



GENDER EQUALITY IN EDUCATION: LOOKING BEYOND PARITY

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PROGRESS IN GENDER EQUALITY IN UGANDA PRIMARY EDUCATION

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INTRODUCTION

The purpose of this paper is to investigate whether there has been progress in gender equality in education in the four regions in Uganda, and also to identify school environmental factors that influence achievement for girls and boys. Gender equality issues in primary education reflect the socio-political realities of much larger numbers of children enrolling in and graduating from primary education. Those excluded are overwhelmingly from poor households and, in some cases, disproportionately girls. Who goes to primary school and completes it successfully is now one of the most important determinants of children's life futures in Uganda. Several factors tend to limit female access to primary education. For girls in poor households where the opportunity costs of schooling are particularly high, the question of the value of schooling is of pressing importance. Women and girls need the opportunity to learn both basic literacy and numeracy, and a wide range of subjects and skills, which challenge stereotypes.

Equity is cited as one of the major challenges facing educational development. It is taken to refer to disadvantaged groups including the poor, linguistic and ethnic minority groups, nomads, refugees, street and working children as well as gender. 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 or because of inability to pay. In a general sense, this study aims to seek answers to the following specific questions:

- i) What were the changes in the proportion of girls' against the total enrolment of the Primary 6 level for the four regions in Uganda between 2000 and 2007?
- ii) What were the changes in the size and the direction of the gender differences in Reading and Mathematics' scores for the four regions in Uganda between 2000 and 2007?
- iii) What were the changes in selected gender related school environment information¹ between 2000 and 2007 that could be further investigated in order to improve gender equality in education for Uganda?
- iv) What school environmental factors influence learning achievements of boys and girls in Ugandan primary education?

This study is motivated by the growing concern of various stakeholders about the education inequities that are manifest in geographical imbalances and socio-economic differences etc. When these are coupled with gender differentials they present considerable challenge to policy-makers (MOES, 2009).

2. Uganda's Participation in SACMEQ

¹ Here environment information may include gender balance of teachers, school safety and sanitation.

Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) is a network of 15 Ministries of Education (Botswana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania (Mainland), Tanzania (Zanzibar), Uganda, Zambia and Zimbabwe). SACMEQ's mission is to: (a) expand opportunities for educational planners to gain the technical skills required to monitor and evaluate the quality of their education systems; and (b) generate information that can be used by decision-makers to plan and improve the quality of education.

SACMEQ has undertaken three large-scale, cross-national studies of the quality of education: SACMEQ I with seven Ministries (1995-1999, Reading); SACMEQ II with 14 Ministries (2000- 2004, Reading and Mathematics); and SACMEQ III with 15 Ministries (2006-2010, Reading, Mathematics, and HIV and AIDS Knowledge). Uganda participated in SACMEQ II (2,642 Primary 6 pupils in 163 primary schools) and SACMEQ III (5,307 Primary 6 pupils in 264 primary schools).

3. Importance of Gender Equality in the Education

The importance of gender equality in education within the process of international goal setting has been emphasized in the Education for All (EFA) Goals (UNESCO, 2000) and the Millennium Development Goals (MDG) (United Nations, 2006).

The gender equality issue in education (on access and achievements) has been a major concern in many countries because of its link with health and nutrition, economic development, and civic responsibilities. For the purposes of this paper, the concept of 'gender equality in education' follows the UNESCO (2003) interpretation which refers to the notion of boys and girls experiencing the same advantages or disadvantages in attending school, receiving the same teaching methods, curricula, and academic orientation, and producing equal learning achievement and subsequent life opportunities.

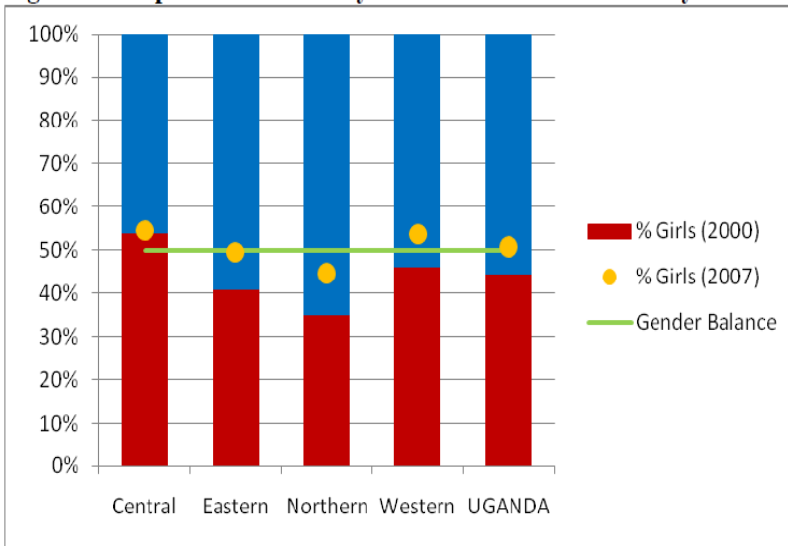
3.1 Gender-Related Policy in Uganda

Education authorities in Uganda have been very much concerned about the negative spin-offs from free primary education which started in 1997. The quality and equality of education, including gender equality, have been very important priorities for educational policy in Uganda. Within the Ministry of Education and Sports, the Gender Desk looks after the gender equality issue covering equitable access, girls' retention in school, girls' performance in Science and Mathematics, protection of girls against violence, gender-sensitive curriculum, and gender responsive teaching methodology. There have been a number of projects dealing with the above-mentioned aspects of gender issues mainly for primary education. Regarding the status of women in all aspects of life beyond primary education, the Ministry of Gender, Labour and Social Development (MGLSD) is responsible for formulating policies as well as monitoring progress (Muhwezi, 2003).

3.2 Gender Balance in Primary 6 Participation

In Figure 1, the proportions of girls enrolled at Primary 6 level for both 2000 and 2007 have been presented for each region and Uganda as a whole. It should be noted that the 'scientific' sampling method with internationally-required level of sampling accuracy that has been used throughout the SACMEQ studies has allowed the girls' proportion at the Primary 6 level in the sample to reflect that for the target population.

Figure 1: Proportion of Primary 6 Girls out of Total Primary 6 Enrolments in Uganda (2000 and 2007)



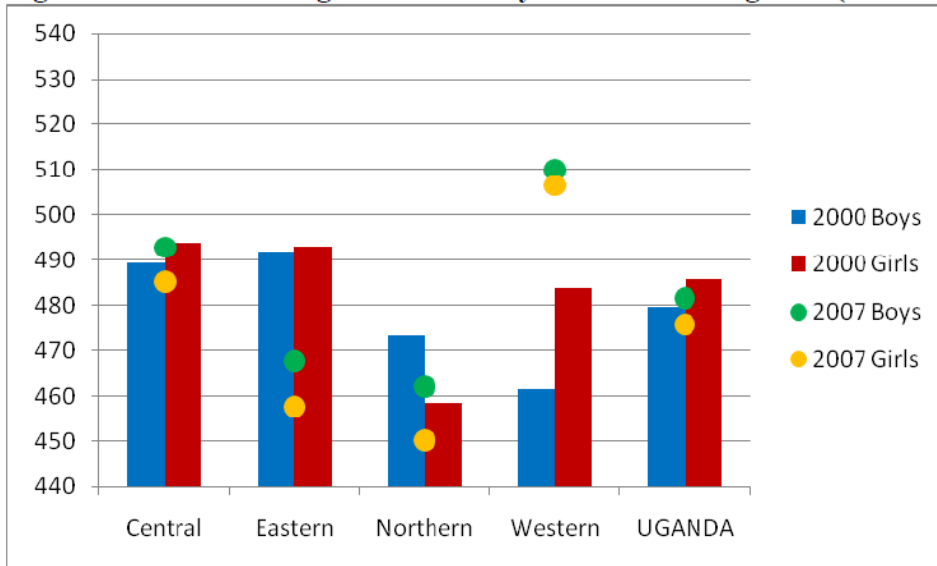
Source: SACMEQ Data Archive

At the national level, there was an overall improvement in the gender balance at the Primary 6 level – moving from 44.5 percent girls in 2000 to 50.7 percent girls in 2007. At the regional level, in all regions, except for Central, the proportion of girls increased by 8 to 10 percentage points. During 2000, Central (where the Uganda capital resides) was the only region where the proportion of girls (54 %) was more than that of boys, and the proportion did not change much in 2007. In Western region, the proportion of girls in Primary 6 increased from 46 percent in 2000 to 54 percent in 2007, overtaking the boys’ percentage. Eastern region became more gender balanced (50 %) in 2007. In Northern region, despite a large increase in the proportion of girls in 2007, the proportion of boys’ was still much greater than girls.

3.3 Gender Differences in Learning Achievement

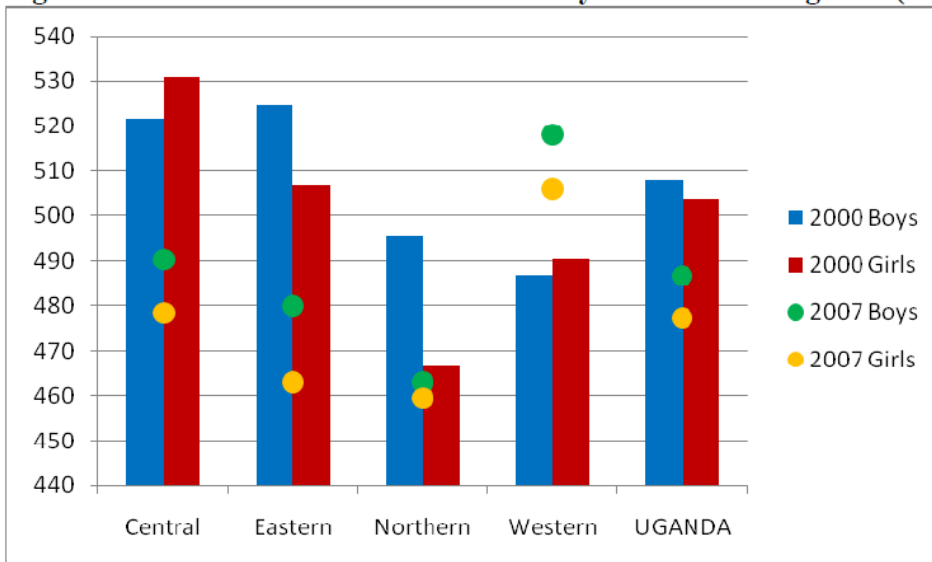
While there was some progress in Uganda towards greater gender equality in enrolments between 2000 and 2007, policy makers should be concerned about whether this enrolment trend was accompanied by greater gender equality in terms of learning achievement. Gender and time differences in learning achievement in Reading and Mathematics have been presented by region in Figures 2 and 3, respectively. The standardized scores with a pupil mean of 500 and a standard deviation of 100 were established, based on the calibrated test items during SACMEQ II. Use of the sub-set of test items along with the Rasch measurement approach during SACMEQ III permitted valid comparison of scores over time.

Figure 2: Mean Reading Scores for Boys and Girls in Uganda (2000 and 2007)



Source: SACMEQ Data Archive

Figure 3: Mean Mathematics Scores for Boys and Girls in Uganda (2000 and 2007)



Source: SACMEO Data Archive

3.3.1 Reading

At the national level in Uganda as a whole, Reading performance for boys did not change much between 2000 and 2007. However, Reading scores for girls had dropped by about 10 points. At the regional level, the largest drop was in Eastern region with a 35 point drop for girls and a 24 point drop for boys. The largest increase was in Western region with a 49 point increase for boys, and a 22 point increase for girls. The largest gender difference in 2007 was seen in Northern region, followed

by Eastern region with about 12 and 10 points, respectively, although the more serious problem was the general low achievement for both boys and girls.

3.3.2 Mathematics

At the national level, the overall performance of Mathematics had dropped in 2007 for both boys and girls. Achievement levels dropped in 2007 in all regions except for Western. The largest drop was seen for girls in Central region with an over 50 point drop, followed by Eastern region with a 45 point drop for both boys and girls. While the drop for girls was marginal in Northern region, that for boys was over 30 points, resulting in not much gender difference at a very low level of around 460 (far below the SACMEQ II average of 500). Western was the only region with a score increase; however, the direction of gender difference was reversed in 2007.

3.4. Other Information through ‘Gender Lens’

The above two sets of results illustrated two contrasting pictures regarding gender equality in education. First of all, Uganda had made great progress in the implementation of the gender-related policy regarding access to and participation in primary school, especially for girls. However, in contrast it appeared that the learning dimension of gender equality had been overlooked (Saito, 2010). In order to help understand the context of these results, a set of selected gender-related information has been provided in Table 1. All the indicators expressed in Table 1 should be interpreted in relation to the Primary 6 pupils.

Table 1: Selected Information through ‘Gender Lens’ in Uganda (2000 and 2007)

Selected Indicators	2000	2007
Female Reading Teachers	17%	27%
Female Mathematics Teachers	8%	9%
Female School Head	15%	23%
Have School Fence	30%	31%
# Boys per Boys’ Toilet	135	122
# Girls per Girls’ Toilet	133	119

Source: SACMEQ Data Archive

3.4.1 Female Staff

Increasing the female staff has been seen as a strategy for girls’ success since female teachers and school heads are considered to be good role models as leaders. Among SACMEQ countries, some had general teachers who taught all subjects, while Uganda had specialized teachers for Mathematics. As seen in Table 1 above, the general proportions of female staff were very low in Uganda. For example the proportion of Primary 6 pupils taught by female teachers teaching reading increased over time, but still resulting in only 27 percent in 2007. Furthermore, there was little change over time with regard to Mathematics teachers , at less than 10 percent. While the proportion of female school heads had increased since 2000, the proportion did not even reach 25 percent by 2007.

3.4.2 School Safety

Some school resources are very critical for keeping girls at school. For example, these resources include school safety measures (such as school fences) and sanitation measures (such as separate toilets for boys and girls). Table 1 illustrates that the percentages of Primary 6 pupils who went to a school that had a fence did not change much over time. In addition, it is disturbing to see that only 30 percent of pupils were at schools with fences. Presumably, it is a balancing effect between: (i) some more advantaged schools with more provision of fences required by gender-sensitive demand; and (ii) newly constructed schools in less advantaged areas in the context of EFA.

3.4.3 Sanitation

In Table 1, the average numbers of pupils per toilet in 2000 and 2007 are shown separately for boys' and girls' toilettes. About 4 percent and 8 percent of Primary 6 pupils went to schools with no toilet at all in 2000 and 2007 respectively. These average numbers of girls and boys per toilet reflect only those schools with at least one gender-separated toilet. If the average number of pupils per toilet decreased in 2007 compared to 2000, this indicates that the situation regarding the provision of toilets improved over time. The number of pupils per toilet decreased for both boys' and girls' toilets in Uganda overall. While this is an improvement for both boys and girls, these ratios are still extremely high, indicating that for both boys and girls, far too many continue having to share toilets. Furthermore, it is worth noting that the similar magnitude of 'lack of toilets' may be associated with different degrees of difficulty between boys and girls. That is, the high numbers of pupils per toilet means that the situation is magnified for girls' who require separate toilets

3.5 School Environmental Factors that affect Learning Achievement

Using the multivariate regression based approach on 2007 SACMEQ III survey data, we also present results of the achievement production functions² employed that fit two different models for boys and girls with Reading and Mathematics as dependent variables, to establish school environmental factors that explain variations in achievements for boys and girls (Byamugisha 2010).

Factors that significantly influence achievement for boys and girls in reading subject include: age of pupils, pupils speaking English at home, highly educated parents, pupils staying at home with parents, having electricity at home, total amount of possessions at home, years of service of the school head, school resources, pupil given homework at school, community meetings, and increased remuneration for teachers. All of these are regarded as having positive effects on learning achievements. However, absenteeism for both teachers and pupils, repetition, studying in public schools, and rural schools all have negative effect on achievement as presented in Table 2. The predictive power is 28.1 percent and 27.0 percent for boys and girls models with both models having best fit.

² Achievement **production function** is a [function](#) that specifies the achievement for all combinations of inputs in the model

Table 2: Reading Model Results for Boys and Girls

Predictor variables	Boys			Girls		
	Coeff.	t-stat.	Sign. level	Coeff.	t-stat.	Sign. level
Home related variables						
Age of the pupil (<=11 years)	15.93	2.47	**	41.93	6.64	***
Age of the pupil (12years)	19.81	4.17	***	16.94	4.09	***
Age of the pupil (13 years)	8.2	2.42	**	10.49	3.18	***
Age of the pupil (=>14 years): <i>reference category</i>						
Pupil speak English at home (yes=1)	19.96	5.42	***	14.81	4.23	***
Number of books at home	0.04	1		0.07	1.24	
Pupil stay at home with parents (yes=1)	6.44	1.83	*	6.06	1.72	*
Primary education of mother: <i>reference category</i>						
Secondary education of mother	10.28	2.27	**	6.6	1.67	*
Tertiary education of mother	19.32	2.76	***	-4.19	-0.7	
Primary education of father: <i>reference category</i>						
Secondary education of father	9.87	2.79	***	-7.12	-2.26	**
Tertiary education of father	10.88	1.73	*	-5.55	-1.53	
Having electricity at home (yes=1)	6.96	2.44	**	7.71	2.92	***
Total possessions at home	0.6	1.47		1	2.54	**
Pupil helped with home work at home (yes=1)	4.12	1.25		3.6	1.11	
Number of days pupil is absent	-0.48	-1.05		-2.17	-4.55	***
School factors						
Pupil repeating grade six (yes=1)	-12.86	-4.35	***	-5.92	-2.11	**
School type (Government=1)	-32.06	-5.61	***	-17.78	-4.83	***
Secondary education of school head: <i>reference category</i>						
Tertiary education of school head	10.34	2.97	***	10.16	3.28	***
Lower secondary education of the class teacher: <i>reference category</i>						
Upper education of class teacher	5.4	1.22		12.13	2.87	***
Sex of head teacher (Male=1)	-7.24	-2.07	**	-21.12	0.89	
Years of service of the head teacher	0.49	2.48	**	0.62	3.08	***
School resources	2.41	6.32	***	2.34	6.61	***
Pupil borrow books from the school library	-2.47	-0.87		-4.81	-1.08	
Subject teacher appreciates school environment (yes=1)	20.78	2.23	**	10.45	0.91	
Days in a month class teacher has been absent	-20.11	-3.34	***	-13.39	-2.43	**
Pupil given homework at school (yes=1)	14.41	2.65	***	7.64	1.46	
Community factors						
Community meeting teachers at school – yearly	13.16	2.55	**	18.28	3.86	***
Community meeting teachers at school – termly	24.84	5.28	***	23.05	5.2	***
Community meeting teachers at school – monthly	37.74	6.04	***	42.84	6.94	***
School location (rural=1)	-17.91	-4.55	***	-36.37	-6.69	***
Payment of salaries of additional teachers	9.3	1.87	*	11.35	2.38	**
Paying teachers top-ups of the normal salary	29.32	4.59	***	18.5	3.02	***
Constant	445.5	36.19	***	447.77	37.69	***
N	2592			2635		
Adjusted R-squared	28.10%			27.00%		
F-statistics	30.55		***	31.67		***
Source: Computed by Author (2010) based on STATA						
Note: 1. The dependent variable is mathematics						
2. Asterisks denote significance level; *** = 1percent, ** = 5 percent, * = 10 percent						
3. To test for consistency of results as alluded to by Rosalind et al. (2000, page 9), the OLS and HLM results						

Table 3: Mathematics Model Results for Boys and Girls

Predictor variables	Boys			Girls		
	Coeff.	t-stat.	Sign. level	Coeff.	t-stat.	Sign. level
Home related variables						
Age of the pupil (<=11 years)	7.35	1.12		22.81	3.95	***
Age of the pupil (12years)	7.16	1.6		8.16	2.02	**
Age of the pupil (13 years)	5.21	0.88		10.41	3.15	***
Age of the pupil (=>14 years): <i>reference category</i>						
Pupil speak English at home (yes=1)	14.11	3.57	***	16.72	4.53	***
Number of books at home (<i>Dropped due to collinearity</i>)						
Pupil stay at home with parents (yes=1) (<i>Dropped due to collinearity</i>)						
Primary education of mother: <i>reference category</i>						
Secondary education of mother	-5.21	-0.71		-2.11	-0.91	
Tertiary education of mother	14.41	2.11	**	12.41	2.52	**
Primary education of father: <i>reference category</i>						
Secondary education of father	11.74	2.82	***	9.12	0.96	
Tertiary education of father	5.57	0.93		3.52	1.12	
Having electricity at home (yes=1)	5.32	1.83	*	2.63	0.94	
Total possessions at home	1.12	3.21	***	1.17	3.43	***
Pupil helped with home work at home (yes=1)	9.28	2.72	***	11.17	3.77	***
Number of days pupil is absent	-0.97	-2.19	**	-1.57	-3.32	***
School factors						
Pupil repeating grade six (yes=1)	-9.33	-2.94	***	-6.35	-2.11	**
School type (Government=1)	-21.23	-4.25	***	-15.34	-3.23	***
Secondary education of school head: <i>reference category</i>						
Tertiary education of school head	13.71	3.93	***	7.75	2.5	**
Lower secondary education of the class teacher: <i>reference category</i>						
Upper education of class teacher	2.74	0.91		6.26	1.4	
Sex of head teacher (Male=1) (<i>Dropped due to collinearity</i>)						
Years of service of the head teacher	0.34	1.67		0.41	0.77	
School resources	2.03	5.05	***	1.27	3.25	***
Pupil borrow books from the school library				-3.23	-1.14	
Subject teacher appreciates school environment (yes=1)	45.49	3.01	***	34.96	2.08	**
Days in a month class teacher has been absent	-20.41	-3.59	***	-7.9	-1.56	
Pupil given homework at school (yes=1)	8.12	1.3				
Community factors						
Community meeting teachers at school – yearly	19.27	3.21	***	27.84	4.53	***
Community meeting teachers at school – termly	27.69	4.98	***	28.82	5.12	***
Community meeting teachers at school – monthly	33.26	4.66	***	33.49	4.48	***
School location (rural=1)	-15.67	-4.21	***	-8.35	-2.33	**
Payment of salaries of additional teachers	5	1.19		5.41	1.44	
Paying teachers top-ups of the normal salary	25.73	4.3	***			
Constant	454.81	36.55	***	435.84	36.89	***
N	2589			2632		
Adjusted R-squared	18.70%			14.30%		
F-statistics	20.71		***	16.59		***
Source: Computed by Author (2010) based on STATA						
Note: 1. The dependent variable is mathematics						
2. Asterisks denote significance level; *** = 1percent, ** = 5 percent, * = 10 percent						
3. To test for consistency of results as alluded to by Rosalind et al. (2000, page 9), the OLS and HLM results have						

Moreover, for the mathematics model, almost similar effects are evident as in the reading model. Pupil age is insignificant for boys' achievements when compared to girls and teachers' remuneration is insignificant for boys and girls achievements in mathematics. Other factors with positive effects include: pupils speak English at home; tertiary education of mother; total amount of possessions at home, pupils helped with home work, tertiary education of school head; school resources; subject teacher appreciates school environment; and community meeting teachers at school. These are presented in Table 3 and highlight the fact that given the socio-economic and political setting, factors that influence achievement for both genders are universal to great extent. There could be some social aspects like girls taking care of siblings; boys becoming household heads at a young age; and challenges due to adolescence that have not been evaluated under this study.

3.6 Summary of Results

In this paper, gender equality issues regarding the participation and learning achievements (Reading and Mathematics) for Primary 6 pupils in Uganda have been examined. Additional information concerning female staff, security, and sanitary issues has also been presented, in order to understand the context.

The results indicated that:

- i) There was an overall improvement in girls' participation for all regions, but Northern region continued to have fewer girls than boys.
- ii) The learning achievements, in general, saw some deterioration, except for Western region. Boys were generally better in both subjects, especially in Mathematics.
- iii) Factors responsible for low achievement in 2007 include absenteeism for teachers and pupils, poor remuneration for staff, rate of repetition and rural location.
- iv) The proportion of female staff increased in general, but gender equality is still far off.
- v) Overall, not many pupils went to schools with a fence, and toilet provision was not sufficient for the continuously increasing number of pupils, especially for girls.

3.7 Policy Suggestions

To overcome some of the above-mentioned shortcomings, it is suggested that:

- The Ministry of Education and Sports together with its developmental partners may wish to review all the past gender-related interventions in order to identify: (i) the proportion of the project budget that was used for the improvement of quality; and (ii) the type of quality-related indicators used in order to monitor progress in gender equality.
- The Gender Desk of the Ministry of Education and Sports may wish to consult with school heads about further school-based investigations of actual classroom practice, in order to examine gender-sensitive teaching during teaching, which may be related to the low performance of girls, especially in Mathematics.
- The team dealing with staffing issues in the Education Service Commission in the Ministry of Education and Sports may wish to consult with the Ministry of Gender, Labour and Social Development in order to monitor the gender balance of teachers, especially for Mathematics teachers.
- The School Facilities Grant Unit in the Ministry of Education and Sports may wish to: (i) establish a benchmark standard for the number of toilets constructed separately for boys' and girls'; and (ii) take an audit of the situation of school toilets.

3.8 Conclusion

In order to attain the gender-related objectives within EFA, it is necessary to go beyond gender parity. However, the SACMEQ III Project research results for Uganda indicated that, although there had been progress in attaining gender balance in enrolment, gender equality in learning achievements had not been accomplished. The Ministry of Education and Sports should review and prioritize the policy suggestions above, in order to draw up policy strategies to improve the quality of education for both boys and girls, so as to reduce gender inequalities in learning outcomes.

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