

“Educational decision-making, gender, and the question of sustainable development in rural Kenya”

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Abstract:

Kenya's Kibwezi Division is classified as a "hardship" area, notable for the recent arrival of much of its generally poor population, including several thousand families dispossessed by the government. Satisfaction of basic human needs is often at odds with goals of sustainable development, resulting in severe environmental degradation. This requires investigation of the ways that education presents both opportunities and liabilities to the promotion of sustainable development. The aim of this continuing research project is to discover ways to accommodate traditional forms of learning in a community where the regular education of children typically emphasizes knowledge and skills that cannot be applied locally. Interviews focused on {a} who has access to education, {b} what relationships (if any) there are between educational enrollment and household histories of residence in the research area, {c} what kinds of cultural and economic obstacles are faced by different populations trying to get an education, and {d} the relative importance of technical education. This paper emphasizes some of the gender dynamics involved.

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Introduction:

Kenya faces many problems typical of a developing country, including large-scale poverty in rural areas where population growth rates are high and both life expectancy and technological levels are low. The communities centered on Kibwezi Town in Makueni District in the southeast are situated in a fragile physical environment experiencing rapid in-migration because of cheap land prices. As more and more poor farmers settle the area, there is serious risk of environmental degradation, which only deepens poverty there. Likewise, the evictions between 1989 and 1992 of several thousand people from the Chyulu Hills and from an area around Kasayani (in order to promote expansion of a national wildlife park and establishment of a University of Nairobi demonstration farm, respectively), severely limited access to new land. Refugees from both areas (now living in such government resettlement schemes as Masongaleni and Usalama) face nearly impossible tasks raising funds to purchase title to land, and a large-scale corporate plantation occupies most of the course of the only permanent river in the area (the Kibwezi). Littered with volcanic rock and prone to drought, lack of rainfall also constantly complicates living conditions in the area.

Consequently, efforts to improve the quality of life in Kibwezi need at the very least to focus on the extent of people's environmental knowledge in order to help them find improved ways of farming. Among other things, this requires investigation of the ways that different modes of education present both opportunities and liabilities to the promotion of sustainable rural development. As far as formal, classroom-based instruction is concerned, Kenya has made substantial progress since independence in 1963 in terms of building schools and enrolling a student population (see Table 1 below). Regarding education in Kitui District (east and north of our study region), Hill (1991) noted a typically rapid rise in student population during the first period after independence, an increase of more than 250% reported in just six years.

With respect to access to education, virtually all (94%) children in Kenya enter primary school (Lloyd, Kaufman, and Hewett 1999). However, only half of the originally entering students are still enrolled at the end of primary school. A national qualifying trial (the Kenya Certificate of Primary Education examination, or KCPE), as well as substantial costs associated with the relative scarcity and geographic dispersal of secondary schools means that just half of all primary school graduates gain admission to secondary school, an effective secondary school enrolment ratio of 24% of the Kenya's young people. Further shortcomings in available facilities and trained faculty meant that in 1990 there were enough university places for just 7.5% of all secondary school graduates; the effective university enrolment ratio was therefore less than 2% of all university-aged Kenyans.

Table 1. Kenyan Education Trends in Primary and Secondary Schools, 1963-1992 (selected years)

	1963	1973	1983	1986	1987	1992
Primary Schools						
No. of Schools	6058	6932	11966	13347	13849	15465
Total Enrollment (in thousands)	892	1816	4324	4843	5031	5530
Sex Ratio (males/100 females)	192	130	108	108	107	103
Secondary Schools						
No. of Schools	151	964	2230	2417	2592	2632
Total Enrollment (in thousands)	30120	174767	493710	458712	522261	621443
Sex Ratio (males/100 females)	215	204	148	141	144	133

Source: Weidman 1995

Currently, half of the country's population is under the age of fifteen and the need for education and employment training is likely to far outmatch existing facilities or public funding for a long time (Mukudi 1999). Therefore, the aims of this ongoing research include discovery of ways to accommodate traditional forms of learning in a community where the regular education of children typically emphasizes knowledge and skills that cannot be applied locally (see for example Agbola and Mabawonku 1996). Interviews focused on {a} who has access to education, {b} what relationships (if any) there are between educational enrollment and household histories of residence in Kibwezi, {c} what kinds of cultural and economic obstacles are faced by different populations trying to get an education, and {d} the relative importance of technical education.

Setting:

Administratively, our study region lies within several Sublocations of Kibwezi Division of Makueni District in Kenya's Eastern Province (see Figure 1 below). The District straddles the main highway and railway line running between Mombasa on the coast and the capital, Nairobi. Oriented northwest to southeast, Makueni District is about 190 kilometers long, bordering Machakos District to the northwest, Kitui District to the north and east, Taita Taveta District to the southeast, and Kajiado District to the west and south. The more densely settled portion of Makueni District (about 50 households per square kilometer) is in its northern divisions where land quality is better around the towns of Emali and Sultan Hamud. Southern parts of the District, including our study region, are less densely settled (only about 13 households per square kilometer) due to poorer land quality and less certain land tenure situations. From north to south, the

larger towns in this part of the District are Makindu, Kibwezi, and Mtito Andei, the last of which lies at the border of the District where it abuts the vast Tsavo National Park (indeed, there is continuing confusion about where Makueni District ends and the park begins). Makindu has a history of (now more or less lapsed) association with the railway line, while Mtito Andei enjoys relative economic success because the appearance of the park means that there are no other significant highway stops between it and the town of Voi much further south. Thus, the most important town within Makueni District's poorest areas is Kibwezi, technically part of Mikuyuni Sublocation of Kikumbulyu Location, but after which Kibwezi Division is named. Kibwezi Division covers an area of about 1100 square kilometers (see Figure 2 below).

Figure 1. Makueni District (shaded) in relation to Kenya's other districts

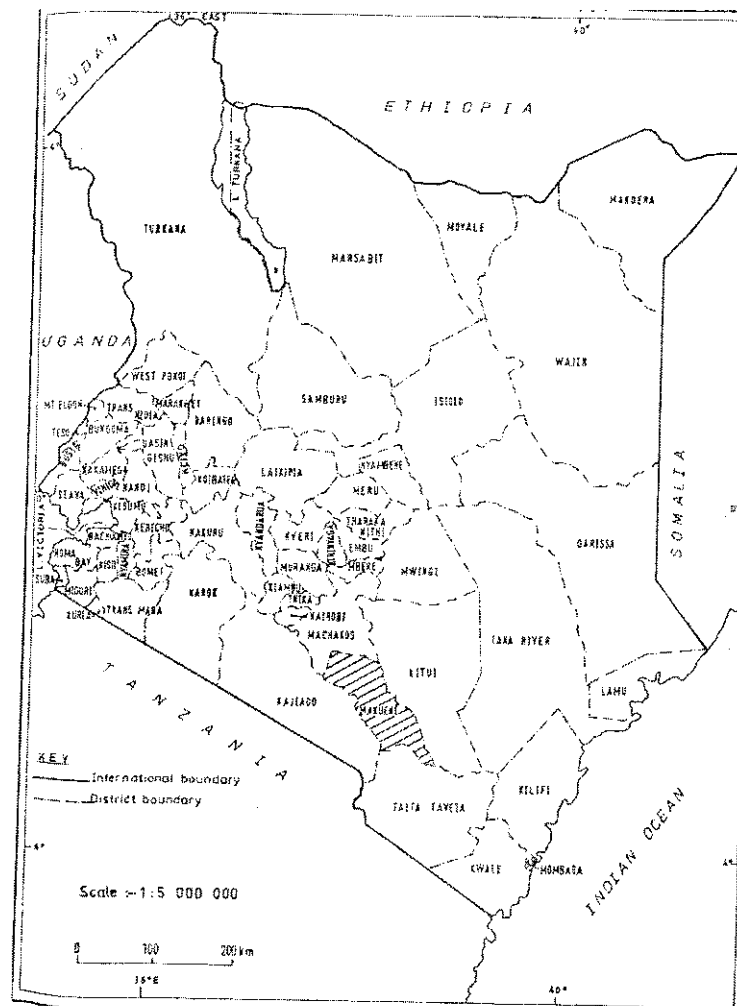


Figure 2. Kibwezi Division in relation to the rest of Makueni District, 1997

Map of the Kilome Division in the Northern Province of Malawi. The map shows the following districts and locations:

- Districts:** TULUWU, KITETA, KALAMA, MBOONI, KITHEMBE, OKIA, KALAWA, KASIKU, NHAZI, KATHONZWEZI, KIBWEZI, HTITO ANDEI.
- Locations:** Kilome, Mbooni, Kibaka, Makindu, Kibwezi, Kambo, Mtito Andei.
- Geographical Features:** Kilungu, Kilungu National Park.

Legend:

- District Boundary
- Division Boundary
- Location Boundary

KILOME Division Name

KILUNGU Location "

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In 1993, Makueni District had 880 preprimary (nursery) schools, 743 primary schools, and 126 secondary schools. A total of 1,315 teachers handled a primary school population of 193,200 students, as well as an indeterminate number of secondary school students. As indicated in Table 2 below, nationally 62% of children attending school in 1990 completed Standard 8 (the last grade of pre-secondary education). While the figure was only 33% in Kibwezi Division (Action Aid Kenya 1990); District-wide the figure was 80% (AMREF 1998). For further comparison, Hill (1991) noted that in Kitui District to the east the figure was 82.5%. Progress at improving educational opportunity has been slow, with fully 70% of all preprimary teachers in Kibwezi Division untrained in 1997, compared to 21.3% of all teachers working without qualifications throughout Makueni District (Action Aid Kenya 1997; AMREF 1998). Desperate straits faced by students, parents, and teachers in the Division contrasted sharply not only with the situation nationally but closer to home, as Makueni District altogether led the country in the 1997 KCPE. By comparison, in 1990 only 25% of males and 15% of females in Kibwezi Division were literate, compared to 70% and 49% nationally (Action Aid Kenya 1990).

Table 2. Percentage of Kenyan students completing primary school, 1990

	Percentage of students completing Standard 8
Nationally	62.0%
Kitui District	82.5%
Makueni District	80.0%
Kibwezi Division	33.0%

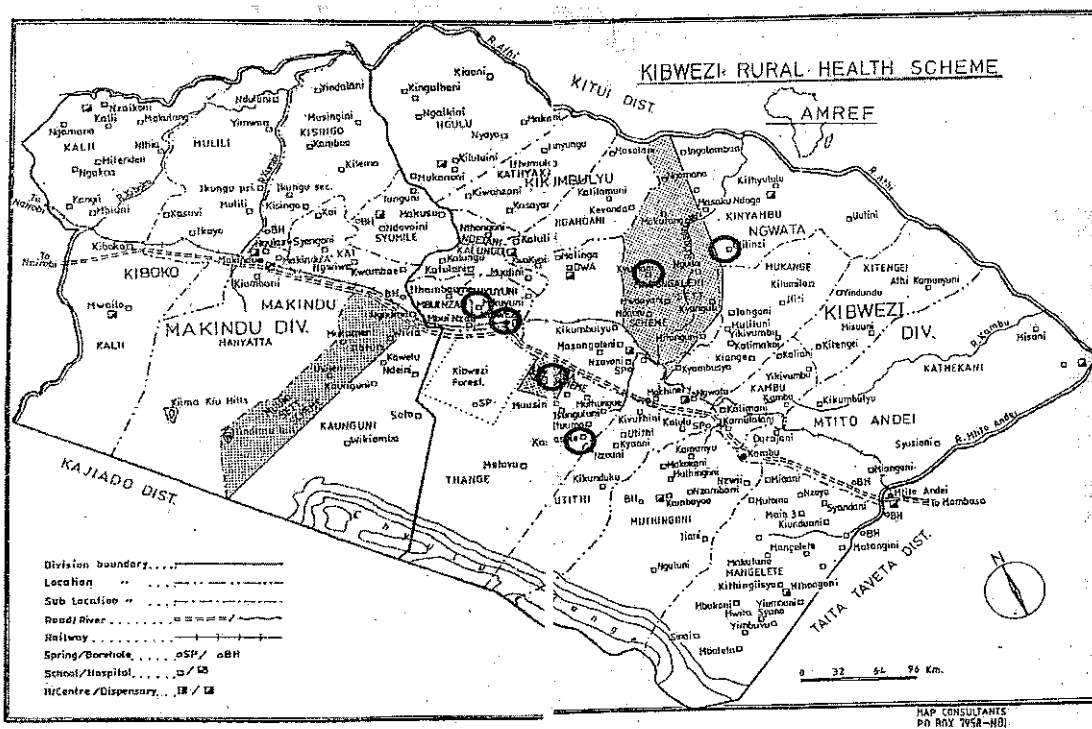
Sources: Action Aid Kenya 1990, Hill 1991, and AMREF 1998

A total population of 7,544 students was targeted for investigation during the initial phase (2001-2002) of this ongoing study. Interviews were conducted with students, school administrators, teachers, parents committees, and indigenous nongovernmental organizations. Interviews were also conducted with government inspectors in Maikuu Zone responsible for overseeing seventeen primary schools and three secondary schools including those in refugee areas. Preliminary data has been collected for twenty-five schools so far (one private and the rest public), of which seven have been visited or studied more closely, chosen to represent a range of conditions faced by students in pursuit of an education in the Division (see Table 3 and Figure 3 below).

Table 3. Schools visited or studied in Kibwezi Division, 2001-2002

School	Location	Type	Primary	Secondary
Kibwezi Township	Kibwezi	Public	X	
Kyumani Primary	Masongaleni Resettlement Scheme	Public	X	
Mikuyuni School	Mikuyuni	Public	X	X
St. Joseph's Girls' School	Kibwezi	Private		X
Sumbi Secondary	Kasasole	Public		X
Ulilnzi schools	Ulilnzi	Public	X	
Usalama Primary	Usalama Resettlement Scheme	Public	X	

Figure 3. School locations studied in Kibwezi Division (from left to right: Mikuyuni, Kibwezi, Usalama Resettlement Scheme, Kasasole, Masongaleni Resettlement Scheme, and Ulilnzi)



With about 750 primary school students, the Kibwezi Township school has a substantially larger population than the other facilities visited or studied during the initial phase of this research. This isn't surprising, of course, given Kibwezi Town's locational importance as the most urbanized center of the Division (with an approximate population of 4,000). But the growth of the town has included rapid growth of the student population beyond the capacity of existing facilities to accommodate new pupils. As a public school in a major town, Kibwezi Township has been subjected to considerable government scrutiny, especially with regard to staffing, new teachers often posted to the school by the government from outside Makueni District and even outside Eastern Province altogether. This has promoted a loss of trust among parents in the idea that the school is a sufficiently communal institution. Indeed, the particular history of the school is important to appreciate, originally built by the Muslim minority resident in Kibwezi Town, hardly any of it an indigenous population. In line with the bureaucratic culture of the times when the school was built (in the early postcolonial period), the children of the founders were given fee waivers. However, now the government has mandated an end to such accommodation, and facing all the difficulties of rising population in a worsening economy, the elderly Muslim founders of the school are aggrieved to discover that they can secure neither fee waivers nor fee discounts for their grandchildren attending the township school. Consequently, newcomers who have less intimate association with the community and are therefore less likely to promote change in the school now dominate the parents committee that oversees school renovation and improvement. For example, though the school is centrally located in the town and therefore has access to what limited electricity supply is available, much of the facility is without power and no provision has been made to provide students with such new learning opportunities as computer training.

East of Kibwezi Town, Masongaleni Location has two sub-locations, one of which is Ulilinsi. Unlike Kibwezi, it is a more recently settled area and the schools there are very new. Throughout the region, schools are usually opened one grade at a time so that facilities grow with their students; this is primarily because schools are typically established by parents' committees. The newest school started in Ulilinsi opened in 1999 and has only four grades. For that matter, only six of the ten primary schools in Ulilinsi have a Standard 8 class.

Kyumani Primary is located in the large adjacent Masongaleni Resettlement Scheme, an area chosen for research focus because of the area's recent occupation by thousands evicted by the government from higher quality agricultural and rangeland in the Chyulu Hills in the late 1980s and early 1990s. Though the struggles of Kyumani residents to survive on extraordinarily low-potential land are severe and deserve better than a passing mention here, it is remarkable that officials at a community-built, government-staffed school reported that no less than fifteen students moved on to secondary school in 2000. Not surprisingly, in interviews administrators felt that the community needed a secondary school because the closest one is twenty kilometers away.

At this point, the community has set land aside but no funds are forthcoming from the government for construction.

Like Kyumani Primary, Usalama Primary is situated in another of the resettlement zones designated for populations displaced after eviction from the Chyulu Hills, this one to the west of Kibwezi Town. The Usalama Primary managed to send only three students on to secondary school in 1999, with just two more qualifying and able to pay the costs to board away from home in 2000. Given the difficult circumstances under which Usalama residents live, the lack of a secondary school in the community presents a disincentive to send children out of the home for any schooling whatsoever. In fact, there are secondaries relatively nearby (within a day's travel), but it is economically sensible for those schools to insist on boarding fees, regardless of whether or not students actually stay overnight at the school. Indeed, St. Joseph's in Kibwezi further requires that its students reside at the school full-time, even though a large number of girls who attend are from local families.

In any event, Usalama families did not want to build a secondary school before first addressing the current need for bigger and better facilities in the primary. In 1994, a British nongovernmental agency (Action Aid) helped move Usalama students and teachers into a larger facility, which accommodated the ninety-six families in the area. However, the number of households has since skyrocketed to approximately three hundred and space is now inadequate. Likewise, basic supplies are scarce or nonexistent, including pencils, books, paper, benches, window screens, flooring and ceiling coverings, et cetera. Also, food for school lunches (used in part as an incentive to poor families not to take children out of classrooms during the lean times of the dry season) is only available from international relief organizations since local prices, though lower than elsewhere, are out of reach of the school's budget.

Of the five public schools visited, Mikuyuni was the only one that could accommodate both primary and secondary students. At the beginning of 2001, ten students were enrolled in the secondary school, but by the end of the year that number had dropped to four and administrators were worried that there would not be enough students to keep teaching staff employed. The secondary school teaches a variety of classes such as agriculture, business education, and arts and crafts. But since annual fees as high as 7,500 Kenya shillings (KSh) are more than twice that charged for primary school enrollment, dropouts are likely to remain a reality.

The only private school visited so far, St. Joseph's Girls School is a Catholic secondary school with a very good reputation, recruiting students from all over Kenya and from all religious and cultural backgrounds. But due to the school's high fees, it is fair to say that only the well-to-do families can afford to send their children to St. Joseph's. Fees start at KSh 28,000 per year but can go as high as KSh 31,000 when extra is required for school construction and supplies. Since

more funding is available at St. Joseph's, the school can offer its students a variety of classes. One unique opportunity is the computer skills class. The school has a lab with nine computers that have programs such as Word 95 and Excel. The school also teaches home-science, accounting, math, geography, commerce, and agriculture. At the time of the interview, 240 of the 600 students were enrolled in agricultural courses. With these facilities, St. Joseph's has a good record for sending students to university. In 1999 after taking the KCSE exam, sixteen girls qualified for university.

Sumbi Secondary is a co-educational school located even closer to the Chyulu Hills than Usalama. The families here have also been affected by the closing of access to the hills although they were not displaced in the process. They can no longer legally go into the hills, although some do so illegally. The school is about 10 miles from the main Mombasa-Nairobi Highway near the town of Kasasole. Of the 77 total students, 42 are male and 35 are female. Because of the poverty in the area, parents of only three of the students have salaried jobs, and 60 parents cannot pay, covering the cost of their children's fees by donating materials for building, firewood and food, as well as providing labor. A new head teacher recently took over the school and has been very ambitious in terms of involving parents with building projects. There are a total of seven teachers, five of whom have been hired by the government and two of whom have been hired by the parents. There is also one cook.

Of course, not everyone gets to go to school, so it is important to appreciate something of the range of options young people have for receiving some kind of training. Some attention paid to nonformal education in urban Kenya (Thompson 2001), emphasizing its lower relative costs than are associated with formal schooling, its use of temporary facilities, its accessibility to poor students, the diversity of curricular options, and the variety of forms of support received from government and nongovernmental organizations. However, little attention has been paid to the provision of vocational nonformal education in rural settings, particularly in hardship areas such as Makueni District, except to emphasize the need to provide continuing education to medical professional or other credentialed knowledge experts working in remote locations (Mwangi 2000). Therefore, in the course of this project so far, contact has also been made with three community development organizations seeking to promote nonformal educational opportunities.

Based in Kibwezi town, the Foundation Agency for Rural Development (FARD) has actively trained local people to act as volunteer community healthworkers. Providing mobile video workshops in Kibwezi, Mbuinzau, Kasayani, and Kinyambu towns, FARD runs an after-school program to teach younger children about HIV/AIDS prevention. Likewise, the government tapped FARD to help all sixteen Divisional Education Officers in Makueni District develop the new HIV/AIDS curriculum for local schools.

A second organization, Kyumani Organic Farmers Self-Help Group (KOF), is located in the Masongaleni Resettlement zone and made up of generally elderly farmers who lost land in government evictions from the Chyulu Hills or eastern Kasayani area. The main thrust of this group is to promote intensive, low-impact use of land with minimal reliance of purchased inputs (seeds, pesticides, chemical fertilizers, machinery, et cetera) through a demonstration farm and workshops held in Kyumani and elsewhere in Kibwezi Division. The hope is that promotion of organic farming techniques will sustain the displaced population now struggling to survive on the very poor quality land of the resettlement zone. Originally, KOF built a demonstration plot and two water tanks adjacent to Kyumani Primary School and began a midday and after-school program of teaching younger children techniques for composting, water harvesting, soil preparation, alley cropping, mandala gardening, and more. However, when the government took over the school, the new headmaster insisted that control of the water tanks was part of his administrative prerogative, and KOF has since retreated to a second demonstration plot away from the school. The halting of this project is distressing given its potential to raise crop yields and improve living conditions. Water is particularly scarce in the Masongaleni Resettlement zone as the nearest free water supply (the Kibwezi River) is approximately five kilometers away. Most Kyumani residents pay KSh 2 for twenty liters of water drawn from boreholes drilled by the Catholic Water Supply (CWS).

That there is a pressing need to connect social issues such as HIV/AIDS awareness with environmental sustainability concerns and thought for the future employability of the region's younger generation is also clear to the Kinyambu Youth Woodcarvers Group. This group has brought together about three dozen men ranging in age from 16 to 35, none of whom have been able to afford the costs of a complete formal education through secondary school, in order to provide them with nonformal training in a profitable craft making career. Prior training is not required to join the Kinyambu Youth Woodcarvers, and due to the small number of them attending secondary school, few if any join with practical skills. The group relies on word-of-mouth recruiting. An initial fee of KSh 1,000 is charged to new members. The training, which is conducted by the older members, lasts approximately three to five months. Once training is completed, members are charged KSh 400 per month for rental space for wood, tools, and carvings they are storing for future work. The group's income varies since special commission from interested individuals might surface, but most of the time members carve for city markets. While results have been only modest so far, the woodcarvers are now working together with FARD to provide special vocational education to AIDS orphans (as local seamstresses, welders, and carpenters are also doing for other young women and men in Kinyambu). In collaboration with such groups as the Kinyambu Youth Woodcarvers, FARD plans to buy land for construction of a dormitory where orphans can live while completing their apprenticeships and for rent after they begin work to support themselves.

In general, opportunities for students are varied, yet most students do not go very far in their schooling. If followed through secondary completion, formal schooling is a valuable resource, but the overwhelming majorities who start complete neither primary nor secondary school. Unfinished courses, because of their focus on largely academic subjects such as English, Kiswahili, History, and the like given the recent abandonment of practical areas of study such as agriculture, leave many students with few real skills that they will use in their everyday lives. Besides curricular changes, there are also important issues regarding the quality of government-funded versus community self-help schooling to consider. But an equally (if not more) vital issue to address involves consideration of the gender dynamics of school provision, attendance, and completion in rural areas of the country such as those centered on Kibwezi.

Issues of gender dynamics in Kenyan education

One of our principal objectives has been to enquire about who goes to school in Kibwezi Division, as well as where, when, how, and why. Our rationale for pursuing these questions assumes that answers to them will help us better situate ongoing research into the possibilities of helping local nongovernmental organizations extend non-formal educational opportunities to students in need. In preparing for fieldwork, we ascertained that the relevant literature assumes with fair consistency a sharp division of educational opportunity by gender. On the one hand, the postcolonial period has seen a growing interest among Kenyan families for having their daughters attain a higher education and establish careers. Yet on the other hand, traditional concern remains strong that prolonged schooling can limit a woman's marriage chances, and it remains the case that once married, a woman is typically expected to forego continued schooling. Indeed, this was the principal conclusion of a 1992 UNICEF study conducted in Kenya (Otieno 1998). Likewise,

"It is well known that females are underrepresented as participants at all levels of education...demand for girls' household labor and school responsibilities in agricultural and other types of production has contributed to their low participation..." (Otieno 1998)

The same claim is voiced in a study from Kilome in the northern part of Makueni District with reference to the fact that education used to be provided free of charge until government budget woes required implementation of "cost-sharing" directives:

"Often, the choice has been to invest in the education of boys for cultural and economic reasons. Cost-sharing policies have not been implemented with sensitivity to gender concerns to the disadvantage of women and girls at all levels. When poor parents are forced to choose between investing in a male child or a female child, the majority will choose their sons." (Kiluva-Ndunda 2001, p. 10)

Similar observations are made from other sites in the country and with respect not just to female enrollment but likelihood of completing a course of educational preparation equivalent to males:

"...half of the parents study preferred paying fees for boys than girls. Up to 25% of the girls in 30 communities in Kenya periodically stayed at home due to a lack of fees. The survey cited factors affecting girls including pregnancy, poverty, early marriage, and harassment..." (Kreinberg 2000, p. 217)

"As expected, individual and family factors, such as age, mother's education, religion, and parents' marital status, are all statistically significant factors affecting the probability of dropout, many with stronger effects for girls than boys. Thus, the enrollment of boys is less susceptible to variations in family circumstances than the enrollment of girls." (Lloyd et. al. 2000)

In our field interviews with parents and teachers, too, gender and availability of funds were mentioned every time individuals were asked to identify some of the variables used when making educational decisions. As individuals and as parenting couples, men and women both considered money to be the biggest determinant of where, when, and if a child would or would not attend school. The other variable that was always mentioned was gender, and in all but one interview it was emphasized that boys go to school before girls.

However, the actual numbers of boys and girls in surveyed schools in and surrounding Kibwezi Town did not support expectations. By counting students, speaking with head teachers, and getting the assistance of community leaders we have numbers of boys and girls enrolled by grade for twenty-four public schools so far. Thirteen of the schools are located in the Masongaleni Resettlement Area, ten are located in Ulilinzi Sub-Location, and the last is the township school in Kibwezi Town. As shown in Table 4 below, total numbers show more gender equity than expected; indeed, they show a slight majority of girls over boys. Moreover, enrollment by gender is proportional throughout each level with an even higher proportion of girls in Standard 8 than overall.

Table 4. Public school enrollment in the study area, 2001-2002

Location	Boys	Girls	Total	Boys in Std. 8	Girls in Std. 8
Masongaleni Sub-Location (13 schools)	1837	1909	3746	115	115
Ulilinzi Sub-Location (10 schools)	1239	1208	2447	63	63
Kibwezi Township School	382	369	751	47	50
Totals:	3458	3486	6944	225	228

Although the absolute numbers are not incredible in and of themselves, the number of girls in these especially marginalized rural schools is surprising. The literature suggests that lack of household financial resources means that fewer girls than boys attend school, or at the very least that fewer girls than boys complete primary school, but this does not seem to be the case in the schools visited in the Kibwezi area. Likewise, even where prior studies have suggested equal numbers of boys and girls in attendance of primary schools, they have emphasized that the dropout rate is higher for girls than for boys. This would suggest that the numbers of girls in Standard 8, the final year of primary education, would be lower than for boys. This too was not the case for the schools we are discussing. There are at least as many girls as boys in the final level of primary education.

In seeking an explanation for this situation, it is important first of all to register the impact of decolonization in the 1960's. Even as the costs of schooling rose and unemployment among the educated demonstrated that schooling provided no guaranteed route to improved quality of life, public faith in the possibilities of education has remained unshaken. Especially in the western districts, where colonial development had led to much higher average household incomes, more girls were sent to school early on, and this phenomenon has since spread to nearly every other part of Kenya, including hardship areas such as Makueni District. The proportion of primary school students who are girls increased from 34% in 1963 to 44% within the next decade and to 49% by 1984 (Kinyanjui 1993, p. 139).

Since then, the proportion of girls in student populations nationally has remained more or less constant, but interestingly what becomes clear is that timeworn assumptions that educational inequality has to do with the persistence of patriarchy or the importance of child labor are less accurate than previously thought. Indeed, in contemporary Kenya "children's enrollment in school [is] affected by parents' expectations for future financial help from children and (for girls) by parents' perceptions of labor market discrimination against women" (Buchmann 2000).

Yet high rates of poverty provoke high dropout rates among students. While nearly identical numbers of boys and girls attend primary schools in Kenya, a large number of girls who enroll in Standard 1 drop out of school before they reach Standard 8. This is true for boys as well, but the rate for girls is consistently higher, 58.4% for girls compared to 53.6% for boys (Kiluva-Ndunda 2001, p. 9). Moreover, girls who start secondary education are more likely to leave before graduation than boys (Kinyanjui 1993). This is the case particularly in rural areas such as Makueni District and within it especially Kibwezi Division. Indeed, Lloyd and his colleagues (2000) noted that in more developed parts of the country (such as the regions around Nyeri and Nakuru), the gender gap is most noticeable in the transition from primary to secondary school, while in a less developed coastal region (around Kilifi), the gender gap emerges during the last years of primary school. In Kibwezi Division, the rate is highest during the dry season when family *shambas* (farm plots) are not providing enough income for school fees.

For that matter, it is important to recognize that dropout rates are only one of several related challenges facing the survival of rural schools. The same environmental pressures that prompt the decision to remove a child from school permanently more frequently occasion absenteeism among the sons and daughters of the poorest farm households. Over time, the difficulties of supporting a child's education can mount, so that across the country there are smaller numbers of students in higher Standards. Interviews with zonal inspectors and school headmasters indicate that in Makueni District, approximately only a third of the students that start Standard One complete Standard Eight. Labor needs and school fees primarily contribute to families being unable to afford the school fees that range from KSh 900 to KSh 1500 per year.

In many respects, it is hardly any wonder that only 65% of boys who start Standard One graduate Standard Eight (Kreinberg 2000, p. 217). The completion rate for girls is even worse, only 45%. A joint survey by the Maindeleo ya Wanawake Organization, the Population Communications Services Project of the Johns Hopkins University, and the Academy for Education Development found that over half of the parents studied preferred paying fees for boys than girls. Up to 25% of the girls in 30 communities in Kenya periodically stayed at home due to a lack of fees. The survey cited factors affecting girls including pregnancy, poverty, early marriage, and harassment by the male teachers and other boys influencing the declining completion rate. A dropout rate this high for primary schools will no doubt have dire consequences in the future.

It is also important to understand the economic impacts of gender discrepancies in education, at least insofar as much of the rural labor force is female. Women perform three-quarters of agricultural work, with 27% of smallholdings operated by female heads of households, while women manage another 47% in the absence of a male head of household (Government of Kenya, p. 17). In Kibwezi

Division, the situation is even more skewed, with 40% of all farm households female-operated, and the number of female-managed farms where a male head of household is absent is presumably also larger than the national average (Action Aid Kenya 1990). The outcome of this new role for women is the increased enrollment of girls in the first two grades of the primary level. By 1985, girls accounted for about half of total enrollment in these grades nationally, and in some districts the enrollment of these girls in these grades was equal to or greater than that of boys. However, the proportion of girls to boys declines in the higher grades of the primary-level cycle. With rising population, coupled with the rising costs of education, the challenge in the next decade will be how to maintain the educational gains of the past quarter century and at the same time provide educational opportunities for disadvantaged groups in the system (Kinyanjui 1993).

Of course, the Kenyan government claims that gender parity has been accomplished in primary school enrollments, but this says nothing about academic achievement rates, attendance patterns, differences in teacher attitudes toward girls and boys, or variations between different parts of the country in terms of demographic and economic issues. Male literacy rates about 75% higher than are those of women, and there are three times more men than women attending university (Government of Kenya, p. 9).

Still, a study of two sublocations (Mbusyani and Kyevaluki) in Machakos District adjacent to our study area indicates that improved education among women leads to greater collaboration with husbands in decision-making processes. However, while an average of 37% of surveyed households indicate that women had completed primary school (with 24% of the surveyed group having at least completed lower primary), 24% of women in the two sites had received no formal education. More importantly, only 12.5% on average had completed lower secondary (Forms 1 and 2) and only 2.5% had completed upper secondary (Forms 3 and 4). It's also worth noting that there was wide divergence between sublocations in terms of the numbers of women who completed any secondary education (Asamba and Thomas-Slayter 1995, p. 118-119).

Issues of self-help schooling and curricular changes in Kenyan schools

In large measure, gender differences in attendance and achievement reflect the economic situations faced by different households attempting to send children to school. Trend analysis conducted after a participatory poverty assessment exercise in several parts of Makueni District (AMREF 1998) indicates that the total costs for basic services (typically combining education and health expenses, of which education costs were the more significant share) were about two and half times average annual household income. Nonetheless, schools are now dependent on parents to cost share in expenses, so in Kibwezi Division the situation is especially difficult since the area does not have many cash crops

compared to an area like central Kenya. Schools also have to rely on outside help from organizations such as World Food Program, Action Aid, and CARE for basic school repairs and school lunches.

Harambee (community self-help) has been utilized successfully to build and open a number of schools, including at the secondary level (see for example Abreu 1982, Hill 1991, etc.). Indeed, within a decade after independence, there were more *harambee* secondaries than had been built by the government, though they housed fewer pupils and often did not offer a full four-year course. Nonetheless, *harambee* schools often provide an attractive alternative to government schools, for example facilitating access to students who had failed the KCPE examination requisite for application to government secondaries. In one area of Kitui District, KCPE failures made up as much as 86% of the student population seeking entry to government secondaries (Hill 1991, p.217).

However, such schools have suffered from lack of a central administration and supervision, and of course from a limited financial outlook subject to the considerable instability of rural household incomes. Indeed, this often cancels out the advantage of access for KCPE failures inasmuch as *harambee* school fees are typically higher than those charged by government schools operating at relatively more efficient economies of scale. Many *harambee* schools have been associated with church-based management, which can be problematic if (as is often the case) the church involved is syncretic in character, lacking a parent denomination abroad capable of providing outside funding support or expatriate teaching expertise to supplement or substitute for a lack of qualified instructors locally. For that matter, the government has frequently found ways to assume control of community-built schools, at the same time reducing its own commitments to secondary school construction. Likewise, fundraising associated with any *harambee* has to be approved by local government officials, so that at the very least self-help school construction and improvement is conditioned by the informal but not insignificant approval of officialdom (Anderson 1977; Thomas 1985; see also Bray and Lillis 1988).

It is also important to note that formal education in Kenya has gone through many structural and curricular changes since independence. Initially, a model based on the 7-4-2-3 British school system was installed. Under this system, students attended seven years of primary schooling, followed by four years of "lower" secondary and two years of "upper" secondary. Upper secondary corresponded roughly to the junior college model recognized in some parts of the United States, and was followed by three years of university involving specialized programs of study tailored as much as possible to match students with particular faculty in narrowly defined courses of scholarly preparation. At each threshold in the system, qualifying exams were held that determined if a student could proceed to the next higher level.

However, in the mid 1980s, the government of Kenya accepted recommendations to switch to a model based on the United States' 8-4-4 system. While qualifying exams still exist (the KCPE is followed upon completion of Form 4, the final year of secondary school, by the Kenya Certificate of Secondary Education exam), failure to pass an exam does not automatically limit forward progress through the system, instead relieving the government of earlier commitments to provide a free education for qualifying students. The American model also emphasizes a liberal arts approach to university education, the addition of a pre-primary (nursery school) option and, very recently, efforts to mainstream disabled and other special needs populations. Other curricular changes of relevance to places like Kibwezi Division that are officially classified as "hardship areas" include government commitment only in the last two years to HIV/AIDS education.

The recommendation to reorganize the system was especially framed by the philosophical perspective that it would allow schools to give more attention to practical subjects such as arts and crafts, business, agriculture, home science, and music. But as of 2000, the focus of Kenyan schools shifted again, and schools switched from a standard thirteen-course curriculum to one that required only five. The practical subjects were set aside and Swahili, English, mathematics, science, and history/geography became the national variables with which to rank school proficiency (Otiende and Oanda 2000).

The consensus in our interviews in and around Kibwezi was that the change was good because of time constraints and costs of books related to the 13-course curriculum. The new curriculum also seemed to be important to the teachers and administrators because of the school ranking system used by the government to dole out additional funding assistance, higher-achieving schools receiving more attention. Each year after the KCPE test is taken; schools are ranked within their administrative division. In 2001, out of sixty-eight government-run schools in Kibwezi Division, Usalama Primary ranked twenty-fourth, Kyumani Primary thirty-third, and Mikuyuni Primary/Secondary forty-third.

Implications for further research:

Needless to say, much work remains to be done by way of getting a better picture of Kibwezi Division's educational priorities. Studies elsewhere in Africa (Bredie 1998) suggest that the principal difficulty involved in combating the trend of schooling as an interrupted or even prematurely suspended process (especially for girls) has less to do with supply than with demand. That is, despite the desires of parents and teachers throughout Kibwezi Division to see more secondary schools built or primary schools improved, what should be emphasized now is cost reduction. This should especially focus on offsetting the loss of earnings because a child in school is not working by more realistically promoting the possibility of higher future earnings associated with educational achievement. As suggested above, to the degree that schools are now

encouraged to think about rankings only in terms of test achievement scores in subjects that have little direct impact on a child's future earnings potential, it is hard to imagine that a shift from supply- to demand-stimulating measures will be undertaken any time soon in Kenya.

In short, though there are more girls in the study region's primary schools than there are boys attending, inattention to the costs of schooling is likely to limit the possibility of girls advancing further when cultural circumstances rationalize the economic decision to remove girls from the classroom if and when any child is to be denied further access to learning opportunities. At the very least, this should encourage a closer study of the complete demographic picture of the area in terms of gender. Likewise, there is of course the problem of selectivity within this study in terms of which schools have been visited to date. If more schools in the area were visited, and if more types of schools could be visited, would our initial findings about gender attendance and completion rates be confirmed, or would conflicting evidence present itself?

Also, collected data is still weak regarding attendance numbers beyond the primary school level. Opportunities to attend secondary and polytechnic schools are rare in Kenya. Most of these schools are expensive, there are far fewer of them than there are primaries, and as a consequence secondaries are unevenly distributed around the country, often at considerable distances from the populations of students seeking admission. While well-established secondaries understandably cost less than ones that just started, per student fees run as high as KSh 50,000 annually. Another determinant of the small number of students attending secondary school is the KCPE exam. Despite switching to the "8-4-4" system, students are still required to pass the exam before attending government secondaries. Insofar as just a small percentage of students that start school make it to Standard Eight, only an even smaller percentage can academically and economically afford to go on to secondary school. The same is true regarding university education (Kinyanjui 1993, p. 139). There was a 15.1% annual growth rate in the number of university students in Kenya during the period 1963-1985. But university students amounted to just 1.4% of those enrolled in secondary school in 1985, hardly more than was the case in 1963 (1.2%). Still, how do attendance numbers turn out in secondary schools within Kibwezi Division? For that matter, how do attendance numbers turn out in polytechnic, apprenticeship programs, and trade schools? Finally, how do attendance numbers turn out at university?

Another important issue to consider regarding the situation faced by student populations in and around Kibwezi has to do with the question of whether or not there is a difference between gender equity in attendance at schools in marginalized areas compared to those found in relatively wealthier areas. One suggestion (Lloyd et. al. 1999, p. 45) is that because of the greater value assigned to male labor, during economic hard times dropouts will be higher for males than females. Consideration also needs to be given to the variable of

female-headed households. Male migration to larger urban centers such as Machakos or Nairobi in search of jobs has left a large number of households managed by women. Perhaps the absence of men enables women to make decisions pertaining to education with more equality in terms of gender. Both of these variables could be reasons why there are as many girls as boys attending school in the Kibwezi area.

Finally, this study is part of a larger constellation of projects aimed at helping rural community development organizations improve the general quality of life in Kibwezi Division. As stated at the outset of this paper, a central concern about formal schooling has to do with whether or not there is an inverse relationship between the acquisition of "western" technical knowledge and the loss of indigenous environmental knowledge. It is difficult at this point to say what, if any, relationship exists between formal schooling and change in behavior as a consequence. It is certainly the case that in poor rural communities, sending children to school means that they are not available as unpaid farm labor, but it probably also means an erosion in the ability of older generations to pass on accumulated knowledge of how to make efficient use of local environmental resources. Given the abandonment of vocational curricula by primary schools and the fact that most students don't gain access to secondary schooling where they could undergo some basic training, this time away from contact with indigenous knowledge can have significantly negative impacts. At least one study suggests that time spent on academic skills may be observed as time taken away from practical skills (Sternberg, Nokes, Geissler, Prince, Okatcha, Bundy and Grigorenko 2001). It is true that sustainable development has been put on the agenda for curricular inclusion in Kenya as elsewhere in Africa (Barboza 2000). However, such initiatives are of very recent origin and again focus on centralized delivery of education rather than encouragement of participatory rural development involving people's own environmental expertise as has been urged in other parts of the continent (Warren, Egunjobi and Wahab 1996).

Kibwezi Division is one of the poorest areas in Kenya. This poverty creates many challenges for its residents, perhaps the most significant of which is how the people of Kibwezi prepare the next generation to survive. At the moment, an opportunity seems to have presented itself as a consequence of those challenges; namely, the chance for a significant number of girls to get a formal education despite cultural and economic circumstances that would otherwise limit such possibility. This is coupled to the constant in- and out-migration activity characteristic of Kibwezi Division as a low-potential agroecological region. Paradoxically, it might well be the case that substantial development of the area could re-impose limits on the degree to which women find advantage in educational achievement. Still, for now it make sense to investigate the situation of schooling in the area in hopes of better assisting community efforts at outreach not only for poor rural women, but other marginalized populations in this corner of East Africa.

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