (-2.06)	-21.82* (-1.73)
Teacher to student ratio		- 0.16** (2.34)	0.15** (2.47)		-0.35 (0.90)	2.35 (0.74)
Heterogeneity of subject scores		-0.22 (-1.42)	-0.28* (-1.77)		-0.76*** (-4.85)	-0.81*** (-5.02)
Constant	-74.6 (-0.52)	28.36 (0.15)	-32.7 (-0.19)	223.5 (1.20)	118.8 (0.59)	43.80 (0.21)
Number of observations	72	72	72	72	72	72
F –statistics (P-value)	5.42 (0.0)	5.36 (0.0)	5.77 (0.0)	0.91 (0.1)	5.88 (0.0)	4.38 (0.0)
Adj. R-squared	12.2%	18.6%	22.4%	2.8%	20.0%	22.6%
Root MSE	4.56	4.55	4.49	6.94	5.90	5.85

Source: Created by the authors (2012);

Note: *** sign. at 1%, ** at 5% & * at 10%; t-statistics in parentheses

7.3 Qualitative Analysis based on Field Data

This section examines the perceptions/experiences of the practitioners (characterized as the *voices*) concerning the gender inequalities in lower secondary education. The analysis is grouped into four themes that explain the patterns of access, fairness in opportunities and justice. These classifications include *Gender in Curriculum* with a particular focus on learning and teaching; learning opportunities and performance; gender in leadership roles and social behavior as well as school-parents' relations. The following section gives an insight of the findings in detail.

Table 6: Proportion of respondents supporting the statement

	Statements/Items (N=22)	%
Gender in Curriculum (Teaching & Learning)	Students have equal access to extra-curricular activities while challenging stereotyping (N=22)	100.0
	Effectiveness provision of appropriate curriculum for all students irrespective of gender (N=18)	81.8
	There is recognition of importance to challenge any form of gender discrimination (N=22)	100.0
	School ensures that resources in all areas of the curriculum are inclusive (N=16)	72.7
Learning Opportunities & Performance	School's admissions and transition systems are fair and equitable to both genders (N=20)	90.9
	Performance target settings and tracking systems are rigorous for all students (N=22)	100.0
	Allocation of students to teaching groups is fair and equitable to all students (N=14)	63.7
	Every student in this school is offered the support and guidance they need (N=19)	86.4
	Students' achievement and progress in individual subjects is monitored by gender (N=12)	54.4
	The school develops strategies for tackling differences in academic progress of boys and girls (N=14)	63.6
	The school values achievements and recognizes students irrespective of gender (N=15)	68.2

Gender in Leadership roles	The school challenges stereotyping in leadership roles among staff and students (N=17)	77.3
	The school promotes equality and encourages girls' participation in leadership roles (N=20)	90.9
	The school staff is representative of the school community (including students) (N=12)	54.5
	Training and promotion opportunities are available equally to female and male staff (N=10)	45.5
Social Behavior & School-Parents' relations	Students access a range of topics that appeal to (non) stereotypical behavior (N=18)	81.8
	The school constantly challenges gender stereotypes, including its visitors to the school (N=20)	90.9
	Teachers discuss with parents on strategies to eliminate gender stereotypes (N=22)	100.0
	Parents are supportive of measures that challenge stereotyping and promote gender equality in school access (N=20)	90.9
	Parents participate in developing strategies for tackling differences in the academic attainment and progress of boys and girls (N=16)	72.7
	The school's procedures for managing behavior, disciplining students and exclusions are fair and applied equally to all students, irrespective of gender (N=20)	90.9

Source: Created by the authors (2012)

7.3.1 Gender in Curriculum (Teaching and Learning)

The study collected information on gender in curriculum (with a focus on teaching and learning) in schools. It clearly emerged that in most schools, there was significant support to all the statements under this theme (Table 6). For instance, it is the school policy in Uganda that students should have equal access to both formal classroom teaching and extra-curricular activities. In most cases, the negative stereotyping is actively challenged, and students of either sex are encouraged to participate in various formal and non-formal school activities. Boys are for instance, encouraged to join the choir just as girls are encouraged to join the masculine clubs (e.g. school football teams and other sports squads). In almost all schools visited, girls actively participate in school football teams and competitions at various levels. There is an active girls' football team that competes favorably at inter-school, district and national events [Head teacher, School F]. It was also established that schools effectively monitor curriculum implementation and most stakeholders have always attached importance to challenging negative stereotyping (e.g. females denied learning opportunities because they are regarded as feminine) and discrimination. Besides, 'effectiveness provision of appropriate curriculum for all students irrespective of gender' was supported by 81.8 percent of the teachers, and in several instances, 'schools ensure that resources in all areas of the curriculum are inclusive' (72.7%). There was an emphasis by some of the voices on a lack of resources to implement school curriculum as expressed by one respondent:

[----] this curriculum looks very elaborate and inclusive, but there are hardly any resources or facilities to support this cause. Just look at our laboratories, playgrounds and stores. Everything needs improvement or replacement. (Teacher, School B)

7.3.2 Learning Opportunities and Performance

The views on learning opportunities and performance were explored, and the analysis revealed that a majority (90.9%) of interview participants agree that 'admissions and transition systems are fair and equitable, and all agree that performance target setting as well as tracking systems are rigorously and equitably monitored without any discrimination of either sex. These systems are clearly laid out in school guidelines and policies. Apart from some faith-based schools, the allocation of students among teaching groups is always fair and equitable (73.0%). However, some schools separate girls' seats from their male counter parts as one way of encouraging girls' school participation. For instance, in Muslim faith-based schools, female students are advised to sit separately especially in upper level classes, as a respondent laments:

Female students of form 3-4 sit separately because of the religious faith in this school and these forms have mature girls. (Head Teacher, School G)

Such gender stereotyping in the classroom favors girls, and they are more likely to be called upon in class; some may be able to actively participate in learning. Generally, in schools where there are such social support systems, these systems have promoted girls' education and outcomes. Studies elsewhere allude to the fact that gender stereotyping exists in not only classrooms but outside as well. Instead, in this study, teachers emphasized their preference to address their students as individuals and not as part of a group of statistics and quantitative data, not even in regard to gender (Gray & Leith 2004). Besides, majority (86.4%) of the respondents voiced that every student is offered support and guidance in the learning processes, and regularly schools devise methods that respond to/tackle differences in student learning and achievement. There are girl-child-friendly approaches (i.e. to recognize, encourage and appreciate their learning efforts) in most schools though there is a severe lack of facilities (e.g. sanitary) especially for girls.

It was evident from the interviews that there is moderate (54.0%) support for 'monitoring students' achievement and progress by gender. On the other hand, there are attempts by school management to develop teaching strategies to help academically challenged students to matriculate. Positive behavior reinforcement as a motivating mechanism is widely implemented as expressed by most respondents (68.2%). This recognition on the part of students takes various forms in response to students' success in academic and non-academic activities. Despite better teaching strategies, there exist numerous challenges. For instance, there was on average noticeable low performance of both boys and girls. One major cause of low performance among girls, as revealed by respondents, is students' absenteeism. They remain at home for several reasons: they are retained at home to take care of house chores; others are pre-occupied with odd jobs; cultural reasons and to some extent parents deliberately favor boys where financial decisions are involved. These practices to a greater extent disadvantage girls' participation in schooling. One other driver of students' absenteeism is largely attributed to school location as

one respondent alluded to:

Being a day school without fence and located near the playground of the town council, makes the school environment less conducive for learning. There are always high drop out among girls. We admit more girls than boys at senior one, but the reverse is always noticed at end of lower secondary cycle. Moreover, sometimes male students are often visible in entertainment centers even during class hours and this vice has spoilt the school public image at times. (Teacher, School D)

Generally, traditional practices including heavy household workloads, domestic priorities, and gender roles greatly hinder girls' progression in education. Studies indicate that not only girls can be at a disadvantage but also boys often have social constraints that are hard to break, for instance, they drop out from school to help or start-up their families. In another way, boys can be viewed as problematic with discipline (Myhill & Jones 2006).

7.3.3 Gender in Leadership Roles

In most of the schools visited, there is evidence (77.3%) that school management usually challenges gender stereotyping in leadership roles among both the staff and students. There is always a gender policy on students' leadership in every school as voiced by most (90.9%) respondents where some of the schools tend to encourage female participation in active school leadership roles. In some instances, the school-students leaderships are female dominated, and this practice encourages female students to stay in schools. For instance, it is policy in certain schools that women have to be in leadership roles and to encourage girls to emulate these role models. Some of the schools appoint students' leadership based on religious affiliation just as one of the respondents commented that:

In this school, the head prefect has to be a Muslim. (Head Teacher, School G)

Some studies (e.g. Stephens 2000) suggest that girls need a female leader figure in order to be empowered, and likewise boys need a male leader figure who exemplifies caring leadership.

There were dissenting voices to the statement that 'school staff is representative of the school community', supported by 54.5% of respondents. Moreover, few (45.5%) of the respondents agree that training and promotion opportunities are available equally to female and male staff. In an ideal situation, this would be the case, but the actual practice is different especially in *less attentive school leadership*. In such a case, opportunities are offered to those that support the current leadership for a bad or good cause, as one respondent emphasized:

[----] I can hardly access any training opportunity simply because I am perceived critical of the current administration. There are several staff cliques in this school and it is challenge

to effectively articulate issues of my concern. (Teacher, School C)

7.3.4 Social Behavior and Teacher-Parents' Relations

There was quite significant support from teachers to the statements that 'students access a range of topics that appeal to (non) stereotypical behavior' (81.8%); 'the school constantly challenges gender stereotypes, including its visitors to the school' as well as 'the school's procedures for managing behavior, disciplining students and exclusions are fair and applied equally to all students, irrespective of gender' (90.9%). The views expressed further reveal that most (90.9%) interview participants agree that parents are often supportive of formulating measures that challenge stereotyping and promote gender equality, not only in access but also in academic achievement. This effort has been made possible because of continuous and open communication between parents and teachers on issues of students' behavior and disciplinary measures. Though this practice has been the standard norm in most school communities, there is laxity among some parents in responding to school requirements. For instance, some parents are always pre-occupied with their businesses to which they attach more importance than education, to an extent that some of them delegate brothers and wives to participate in school activities as well as attend school meetings. Though the statement that 'parents participate in developing strategies for tackling differences in the academic attainment and progress of both boys and girls' is supported by 72.7% of teachers, in some instances, enforcing these disciplinary measures has proved a challenge because of the new developments in technology as lamented by a respondent that:

> *There is dot.com technology syndrome in this school where these children feel their rights should be respected in all angles. In this way, teachers' efforts to enforce behavior change become ineffective. Moreover, in this social setting, girls tend to be lazy and pre-occupied with relationships (imagine girls fighting for boys something less common among boys).* (Teacher, School C)

As a result of these loose relationships, some girls are vulnerable to danger especially early marriage, and it is always a duty of those concerned to counsel and talk to them in a timely manner. The study further reveals that in schools with less protection, the communities pose a danger to not only students but school property as well. In particular, female students feel unsafe. The culture of the school (e.g. how the school is set up, the playground and so on) has a substantial influence on how boys and girls learn (Walker 2003).

7.4 Discussion and Conclusion

7.4.1 Discussion

This study set out to identify school, household socio-economic and student correlates of female school attendance and academic achievements relative to boys. All other factors held equal, girls were less likely to attend school and more likely to attain lower scores than boys. The three models (one for school access and two for achievement) were fitted to test this hypothesis. The results largely indicate that not only are school environmental factors responsible for the disparity, but also family and student factors. These points should be the focus of possible intervention given the (non) malleability of certain factors in the whole schooling process. The subsequent sections give a general discussion and implications of the findings.

The results indicate that better educated parents motivate and encourage their children to attend school, and this reduces disparity. Moreover, expenditures on education for various school requirements reflect the levels of wealth of the parents and this in a way lowers disparity. It could be argued that girls in households from the lowest income quintile were less likely to attend school than their counterparts from higher income quintiles; girls of unschooled household heads were also less likely to attend school than girls whose parents had any formal schooling. From a qualitative analysis, a community where the education of parents is relatively high is also associated with higher enrollment of their children. Especially, a mother's education helps predict secondary school enrollment. Teacher expectations are equally important in reducing disparity in both school participation and attainment. Similar arguments could be extended to matriculation assessment of academic achievements in English and mathematics. Combining poverty with gender often greatly reduces the likelihood of girls going to school. For instance in Nigeria, girls in the lowest income quintile are half as likely to attend schools as boys in the highest income quintile (Lewis & Lockheed 2005).

The results indicate that less disparity in school attendance is evident in urban schools than rural schools. In part, this could be because residence in a rural area is confounded with other bases of exclusion (such as cultural practices and poverty), so that controlling for these characteristics often completely eliminates the independent associations among rural residence and school participation as well as achievement. This study analyzes school data controlling for household socio-economic status (SES). Elsewhere, studies from India and Nigeria found that rural children (including rural girls) were not at a disadvantage in attending school (UNESCO Institute of Statistics 2005).

It is also evident from the analysis that less disparity was observed in co-educational schools than single sex schools. Co-educational schools in Uganda have made universal education affordable to both rural and urban households. In contrast, the need for separate-sex schools may restrict the growth of child educational development largely due to restrictions of competition within a single-sex group than across cross gender groups. The qualitative data

reveals schools that are co-educational have high levels of a competition culture as a way of promoting the positive stereotyping. With regard to school attendance, the USE schools often register less disparity in students' access than non-USE schools. Since families often cite cost as a major constraint to sending their children to school, in essence, many programs have sought to offset the direct costs of schooling to families. In part, girls have often benefited, at least initially. In most communities with USE schools, the school participation for both boys and girls is near universal, thus narrowing the disparity gap.

The school toilet stance ratios for girls narrow gender disparity as compared to the boys' stance ratio. Quite often in developing countries like Uganda, girls suffer more than boys from environmental challenges/shocks to schools. For instance, lack of/inadequate sanitary facilities as well as inadequate advice for girls during their adolescence are a health hazard and thus reduce the likelihood that girls but not boys remain at school. Studies have revealed that such negative shocks are associated with sharp declines in girls' school enrollment and girls' performance at the lower secondary school; the impact on boys is much smaller and only marginally significant (Bjorkman 2006).

The heterogeneity of students' cognitive[6] abilities was an important tool for reducing gender disparity especially with reference to academic achievement. However, there should be an effort to further understand why students' outcomes vary widely or why students succeed or fail academically even though they are exposed to similar learning conditions. A more precise analysis focusing on social and emotional processes that contribute to student outcomes as a partial function of classroom interaction between students and teachers could be necessary. In part, the spirit of cultivating a caring and nurturing climate in school and in particular in classes in order to improve learning is vital (Kutnick 2000).

Qualitative results indicate that although curriculum content and teaching approaches are non-discriminatory, they can be viewed as gender insensitive. Experts are sometimes hired to write school curricula that are often supply driven. Implying that the curricula are controlled by the government and thus they also tend to be gender biased. Such a supply driven agenda can impact the climate of school and the classroom. Walker (2003) emphasizes that government's influence in the school curriculum reinforces gender biases and inequality. Quite often experts are hired by the state to write school curricula.

The results of this study were revealing in that leadership roles among female students were being cultivated in school. Therefore, in order to maximize a safe and non-violent life especially among the young adults, a more broad cultivation of caring and nurturing leaders at home and in public institutions through the ethics of caring should be further advocated. After all, school is not merely about learning cognitive skills; it is a reflection of our humanity. It is first and foremost a tool to improve our welfare as human beings, who deserve to live in peace and prosperity. As Tammy (2007) rightly put it, without addressing gender theories and the literature on humanist education, the welfare of many children will not be improved and

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6 This implies mastery of language and vocabulary, ability to read, conceptions of number and spatial relations and having knowledge of the world.

secured substantially. It was also evident that parent-teacher working relationships were still weak especially on the part of the parents who are pre-occupied with their own activities leaving the schooling burden to teachers. Parents' inactive participation in school affairs poses a danger to not only their children's (especially girls') academic progress but also their safety while at school. Therefore, it is incumbent to the stakeholders to secure schools so that girls can feel safe and their parents can be encouraged to send them to school.

7.4.2 Conclusion

This study found that a combination of factors is at work in the stunning rise in girls' schooling. There have been various efforts by government and non-governmental organizations, in making schools accessible to girls and boys in rural areas: expansion of government schools at the lower administrative level (i.e. sub-county) availed both girls and boys opportunities to attend school and lessened burdens on the lowest quintile households as did shifts in economic opportunities for the school communities, which signaled positive returns to female education. Public policy has also played a major role in raising aspirations of parents for their daughters through the promotion of universal secondary schooling and social safety nets to households as well as related efforts to encourage girls to enroll and continue in school and to delay marriage.

There is no doubt that there is more diversification of the economic base in some communities than in others, which could be conventional sources of inequality. Some of the problems highlighted cannot be resolved by educational institutions themselves but instead, economic development is necessary, to keep socio-economic conditions stable. The concerned stakeholders should equip schools with appropriate sanitary facilities especially for girls as this can help to retain more girls in schools. Good facilities are necessary for them, especially when they reach puberty.

In a general sense, the results show considerable divergence across and within schools. What determines enrollment often varies across sub-groups. Poverty and isolation play a role, as do parental characteristics, but girls' specific school factors and community characteristics still persists in most school communities. The household socioeconomic factors and location have demonstrated an impact, as have cultural/religious practices which overwhelmingly determined girls' enrollment. It was crystal clear that all partners to this education endeavor have to feel a sense of responsibility to improve the quality of education and be part of the cause to encourage students (especially girls) to attend school and learn. For instance, there could be a need for collaboration between women's movements and women of the communities as this could show a strong influential presence that can inspire girls' schooling and also empower other women.

Some cultural practices still persistent and are blessed by the communities at the expense of girls' education. This may call for stern action on some ill-conceived practices that are anti-girls' school participation. It was worth noting that the evidence base was rather thin as this study was limited to a sampled population due to resource constraints, suggesting the difficulty of reaching larger populations. Therefore, there is a need to experiment with alternative ways to engage and

include girls who are outside the school system. The broader experimentation to engage hard-to-reach groups and more in-depth research can provide more insight and understanding and therefore develop an adequate evidence base that can guide school gender policy.

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APPENDIX

STAFF QUESTIONNAIRE

Dear Sir/Madam,

RE: EQUITY ISSUES IN LOWER SECONDARY EDUCATION IN EAST UGANDA

I am carrying out a survey to gather information on perceptions of Gender Equity Issues in lower secondary in Uganda. You have been identified as one of the respondents for the survey. I have questions which I would request you to answer as accurately and honestly as you possibly can. The success of the study depends heavily on the way you answer the questions and how many of the questions you answer. There is no right or wrong answer to each statement and your responses will be treated with ***STRICT CONFIDENTIALITY***. It is hoped that the results of the study can be used to design gender based improvement plans and gender enhancing policies for the secondary education sub-sector in Uganda.
I thank you for your time and responses.

Please for each item, use the following *scale*:

Strongly disagree=1   Disagree=2   Agree=3   Strongly agree=4

Sno.	Statements/Items	Scale
A	**Gender in Curriculum (Teaching and Learning)**	
1	All students have equal access to extra-curricular activities and stereotypes are actively challenged –e.g. boys are encouraged to join the choir and girls are encouraged to join the science club, football teams and other sports squads.	
2	The school monitors effectiveness in providing an appropriate curriculum for all students irrespective of gender.	
3	There is acknowledgement of the importance of challenging gender stereotyping and discrimination in all areas of the curriculum.	
4	The school takes active steps to ensure that resources in all areas of the curriculum are inclusive.	
	Please give reason(s) for the choices made above:	
B	**Learning Opportunities and Performance**	
5	The school's admissions and transition systems are fair and equitable to both boys and girls.	
6	Performance target settings and tracking systems are rigorous for all students	
7	The allocation of students to teaching groups is fair and equitable to students of both gender	
8	Every student is offered the support and guidance they need.	
9	Students' achievement and progress in individual subjects is monitored by gender	
10	The school develops strategies for tackling differences in the attainment and progress of boys and girls.	
11	The school values achievements and recognizes students irrespective of gender	
	Please give reason(s) for the choices made above:	
C	**Gender in Leadership roles**	
12	The school challenges stereotyping in leadership roles among staff and students	
13	The school promotes equality in student leadership and encourages female students to participate in leadership roles	
14	The school staff is representative of the school community (including students)	
15	Training and promotion opportunities are available equally to both female and male staff	
	Please give reason(s) for the choices made above:	
D	**Social behavior and school-parents' relations**	

16	Students access a range of topics that appeal to stereotypical and non-stereotypical behavior	
17	The school constantly challenges gender stereotypes, including its visitors to the school.	
18	Teachers discuss with parents strategies to eliminate gender stereotypes	
19	Parents are supportive of measures that challenge stereotyping and promote gender equality in school access.	
20	Parents participate in developing strategies for tackling differences in the academic attainment and progress of boys and girls	
21	The school's procedures for managing behaviour, disciplining students and exclusions are fair and applied equally to all students, irrespective of gender.	
	Please give reason(s) for the choices made above:	

What other reasons/challenges/obstacles hinder female/male participation and academic achievements in this school?..

What could be done to overcome the above mentioned challenges?

    1)   Please indicate your gender   1. Male   2. Female
    2)   Please indicate years of service as a teacher……………………….
    3)   Please indicate your professional training
        a)   Humanities (e.g. Geography, history etc.)
        b)   Physical sciences (Physics, mathematics, etc.)
        c)   Biological sciences (Biology, agriculture, etc)
        d)   Other (specify………………………….…)