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Role of Costs of Schooling and the Education of the Parents in Girls Enrolment in Secondary School

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Abstract: ***There is a gender gap in formal education in Kenya, both in terms of access and attainment for girls and women. The study sought to; establish the role of costs of schooling, and the education of the parents in girl's enrolment in secondary school. In the study both qualitative and quantitative techniques were employed. Survey data collected by the central bureau of statistics was used. The logit model was used and regression was run on the STATA computer program and then a test for the statistical significance of the various variables done. The study concluded that the level of education attained by the parents of the child determined the enrollment of that child in secondary schools. The level of education; age and child labour were very significant determinants of girls enrollment in secondary school level of education; social and economic conditions determined the enrollment of girls in secondary school education. The study recommended that adult literacy classes should be organized in the country to sensitize mothers, who had not gone to school on the importance of educating their daughters. Another recommendation was that early marriages should be completely discouraged and parents found marrying off their daughters before they are 18 years should face prosecution. The government and the local communities should take stern measures to discourage child labour.***

Keywords: costs, parents, female, enrollment, secondary school

1. Introduction

Kenya has made rapid expansion of its education system at the secondary and higher levels since independence. The expansion has been achieved as a result of the policy derived from the manpower utilization model of development (Ominde Report, 1964). Although stress on education to produce the needed human resource could to some extent be justified, considering the socio-economic and political system, inherited from colonialism, it was however over emphasized.

Over time the Kenyan education system has witnessed several changes in structure and curriculum. Within the last thirty-five years, the education sector has undergone about ten reviews by special commissions and working parties set by the government (GoK 1964, 1976, 1981, 1988, 1999). The rationale for the several reviews has been to improve the efficiency and effectiveness of the education sector. In the prevailing system, that is. 8-4-4, primary education is supposed to start at the age of 6 and consists of 8 years(This is followed by 4 years of secondary education. This level involves children between the ages of 13-19 years. It forms the second cycle of the education system and the transitional stage between elementary education and higher education, training and the world of work. The level, therefore paves the way for higher education, which is imparted through a variety of technical-institutes, polytechnics and universities. University education i«~ Kenya consists of a four-year cycle.

Secondly, differential costs and benefits arising from the fact that the absolute costs to consume are higher to the poor than to the rich and that the benefits are higher for the rich than the poor due to lack of awareness on the part of the poor. Thirdly, this arises due to a government expenditure pattern which targets services whose access is severely limited and lastly it is due to rationing especially so in education using the examination score which precludes the participation of the poor given that examination- scores and incomes are not only related but also highly and positively correlated as evidenced by Knight and Sabot (1990), among other studies.

The social returns to basic education are more than the returns to higher education. More specifically, research shows that countries with high school enrollments among women invariably enjoy low rates of fertility, low child and maternal mortality, improved nutritional and health status for families and longer life expectancy (King, 1990).

At the same time, both the poor and the rich view education hi Kenya as the only avenue through which they* can attain and maintain economic power. The guarantee of equality of access to education for girls and women thus has two compelling imperatives. The first is rooted in the empowerment and advancement of women as a fundamental human right and centers on equity considerations. The second is focused on efficiency and growth benefits and the full and effective participation of girls and women as agents and beneficiaries of development, both of which are central to sustainable human sent-er-ed— development.

After independence in Kenya, the privileged few were able to pursue education at the expense of the majority who were both ignorant and also lacked the opportunity to attend school especially the girls and the poor. This has contributed to the widening gap between the rich and the poor and also between the sexes in education in post independent xA Kenya. Had the government placed an equal emphasis on access to education to all and also on all the education sectors, we envisage an independent Kenya

2. The Research Problem

Since independence the government of Kenya has devoted a substantial fraction of its resources to the education sector. Between 1991-2000, public expenditure on education

accounted for 28.2 percent of total government expenditure. The continued investments in the sector over time have led to the establishment of a comprehensive network of schools and resulted in an impressive expansion of coverage and access to education at all levels. In addition, the government has made tremendous efforts to improve girls' education, including affirmative action in the expansion of facilities to enable girls to study science and technical subjects and also a policy to allow girls who drop out of school due to pregnancy to continue with their education. These and, other efforts have yielded benefits, with girls' enrollment rate increasing from 41 percent in 1988 to 46 percent in 1995 at the secondary school level.

However, the enrollment of girls especially at the secondary school level is still very low 7 i^JL as compared to that of boys. According to the population census of 1999, a total of 861,200 students were attending secondary school, of which 458,136 (53.2%) were boys and 403,064 (47%) were girls. The figures portray significant gender disparity at the secondary school level. It has been argued that different factors such as socio-economic, socio-cultural, school, political and the legal institutional aspects are responsible for the low girls' enrollment in secondary school .education However, there seems to be little ^ empirical evidence relating to the extent to which these factors impact on girls' education) "'ij ^ in Kenya. It is not clear to what extent these factors determine the enrollment decisions of parents, and prescriptive policies are therefore the wrong approach, hence the essence necessitates research in bridging this gap.

The study will assist in identifying the recent changes in the education of girls in Kenya. It is also likely to provide a platform for further research and debate relating to improving the education/status of girls. The study also tried to identify the most effective policy interventions that may be used to improve the enrollment of girls in secondary school level of-education and prevent any further decline in secondary school enrollment rates.

The Government of Kenya (GoK) has clearly indicated its intention to effect the Education Master Plan designed to upgrade equity, relevance and quality in the education system. While the broad context is fairly well understood, little information is available about the plight of girls in schooling matters. This condition limits the Government and indeed the Ministry of Education Science and Technology in particular to perform effectively on the enhancement of the education of girls. The study therefore comes in handy and hopes to provide information that will be of enormous value in guiding strategic decisions relating to the achievement of the national educational objective pertaining to gender equity in education.

3. Methodology

3.1 Data Source and Type

The study uses the Welfare Monitoring Survey data of 1997 collected by the Central Bureau of Statistics and the Human Resources and Social Services Department, of the Ministry of Finance and Planning. In general the survey was designed to elicit general information from households on demographic and social amenities, household assets, household expenditure and incomes. It also sought to elicit information on school attendance of the household members such as the literacy status of the household members, reasons for not currently being in school, highest level reached among others. The data collected was by administering questionnaires and the survey was supervised by more than 40 professionals drawn from the Kenya Bureau of statistics with support from respective districts' statistical officers.

3.2 Sample

The sample used in the study consists of population in the age bracket 13-22 (secondary school going age) comprising both boys and girls. The aim was to compare their enrollment ratios and show the disparity in enrollment between the sexes. Since sampling was done by CBS, it was necessary to have computerized data on the latest school enrollments by Form where each household had a unique household number. This data was provided in the Welfare Monitoring Survey of 1997, which was stratified according to the eight administrative provinces and all the districts. The provinces are referred to as regions for the sake of uniformity given that the data was collected for planning purposes. Before doing a detailed analysis of the girls' school going age-children it was necessary to examine the overall enrollment of children in secondary school level of education irrespective of their ages.

Table 1: Percentage distribution of female Children aged 13-22 years by secondary school attendance

Age in completed years	Not Stated	Primary school	Secondary school	Technical	University	Total Count
13.00	5.5	93.0	1.6			697
14.00	5.6	88.5	6.0			719
15.00	7.5	80.3	12.1	0.2		604
16.00	12.5	65.7	21.7	0.2		591
17.00	17.4	53.8	27.9	0.9		448
18.00	25.4	41.7	31.7	1.0	0.2	508
19.00	31.4	36.8	29.4	2.4		296
20.00	41.1	31.7	25.8	0.9	0.6	341
21.00	49.7	25.7	19.4	4.2	1.0	191
22.00	48.9	28.9	18.9	1.1	2.2	180
Total	17.9	64.0	17.2	0.7	0.2	4575

Sex of the member = Female
Source: Author's own computation based on Welfare Monitoring Survey 1997

From the sample taken it was found that the children in the ages 13 -22 who were attending school were 6795. Out of these, 3124 were girls and 3671 were boys. From the computation it is also clear that not all the children in these age categories were actually in secondary school. The highest percentage (76.1%) reported were in primary level of education whereas a mere 22.3 percent was in secondary school level. This therefore prompted the researcher to use the age category of 13-22.

Data was also computed on the availability and quality of secondary school teachers, the percentage distribution of children who have ever attended \ attending school vis-a-vis student teacher ratio (interaction of variables) of secondary

school. The logistic regression was used for data analysis. It is apparent that some of these variables are subject to measurement problems and we proceed with the analysis with this shortcoming at the back of our minds.

3.3 The Model

The demand function was estimated using the logistic regression model. The logistic regression model was run using the STATA computer programme using the following demand function: -
E= f (FE, Me, YP, P, EG, Fs, R, DP, A) (1)

Where E =School Enrollment of girls
Fe = Highest level of education of the father
ME= Highest level of education of the mother
P =Secondary school expenditure
Fs =Household size
R =Region
D= Child labour
Y= gainful employment of parents Ru = Rural Residence A = Age of the child

The Dependent variable, E, is school enrollment for girls at any given time period measured by a girl effectively enrolled in secondary school. According to the education system in Kenya, one joins secondary level of education at the age of 14 years and the education cycle at this level takes a maximum of 4 years if there are no repetitions.

The dependent variable takes the value of 1 if a female is enrolled at the secondary school level and 0 otherwise. The logistic equation can predict the occurrence of the event, which is the enrollment of a girl within a particular household with a given set of characteristics possible. The explanatory variables are expected to have the following results. The variables are grouped into 4 categories. The first category includes the characteristics of the girl. These characteristics include; age, the job she was engaged in the last 12 months before the survey. In this study, age is measured in years and the focus is in the age group 13-22 years. It is expected that being older reduces the chances of girls being enrolled in school.

The second category of the variables includes the household characteristics such as the household income, costs of schooling and the type of school they enroll their daughters in. In the study parental employment was taken as a proxy to measures household wealth. The schooling costs include; fees, uniforms, books, transport, boarding and "harambee".

The third category includes characteristics that relate to the parents of a child. These characteristics were given in the welfare monitoring survey and included the highest level of education attained by the mother and the father. This is measured by the highest grade reached primary, secondary, or university. More educated parents are expected to enroll their daughters in school. Lastly, the study also looked at the demographic characteristics, which included the household size, the geographical region or location.

3.4 Descriptive Statistics

In this section, the aim of the study was to find out the relative importance of the different factors determining the enrollment of girls in secondary school education. Using regression analysis, it is possible to ascertain from all the factors examined in the above section in what direction they affect the enrollment of girls in secondary school education, and the magnitude of the associations. It should be noted that because of the nature of the dependent variable, that is, categorical and dichotomous, logistic regression is one of the appropriate analysis that could be applied to the data.

The demand for education by the households was assessed by observing the number of children in the household effectively enrolled in secondary school at any given time. The dependent variable in the demand function (1), is a binary variable, which has a value 1 if a female student was effectively enrolled in school at the time of the survey. The variable has a value of 0 otherwise. In Kenya formal education is undertaken in four stages. Pre-primary stage takes the first 2 years and children are enrolled at the age of four years. Primary education start at the age of six and takes eight years. Secondary education is the third stage and enrolls children from the age of 14 years. It takes a period of four years. This is then followed by university or tertiary education that takes another four years.

4. Results

Table 2: Explanatory variable

Dependent Variable	Definition	Variable name in the estimated equation		
School Enrollment for girls	E=l if child is enrolled, 0 otherwise	Cuatsh		
Explanatory variable	Variable name used		Mean	Standard Deviation
School Enrollment for girls	=1 if enrolled 0 otherwise	Cuatsh	0.6988	0.4589
Age of the member	Years	age	16.378	2.729
Highest level of education of the father	=lif in primary (std 1-8), 0 otherwise	hilev_f	6.3548	5.7863
Highest level of education of the mother	=lif in primary (std 1-8), 0 otherwise	hilevr_m	0.4.261	4.8764
Secondary school fees per month	On secondary education	sescexjn	496.336	1166.5
Central		Central		
Coast		Coast		
Nairobi		Nairobi		
Eastern		Eastern		
Nyanza		Nyanza		
Rift Valley		R. Valley		
Western		Western		

Source Author's computation Based on Welfare Monitoring Survey 1997

Note: Provincial dummies: Central for central province; - Coast for coast province; Easter for eastern province; Nyanza for Nyanza province, Rvalley for Rift valley province; wester for Western Province

Regression Results

From the analysis, in reference to the findings fathers education was found to be very important determinant of the probability that a girl-child is enrolled in secondary school. In the model, age of the child and the job that the child was doing (used as a proxy for child labour) were found to be very significant determinants of enrollment.

Table: Logit Estimates of the determinants of Enrollment of girls in secondary school level of education in Kenya.

Variable	Co-efficient	Std. error"	Z	P>|Z|
Highest level of education of the Father	0.0361	0.0129	2.80	2.80
Highest level of education of the mother	0.0539	0.0172	3.15	3.15
Secondary school fees	-0.0005	0.000	-6.33	0.000
Regional Controls				
Rural residence	1.2869	0.2358	5.46	0.000
Central	1.0818	1.0584	1.02	0.307
Coast	0.2729	1.0442	0.26	0.794
Eastern	1.3652	1.0513	1.30	0.194
Nyanza	2.2036	1.0578	2.08	0.037
Western	1.5739	1.0589	1.49	0.137
Rift valley	1.4273	1.0481	1.36	0.173
Constant	6.5625	1.1291	5.81	0.000
Number of variables	2925			
Log likelihood value	- 1084.54			

Note: Dependent variable (School Enrollment of girls). The educational Characteristics of student trained-teacher ratio are the district averages

4.1 Father's Education

The results indicate that the highest level of education attained by the father consistently increased the probability of girls being enrolled for secondary school education. That is, an increase of education level of the father by one year increased the probability of enrolling the girl in secondary school by 0.006. It is worth noting that increasing the level of education of the father from none to primary, the chances of enrolling their female kids in secondary schools increases. This could be attributed to the fact that an educated father already knows the benefits of education and therefore is compelled by the same for their daughters.

The findings are similar to those by Tensel (1997), who found out that parents' education has a significant influence on the educational achievement of children of both genders and that the effect of the father's education was more important than that of the mother's. Webster (1989), also found that parents who were educated and employed paid for their children's education without any discrimination on the basis of sex. Also this variable in as much as it measures the "goodness" of the home from which the child comes, it also measures the economic welfare of the child and the fact that higher qualifications makes one mobile.

4.2 Mother's Education

The results revealed that with the mother's education increasing from none to primary level, the probability of enrolling a girl in secondary school increases by 0.009. From the analysis, it is evident that the mother's level of education has a significant bearing on enrollment of the girl-child than even that of the father. This seems to confirm our earlier assertion on the benefits of educated women; where according to the World Bank Report 1995), "educated women have healthier, fewer and more educated children. The report also asserts that women with schooling are more likely to send their children, females in particular, to school. The reason advanced for this is that girls support their parents in old age and that marriage does not prevent girls from helping their parents. Also in a study carried out by Tensel (1997) in Ghana, it was found that a mother's education had a larger effect on her daughters' schooling than on her sons' schooling.

5. Conclusion

The"girl-child enrollment in secondary school level of education increases with -an-try increase in the parents' education, but more so with the mothers' education and their gainful employment. The level of education of the parents affects the attitudes they have towards the education of their daughters. Therefore mother's highest level of education and her gainful employment positively impacted on the enrollment of girls than that of fathers.

As the number of trained teachers increased in a given district, enrollment of the girls in secondary school; also increased. The Interaction Space given for students in the classroom process is a very important determinant of retention of the student in school and this can only be offered by trained teachers who have gone the teaching methodology. Statistics in Kenya Indicate a very low student trained teacher ratio in secondary schools in Kenya In such cases, the school girl runs a greater risk of being affected by the defects since they are more vulnerable than boys. The study recommends that there is need for the government to train more teachers so that the student trained teacher ratio can be improved from the current one. In light of the study findings there need to increase the proportion of trained female teachers.

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