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ABSTRACT

The purpose of this qualitative study was to examine one rural Kenyan community's attempts to improve the educational attainment for primary school girls in the region. Data were gathered through field notes; school artifacts; and interviews with teachers, community members, and grade eight girls. The asset-building theory of change (social, human, physical, and economic) was used to analyze the barriers to education, solutions to those barriers, and results from those solutions. Although some research studies of school improvements in Kenya exist, this research addresses a critical gap in understanding how even small improvements in a school can positively impact educational progress for girls in a rural community. While the improvements at this school are still ongoing, the initial results from this pilot study demonstrate the importance of addressing basic needs for girls that can further prepare them for a better future within their own cultural context. Three main findings emerged from the qualitative data: 1) addressing school infrastructure, 2) sanitary supplies with mentoring, and 3) family and community support for the school.

One of the major global issues still facing the world is the lack of access to quality education for children in developing countries. According to estimates from the UNESCO Institute for Statistics (2015), at any given time there are 58 million children of primary school age worldwide who are out of school. Of this number, 15 million girls and 10 million boys are not even likely to ever attend school. Even more disturbing are estimates that of the 30 million children in sub-Sahara Africa estimated to be out of school, these same children will most likely never go to school at all (UNESCO, 2015).

Children in Kenya, especially in rural areas, face challenges in accessing education as in other developing countries. Even though free primary education was established in 2003, overall completion rates for primary school tend to be marginal (Bagaka's, 2010). In the most recent data available, completion rates in primary school for girls were 68% and 82% for boys (Dawo & Simatwa, 2010). However, the secondary school completion rate for Kenyan students during that same time frame was a dismal 29% for girls and 34% for boys (Dawo & Simatwa, 2010).

Household poverty is one factor that limits access to education and can be difficult to overcome. According to Omwami (2011),

> Poverty conspires to limit choice and options for many in an environment where every empowerment tool is commoditized. The intersection of the favoured position of the economic interest groups, patriarchal positioning, and prevalence of poverty work to limit the degree of difference interventions would make to the lives of those comprising target populations. (p. 19)

Examples of poverty-related barriers include: lack of clean water, inadequate sanitation, health issues or lack of access to health care, hunger, and a lack of sanitary supplies for girls. Taken together, these all play a role in limiting the educational progress of the girl child around the world, but more so

in developing countries. To further illustrate, a child from a wealthy urban area in a developing country who is out of school today still has a higher chance of beginning school at some point even if that same child leaves school prior to completion. For children of poverty in rural areas who are not already in school, the chances are slim to none that same child will even begin school at any point in their lives (UNESCO, 2015). For many of these children from impoverished situations, the family relies on their children to assist with household and other work, which then further limits access to education (UNESCO, 2015).

Adolescent girls in developing countries also face additional challenges to education, including: illiteracy, exposure to violence, social stigmas, and limited opportunities or lack of adequate work to support herself and a family (Republic of Kenya & National Bureau of Statistics, 2014). The economic challenges girls face can also have a direct impact on sexual and reproductive health knowledge, especially during the adolescence years. In their formative years, girls often are financially dependent on men for their basic survival, including access to food, shelter, and school fees (Oruko et al., 2015). Girls who come from more impoverished situations are most likely to have exchanged sex for food, money, or shelter, compared to girls in better economic situations (Austrian & Anderson, 2015; Oruko et al., 2015). Further, girls living in sub-Sahara Africa are at a greater risk for contracting HIV as a result of early and unprotected sexual activity (Hallman, 2005).

One final key challenge that can limit educational attainment and access for girls to all levels of education involves traditional gender roles. Gender roles are determined by many factors, including priority placed on the male child, birth order, views on early sexual activity, and whether or not the society still arranges marriages for their children (Sommer, 2010). All these factors play a key part in determining whether or not the child attends school in the first place, or remains in school once they start. For cultures that favor the boy child, the education of boys is usually a priority since families in these cultures believe that girls do not need as much education for their future roles as wives and mothers (Abuya et al., 2014). In addition, when financial resources are limited, parents from poverty in gender traditional cultures will fund a boy's education ahead of a girl's education (Burrows & Johnson, 2005; Lloyd & Young, 2009; Oruko et al., 2015). Omwami (2011) asserts that the combination of poverty and patriarchy produces an additional barrier in limiting educational attainment for women.

Even with progress toward more equality within education and business, Warrington and Kiragu (2012) report that women overall in Kenya are still lagging behind in equal representation in educational positions, key decision-making roles, and overall achievement through all levels of education. This disparity leaves few role models for adolescent girls, which can impact opportunities for an adequate formative education beyond the primary school level (Sifuna, 2006; Warrington & Kiragu, 2012). Research findings by Abuya et al. (2014) show that the perception in some regions of Kenya still remains that girls are not as worthy of educational attainment or access as boys.

According to Kenya National Goals of Education's (2013), "Education should prepare the youth of the country to play an effective and productive role in the life of the nation" (p. 150). However, more work is needed to address specific areas for the educational attainment of girls at the primary level, especially in rural Kenya. Examining the outcomes of successful programs and interventions can serve as examples for how to encourage further educational attainment for girls throughout Kenya and East Africa.

Theoretical framework

In order to examine the barriers and solutions to education for girls at one rural Kenyan primary school, I used the *asset-building theory of change*. This framework provided a lens through which to examine the data in order to understand how girls from one rural Kenyan primary school have made dramatic academic improvements over a specific period of time. According to Austrian and Ghati (2010), the definition of an asset is akin to a stockpile of value that can be built upon and used to further one's opportunities. A key element of the asset-based model is the potential for expanding the

human condition and future growth. This expansion centers on equal dissemination of and access to resources that are needed to maximize each person's full potential.

Assets within this framework are primarily grouped into four main sections as shown in Table 1: 1) Social, 2) Human, 3) Physical, and 4) Economic (Austrian et al., 2016). Austrian et al. (2016) further describe each category of the framework as follows:

> Social assets focus on relationships and social networks and include friends, mentors, other trusting relationships and access to institutions in society. Human assets relate to skills and knowledge, as well as health and self-esteem. Physical assets are more tangible, such as land, personal items, and various tools that often have or produce monetary value. Economic assets such as cash, savings, or perhaps government entitlements, where relevant, provide a fourth store of value. (p. 65)

Within the human category, self-esteem can be a vital asset, especially for young women. In the area of sexual relations, a girl can draw on her self-esteem to bargain for safer sex in order to avoid diseases and/or unwanted pregnancies (Austrian & Ghati, 2010). Monetary savings is another example within the economic category. If a girl has set aside even some small funds, those funds can aid herself or her family when unexpected expenses arise. The girl can use the funds instead of engaging in risky behaviors such as trading sexual favors in order to raise money to pay expenses. Such funds also could be used to broaden knowledge and skills in order to provide a better life (Austrian & Ghati, 2010).

In further examination of the asset-building theory of change, Austrian and Muthengi (2014) recommend that girls need a combination of all four assets as they move into adulthood in order to hopefully reduce their levels of poverty. Austrian and Muthengi further assert that one asset is not enough since economic factors can often hold leverage over other assets, such as knowledge of healthy sexual behaviors. For girls in Sub-Saharan Africa, limited social interactions and economic instability are key barriers to a positive transition into adulthood (Austrian & Muthengi, 2014). In addition, the four components of the asset building theory of change integrated together can help address the challenges of gender equity in educational attainment by providing the necessary resources that girls need for their education.

At the time of this writing, very few asset-building programs exist around the world for adolescent girls that address specific challenges to health and economic improvements (Austrian et al., 2016). Further, there is limited research of how each of the four categories of the assets work together, or even if all are needed in order to assist girls in healthy behaviors through their adolescent years (Austrian et al., 2016).

Context

The setting of this study is Western Region Primary school (pseudonym), located in a rural area of western Kenya. This school serves students from age 3 through grade level eight. According to local sources, the population in the region surrounding the school is estimated at about 10,000 people, with

Table 1. Asset-building framework description of categories.

Social Assets	Human Assets
• Social networks	• Skills and knowledge; Good health
• Group membership	• Ability to work; Self-esteem; Bargaining power
• Relationships of trust	• Autonomy
• Access to wider institutions of society	
Physical Assets	**Economic Assets**
• Personal assets (clothing, jewelry, household items)	• Cash; Savings; Entitlements
• Land	
• Housing	
• Transport	

Initial list developed by Microfinance Opportunities with contributions by Karen Austrian, Judith Bruce, Sarah Engebretsen, Catherine Maternowska, and Ghislaine Ouedraogo (Austrian & Ghati, 2010).

approximately 3,000 people living in the area catchment area for the school. The majority of the population tend to be young and middle-age, with a life expectancy estimated at 50 years. The local community members report that children from this region are living in abject poverty, with the majority having little hope for education beyond their time at Western Region primary school (Community member 1).

The community's main economic activities center around agriculture, with the majority of adults and able-bodied children making their living by working on local farms during the harvest season or participating in making illegal local alcoholic brews (Teacher interview, student survey responses). The pay for most work in this region is usually only worth one day's meal. A high rate of HIV is also prevalent, with both children and parents or guardians infected. Further, this community is lagging behind neighboring regions in terms of educational opportunities and technology (Teacher focus group interview).

At the time of this study, approximately 500 children from preschool (age 3) to grade eight attended Western Region Primary school. The average class size usually ranges between 45–50 students, depending on the grade level. When this study began, the school had six temporary classrooms that were cramped and inadequate for proper academic instruction, especially during the rainy season. Often, the teachers would send the younger students home in advance of an approaching storm so they did not have to endure the water seeping up through the mud floors and the dampness from the rain. While the teachers' concern was for the health and well-being of the children, the children missed critical academic instruction each time they were sent home early.

Since the school was founded in 2002, the lack of academic progress and attendance of girls has been a concern to teachers, the community, and the area governmental offices. In 2012, when the school posted one of the lowest test scores in the entire country, people in the area finally realized that improvements in all areas of the school were sorely needed. Changes come slowly in rural areas in developing countries, and it was not until several years later that specific needs were identified in order to begin a much- needed turnaround, especially for the girls of Western Region Primary school.

Methodology

The purpose of this pilot qualitative exploratory study was to examine one rural Kenyan community's attempts to improve the educational attainment for the primary school girls in the region. For the purposes of this study, educational attainment refers to equal access for girls to quality education at all levels of schooling. The *asset-building theory of change* was used to first examine the challenges girls face limiting access education, solutions to the challenges, and results of those solutions for the girls of Western Region Primary school in rural Kenya. Exploratory case studies examine phenomena from the data that are a source of interest to the researcher (Yin, 2014). The exploratory case study then allows for additional investigation of the various phenomena that are being observed (Yin, 2014).

This study received institutional review board approval from the sponsoring university and approval from the school administration at Western Region primary school. All participants agreed to participate with this research without coercion and were free to decline if they chose to do so.

Data collection and analysis

Data were collected through the following methods: interviews, written surveys, field notes, and school artifacts.

Participants

The participants for the interviews conducted for this study included teachers of the school and selected class 7 and 8 girls.

Selection of the teachers was a convenience sampling. They were the teachers assigned to teach at the school, and they had a historical knowledge of the community as well as connections with the

majority of the families within the region. All 13 teachers at the school had over 10 years of teaching experience. The six teachers selected for the individual interviews, three males and three females, had been classroom teachers, as well as strong supporters for equity of the girls' education. One of the male teachers had been at the school for over 10 years, and the other two were within the range of three-five years. The three female teachers had been teaching at the school more than 10 years.

I held two focus group interviews with all of the teachers at the school. These interviews provided their shared insights regarding the girls and their struggles at school, as well as issues within their homes and communities. Six teachers participated in the one-on-one interviews – three females and three males. These teachers were selected because they had been at the school the longest, knew the history of the school challenges, and had also been a part of the current solutions.

A total of 16 girls participated in the one-on-one interviews. The class teachers were in charge of choosing the participants. This was a convenience sampling of girls who the teachers believed had the language skills and maturity to clearly respond to the interview questions. The school gained permission from the families for the interview process and the written surveys. The selected girls ranged in age between 13–16 and had been students at the school for at least three years. Two female teachers from the school were observers during the interviews and provided any necessary translations or explanations. These two women are well-known to the girls, are role-models within the community, and also provide mentoring for the girls at the school.

Surveys

A total of 66 grade eight girls participated in the surveys, which members of the local women's group administered with permission from the school and families of the girls. From these surveys, the women teachers and mentors were able to acquire vital information to identify the girls' issues and challenges in order to consider ongoing support for these girls.

School artifacts

I examined relevant school artifacts for a period of five-years. The artifacts included test scores, letters from the government offices, notes from the head teachers, and attendance records. The artifacts allowed for an additional understanding of the challenges the school had endured, and efforts that had been attempted over the years to solve those challenges.

Data analysis

For the data analysis, I followed the protocols for qualitative research and first organized all of the data in order to read through it all (Hammersley & Atikinson, 1995). Becoming totally familiar with the data helped to ensure I would be able to accurately interpret all of the results (Tesch, 1990).

To illustrate my data analysis process, I will describe the method used for the interviews. The first step was to read through the audio transcriptions and written notes multiple times. As I noticed similar patterns within the data, I then coded the data into categories that allowed me to identify the main themes. According to Tesch (1990), the purpose of the coding process is to group all data according to a similar topic or theme, then allow for each of those themes to be studied apart from the others. From the main themes, I was also able to identify sub-themes within the categories.

The results of the written surveys were analyzed for common themes and patterns, which I then compared with the results from the interview data. Artifacts from the school records were also examined and assigned to categories to look for trends in the data over a period of five years (Leech & Onwuegbuzie, 2008).

Triangulation occurred by examining all the data collected in order to justify and increase the integrity and trustworthiness of the main themes that I identified through multiple readings, comparisons, and analysis (Creswell, 2013; Patton, 2002). As a final step in validating the data, I verified results with the key personnel from the school and community who had been assisting with the educational improvements for the school and the girls. Results from all the data collected were critical in answering

the research question for this study: *What are the results when efforts for educational attainment are made for girls at a rural primary Kenyan school?*

Findings

In this section, I provide results of the data that identify the challenges students from Western Region Primary school experienced, along with solutions to those challenges.

Challenges identified

Inadequate school infrastructure

According to all who participated in this study, students and their families from this region suffer from extreme poverty. The original conditions of the school infrastructure illustrate the severity of the poverty.

The lack of latrines suitable for any kind of use was the most often mentioned problem with school infrastructure. As both male and female teachers explained, when the school was hastily constructed, only one latrine was built for teachers and students to use, but primarily for the teachers. Even this one latrine was inadequate and provided limited privacy for this basic bodily function. The children either had to share this one latrine, make use of the surrounding rocks and bushes, or limit access to other locations during breaks such as lunch time or after school. In an interview with Teacher 3, she confirmed the hardship of the lack of adequate latrines and pointed at the surroundings: "So we were just going out there in up bushes." Teacher 1, a male, further described the conditions:

> Then we only had one latrine. Yes, latrines. For both the teachers and the pupils. Oh, it was very hard madam. It was just a hole. So a curtain here, then the door, then this is the toilet, we share. The door is made of just a sack, so as people are passing here, will see a teacher. It was terrible … you cannot go that way. Our school with one latrine.

The next most mentioned problem of infrastructure was related to the classrooms themselves. Teacher 3 described the conditions she found when she was first posted to the school: "First of all, I came here in 2008 when I reached in this school and this school had no any permanent structure and it had only 40 children. And also this school had been surrounded by water and this school had no latrines." Teacher 2 further confirmed the dismal infrastructure when she was posted in 2011: "On reporting l requested to teach grade one. I was given a dilapidated classroom which had a number of doors without desks. I had 70 pupils. Due to the dusty floor, we all started coughing." Teacher 2 reported she was able to find some parents to assist in raising funds to at least provide some desks and shutters. Teacher 6 also explained the conditions:

> This is a school that when I joined, I didn't imagine staying there, even for a week, simply because it was not a school. It was a place rejected. It was a place that nobody [was] known to stay. Children landing in a class that doesn't have desks in that class, which was almost like an animal's cowshed.

Insufficient basic resources

The most mentioned issue of poverty was the lack of sanitary supplies for the girls at this school. Teacher 3 described the conditions for the girls in this way:

> A girl child they used to not come to school and there were here, dropouts were many. And the reason for this was I think lack of teachers, lack of classrooms, and also a girl child was mistreated somehow because, for example, during ovulation, girls didn't have sanitary towels so they used to disappear. Some disappear for three, four days and others or disappear and go and are never seen .... These girls the way you see them, almost all of them, they come from poor families this side in the swampy areas, but at home. One, there is starvation from January through January. Two, most of these big girls. They have no innerwears. The way you are just seeing them. Oh, so even having proper clothing would help .... Where they are lacking is what I've told you, yeah, basic needs, basic

needs. Some of them. And even, sometime, I always tell men [teachers] to not just punishing them when they come late. Some of them just go without food.

The principal also described other issues related to basic resources and poverty that impacted the school academically: "Sometimes, sometimes students come to school. Some of them are hungry, they have not eaten anything from home." Teacher 3 affirmed the level of poverty when she stated: "So they have nothing. Some of them go to work for other people in order to get food. If they can only be able to get food but not clothing."

During the interviews with the girls when I asked about access to the sanitary supplies, majority stated they did not have the funds for supplies during their monthly periods, so had to stay home from school. All stated they would prefer to be in school instead of staying home during their monthly cycle. One girl adamantly told me: "I will come to school no matter what because I do not want to stay at home at all." Some girls explained they tried to beg sanitary supplies from female friends and relatives, but the majority were just not able to find the supplies they needed. Many of the girls from this sampling explained they also stay with relatives, which makes it even harder for them to advocate for their needs since resources are already stretched thin. Only one girl reported she was able to get supplies when she needed them because she had a female relative who would help her, and this relative had enough funds to spend for personal items.

Another concern from the girls was lack of *innerwears*, which was confirmed in an interview with Teacher 3. She stated that while it may not seem like a big issue, if the girls do have sanitary supplies, they do not have the proper clothing to attach the sanitary pads which are commonly used in this region.

One of the main themes from the grade eight girls' survey also revealed the challenges with lack of food. Most of the girls stated they had only one meal a day from home, and it was not enough. All the teachers acknowledged the problem of hunger in this region and for the students at this school. The principal explained that he and his staff try to ease the burden of hunger for some of the students from their own limited resources. Teacher 2 stated: "Sometimes you can go an extra mile to provide food for them."

Limited familial and community support

The final challenge to the girls' education as reported by the participants was limited familial and community support for the school and education in general. As the teachers explained, in the early days of the school's existence, girls rarely remained in school until completion of grade eight, usually dropping out by grade six (Teacher focus group interview). According to the teachers, many girls became pregnant, with some becoming mothers as young as 12 years old. Education for girls was not a high priority for families within this community since the parents often had limited education, and the cultural practice was that girls were "only" going to become wives and mothers and education was not necessary.

Results from the girls' written survey provided a general background of the lives of the girls in this region. The girls reported barriers to their educational progress, which included insufficient lighting in the home, lack of paraffin to light the lanterns, and not enough food to eat. Within this region of Kenya, just north of the equator, the average time of daylight is about 13 hours, with darkness falling around 7:00 p.m. each night. It is still early enough in the evening that the mud and stick structures become very dark, and it is impossible to read with the small lantern that may be the only light for the entire home. One girl further clarified her home conditions and said that only one lantern existed in her home, and often the family could not even afford the paraffin to light it. She was therefore unable to complete her reading assignments in order to prepare for school the next day.

Every girl reported she was required to do work once she returned home from school. The most common chores included: gathering firewood, hauling water, watching younger siblings, preparing a meal, cleaning the house, and doing laundry. None of the girls reported they were released early from

the responsibility of their household chores to complete their homework. Rather, homework was attempted if there was time left before going to bed.

One unexpected type of work was revealed from the survey data. One girl reported: "I have to brew chang'aa (home-brewed spirit) the whole night … no time for reading." The principal confirmed that this type of child labor was a frequent issue with children in the community. He further explained: "Parents have abandoned their whole parenthood even with the children, they want their children to work for them … . Lack of education, poverty, the children can work for them, go and work for other people."

The principal also described gender inequality as an aspect of poverty, which is prevalent all over the region. He stated: "One, for us Africans, for the poor parents, they value boys more than anything else, and they used to only take boys to secondary school. Even at home, the boys are given a bed and mattress to sleep on and not the girls."

One observation regarding an interaction with Mentor 1 and two aunties of a girl from the school confirmed the prevailing attitude in this community of girls about continuing their education. A girl I will call Brenda had qualified for a scholarship to high school that would pay all of her tuition fees. Brenda was looking forward to going to high school and completing her studies. Shortly before the start of the new school year, however, her two aunties, who served as her guardians, sent her away to another region to work for an uncle. Once Brenda realized that nobody was coming to take her to school, she ran away from the uncle's home and went to the home of her grade eight class teacher for safety. A situation escalated with the two guardians when the class teacher would not release the girl until she had assurance that the girl would be sent to school. Mentor 1 and I encountered the two guardians walking along the road. Mentor 1 engaged in conversation with them about the situation to try and persuade them that the girl needed to go to high school. The aunties confessed that the girl was going to live with the uncle to earn money to send back to them. Mentor 1 convinced the aunties that Brenda would be better off in high school and could work later on after she finished high school. The aunties finally agreed to pay for the boarding supplies and Brenda went on to high school. As Mentor 1 explained to me later, this example illustrated the challenges for girls when they are viewed as commodities to produce income for their families.

Although parents and guardians are a part of the school community, other community members voiced their displeasure in the school's early days that the school even existed. Teacher 1 described the unwelcoming climate toward the school when he was posted there. He stated:

> Few students and the community was against the school being here. So it was a tug of war. The community was those people who were fighting the school were very influential; they are very strong, and you know, one, one time they managed to convince the area MP [member of parliament] to give them CDF [community development fund] money to target and dig these holes and the boreholes up to the wire fence and even the children couldn't go up to that area there.

Teacher 4 confirmed the negative climate when she arrived: "We started, but before that the community didn't want this school. Any person around didn't want this school." This statement was confirmed by Community Member 1, as he shared he was embarrassed the school was in his community, and he did not even want to point to the school as a landmark when he gave visitors directions to his farm.

Solutions to challenges

Improvements with school infrastructure

The first step in addressing the issues at this school was to construct permanent latrines for the children. A nonprofit organization working in the same region agreed to partner with the school to provide this most needed resource. The structures were built just beyond the school in an area that would not impact groundwater run-off to the local maize (corn) fields. Within just one year after the latrines were completed, attendance data for all students showed a steady increase of approximately

25% (School records). Further, according to the female teachers, the latrines were a catalyst in more consistent school attendance for the girls.

Following construction of the latrines came a new permanent classroom, which was built with funds from an external source. This new classroom replaced one of the mud classes. Teacher 3 shared the importance of this new classroom: "So smearing of the classes with cow dung is almost over . . . . Because of the permanent structures that meant the pupils in this school to improve." When the new classroom was dedicated, one of the community members proudly stated: "Now it is beginning to look like a school!" The teachers explained that the school improvements gave the families more confidence that they could send their girls to this school for education.

Provision of basic resources

The major initiative within this category was to first address the lack of sanitary supplies for the girls. The school was able to secure funds to provide sanitary supplies to at least the grade eight girls at the school. In addition, each girl was given three pairs of *innerwears* to ensure the sanitary pads would be used. This program was designed to provide enough supplies to each grade eight girl for each of the three school quarters.

Coupled with the sanitary supply initiative were ongoing health lessons and mentoring. The female teachers partnered with a reputable women's group in the region that was dedicated to improving the lives of young girls in this village and the surrounding area. According to the leaders from the women's group, in this particular rural area of Kenya, it was often the grandmothers or older relatives who might explain menses and other reproductive issues. However, for the majority of the young girls in this region, the issues of menses and reproduction were rarely discussed. An unanticipated outcome of this shared initiative between the women leaders and female teachers was that these women also became the key mentors and role models or *grannies* for these girls, who otherwise had few positive role models in their lives to explain healthy sexual and reproductive matters (Teacher 3 interview).

After only one year of the program, the girls' attendance improved and their academic scores also began to slowly improve (School artifacts). In the interviews with the grade eight girls, they all stated they were grateful for the sanitary supply assistance. Having these supplies eased the already stressed financial situations in their homes and made sure they could come to school. Further, these girls could then concentrate on other issues and not have to worry about what to do when their monthly cycle arrived.

In just one year after the sanitary supply program started, the most surprising outcome was that there were very few pregnancies among the grade eight girls. In an interview with the female teachers, the reduction of pregnancies for grade eight girls had never before occurred since the school started, and the teachers and women leaders attributed this fact to the sanitary supply program and the mentoring of the women leaders regarding sexual health and responsible practices. As Teacher 3 stated:

> We had very many pregnancy cases but since good advice to the girls [they] are now doing well. The pregnancy cases have been minimized, they are doing well and during ovulation the girls used not to come to school for at least one week but because of introductions of sanitary towel, then absentees and cases are now minimal.

Another important initiative in addressing basic needs was to provide at least some food during the week for the students. The school and parent members agreed that tea should be provided every morning during the traditional tea break. In addition, lunch was provided for the early childhood classes before the children were dismissed for the day. Finally, lunch was to be arranged for the grade eight students after their required Saturday study sessions. A nonprofit group working in the area also arranged with the school to be sure the grade eight students would be fed lunch and snacks during exam time each November. In these small ways, the school and community were making concerted efforts to help reduce hunger and food insecurities and their effects on the children.

Opportunities for further education

Another major barrier to education for the girls at Western Region Primary school was the inability to further their education through high school studies. As a result of the low overall annual school test scores since the founding of the school, no student had ever qualified for high school after taking the primary school exam at the conclusion of grade eight. Even if a student would have qualified for high school, the majority of parents would not have the resources to pay even the basic school fees. For the girls of this school, the lack of further education would more than likely limit opportunities to move beyond their current economic status and most would likely face immediate marriage.

Collaborators from the United States presented Western Region Primary with a proposal to assist students with school fees in order to attend high school. This first pilot project was small, with two students, the top performing boy and girl, receiving full tuition scholarships to high school for four years.

Within a year after the scholarship program began, the teachers reported that not only were the academic scores of the girls at Western Region Primary school increasing and catching up to the boys academically, their confidence and self-worth were also improving (Teacher focus group interview). The teachers explained that the girls were now focusing as much as possible on their studies, completing assignments, and making sure they were attending school and special study sessions on Saturdays.

Initial improvements of solutions

A surprising outcome of the initial improvements was the dramatic academic progress of the girls, even of those in the lower grades. After only two years of school improvements, one of the grade eight girls scored number 14 academically in the region when compared with other schools at mid-term testing. Table 2 shows the grades 6–8 girls' rankings for year three of the school improvements. For grade six, of the top performing 15 students in this grade, eight were girls and girls were in the top three academic spots. For the grade seven girls, eight were in the top 15 and in the top four of their class academically. In the same year, the grade eight girls had only four in the top 15 of their class. However, these results were still very encouraging, as these girls were some of the pioneers when the school improvements began.

The teachers reported they had never before seen such academic improvements from the girls. The teachers explained that continued academic improvement would mean the girls could qualify for entrance to one of the country's national high schools, which would be a major accomplishment for girls from this region. Teacher 3 expressed the improvements in this way:

> The girls also were not used to always reaching standard [grade] eight, then that is the end of education. They are now going up to form four [grade 12] because of school fees right from form [grade] one to form [grade] four. Because of that, our school has regularly improved academically and this has attracted students, or pupils from other neighboring schools.

Improved familial and community support

As the school improved academically, the community took notice and began to provide support in different ways. This community support was important, as parents gained the confidence to send their girls to school. The first demonstration of support was the construction of a borehole (water well) in

Table 2. Girls' academic ranking classes 6–8 after year 3 of school improvements.

Grade 6 Girls Academic Ranking Top 20	1, 2, 3, 9, 12, 13, 14, 15
Grade 7 Girls Academic Ranking Top 20	1, 2, 3, 4, 7, 8, 9, 10
Grade 8 Girls Academic Ranking Top 20	5, 8, 9

the center of the school compound. Since the beginning of the school, there had not been access to water on the school site. As a result, teachers and students had to seek water from neighbors in the area, who were not always cooperative in sharing their water resources. When I asked the deputy principal about this newfound support, he stated: "When the parents found out there would be a new classroom constructed, they came together to raise funds for the borehole. They reasoned that water for the construction must come from the school site and not from the neighbors."

Another area of vital support came via tea and lunch programs. Tea for all students and staff was provided every day at the mid-morning break. This ensured that all would have at least a little something in their stomachs for the remainder of the day. In addition, the parents pooled their resources to provide lunch for the early childhood classes when their instruction concluded in the early afternoon. The parents also agreed to provide lunch for the grade eight students every Saturday at the conclusion of their study sessions. Finally, an external agency agreed to provide lunch for the grade eight students during their exam times in November. As one community member said: "The students look forward to the lunch all year long because they know they will also receive soda and biscuits all week of exams!"

Another unexpected outcome of the school improvements was an increase in the population of girls attending the school. Parents in the area who had sent their girls to other schools now brought them back to Western Region Primary. Parents who had been reluctant to send their girls to any school began to shift their mind-set about educating their girls and send them to school. Additionally, parents from neighboring communities started to transfer their girls to the school. As Teacher 3 explained:

> The performance went up because they [the government] had started constructing permanent structures. The people around you now have left their schools. The population increased in this schools. The government started to provide more teachers to send more teachers in this school. The population of the pupils went up and the school now started to lead.

Teacher 6 articulated his thoughts about the school improvement in this way: "Children, parents, teachers in [Western Region primary], came to learn that now it's becoming a school. Now the performance improved." It was this performance that motivated parents to send their girls to this school.

Discussion

The asset-building framework (Austrian & Anderson, 2015; Austrian & Ghati, 2010; Austrian et al., 2016; The Population Council, 2005) provided the lens through which to examine the results of the data to answer the research question: *What are the results when efforts for educational attainment are made for girls at a rural primary Kenyan school?*

The first category of *social assets* was represented as improvements were made to the physical structures of the school. Not only did the attendance of the girls become more consistent throughout the school year, but more girls from the surrounding community began to enroll in the school. The improvements of the physical structures afforded safe social spaces and became a motivation for more girls to come to school and for parents to allow their girls access to education (Austrian & Muthengi, 2014). In addition, trust between the school and community became a key factor as the school soon became another form of community within the local community.

Another important addition to the *social* assets category was the emergence of *safe spaces*. The sanitary supply initiative provided a vital connection with female teachers and role models from the community who provided the health, reproductive, and life-skills lessons for the girls (Austrian & Muthengi, 2014). The combination of the sanitary supplies and mentors contributed to the motivation for these girls, which would go beyond just the school setting. In interviews with the girls, they affirmed that these local women were their role models and people they could go to for assistance. These initiatives benefiting girls at this school align with the research of Paski (2016), who found that

a comprehensive approach that integrates academic programs with reproductive health education is more desirable than a focus on a single initiative.

The second category of *human assets* (Austrian & Muthengi, 2014) was also represented from the data results. With newfound encouragement and support for their education, the girls demonstrated increased confidence in their academic progress and soon began to outpace the boys. Another example of self-esteem appeared as girls in the lower primary grades began to show increased interest in school attendance and academics. Even though these younger girls had not yet benefited from all of the school initiatives and improvements, these younger girls have observed the progress and increased self-esteem of the older girls. According to the teachers, these younger girls continue to show motivation to stay in school and already fewer of them have dropped out before the end of grade eight. These younger girls have even been heard telling their friends and teachers that they want to be professors, and they insist on being called professor. The teachers have said they had never heard of this kind of dreaming for the future from the girls before.

Although the third category of *physical assets* would usually be considered tangible or material items for each girl, it could be argued in this study that having ongoing regular access to sanitary supplies should indeed be included as a physical asset. The lack of sanitary supplies was originally identified as a key barrier in limiting the educational attainment for the girls of Western Region Primary school. Providing for this need ultimately became one of the main catalysts for the girls' academic and social improvements. The financial burden of trying to find funds for their monthly supplies removed the pressure to seek money from alternative means such as trading sex for money (Austrian et al., 2016). The successful results of the efforts with the sanitary supply project also mirror similar results from several other studies in school attendance. In results from a study in Ethiopia, Montgomery et al. (2016) reported that girls who did not use sanitary pads had an absentee rate of five times higher than those girls who had access to sanitary pads. In another study from Ghana, girls who did not have sanitary supplies missed at least 3–5 days of school per month, while girls with the supplies had increased attendance at school (Montgomery et al., 2012).

Conclusion

The progress of educational attainment for girls at Western Region Primary school has set an example for girls in this region of rural Kenya and beyond. This pilot project and its initial success is only a beginning for the girls of this community. Even though this program is still small and developing, vital needs for girls at Western Region Primary have already been met and the results are encouraging. Three components of the asset-building theory of change were evident from the data results – social, human, and physical – leaving *economic* as a category for future development and study. Even small initiatives that are intentional and well-focused can make a difference within a community, helping to motivate and encourage everyone involved.

Since this case study is only a pilot, more research is needed in order to follow the progress of students as they move beyond the Western Region Primary school. For example, a longitudinal study following the scholarship students through high school and beyond could provide useful information as to their living conditions, job opportunities, or even education beyond high school. Without the scholarship opportunity for high school, the girls from Western Region Primary would not have been able to go to high school at all and more than likely would have remained in the community in the perpetual cycle of poverty. Future research could also track an entire class of the Western Region Primary girls once they leave school to determine if there are positive changes related to delaying marriage, early pregnancies, specific health issues, and sexual activity. Finally, it would also be helpful to further explore any correlations between the school improvements and changes within the community, whether positive or negative.

With a program such as this one at Western Region Primary, consistency is a vital part of the process in order to maintain and expand the opportunities for further growth. Although poverty has not been eliminated for the girls from the school, providing adequate infrastructure, sanitary supplies,

and some food stability has led to encouraging academic and social improvements for the girls. Since this is a pilot program, more information would be needed before scaling up and adding other components or even branching out into other communities, each with their own unique needs and challenges.

Increasing educational attainment and removing barriers to education for girls should be a global priority, with clear objectives and plans for implementation at each national level. Austrian et al. (2016) maintain that girls need critical thinking skills as a part of their education as they move into adulthood. Having equal access to education at all levels begins to remove those barriers to education, especially in rural areas. In writing about women's barriers to education in Kenya, Sifuna (2006) recommends that the Kenyan government enact clear policies to promote gender reforms leading to educational attainment for females. The efforts at Western Region Primary school have demonstrated that positive results for girls can indeed happen when barriers to education are reduced or eliminated. The increase of girls' enrollment and family support may even indicate a subtle move in breaking down long-held patriarchal and cultural norms that favor a boy's education over a girl's education (Omwami, 2011).

Helping to remove barriers to education for girls worldwide and provide for their basic needs can have long-lasting positive effects for all of those involved. According to Austrian et al. (2016): "Community norms regarding girls' values must be strengthened to facilitate the increase in asset for girls and the resulting improvements in medium- and longer term outcomes" (p. 2). Even though some of the challenges to education and basic needs may seem insurmountable, even small steps addressing practical basic needs can indeed make a difference for the educational attainment of girls, especially in developing countries.

References

Abuya, B., Onsomu, E., & Moore, D. (2014). Determinants of educational exclusion: Poor urban girls' experience in-and out-of-school in Kenya. *Prospects*, *44*(3), 381–394. http://doi.org/10.1007/s11125-014-9306-1

Austrian, K., & Anderson, A. D. (2015). Barriers and facilitators to health and behavior change and economic activity among slum-dwelling adolescent girls and young women in Nairobi, Kenya: The role of social, health, and economic assets. *Sex Education*, *15*(1), 64–77. http://doi.org/10.1080/14681811.2014.947364

Austrian, K., & Ghati, D. (2010). *Girl centered program design: A toolkit to develop, strengthen and expand adolescent girls programs*. Population Council.

Austrian, K., & Muthengi, E. (2014). Can economic assets increase girls' risk of sexual harassment? Evaluation results from a social, health and economic asset-building intervention for vulnerable girls in Uganda. *Children and Youth Services Review*, *47*(2), 168–175. http://doi.org/10.1016/j.childyouth.2014.08.012

Austrian, K., Muthengi, E., Mumah, J., Soler-Hampejsek, E., Kabiru, C. W., Abuya, B., & Maluccio, J. A. (2016). The adolescent girls initiative-Kenya (AGI-K): Study protocol. *BMC Public Health*, *16*(2010), 1–14. http://doi.org/10.1186/s12889-016-2888-1

Bagaka's, J. G. (2010). Many districts left behind: An individual change analysis of inequity in the Kenyan primary educational opportunities. *International Journal of Educational Development*, *30*(6), 586–591. http://doi.org/10.1016/j.ijedudev.2010.02.002

Burrows, A., & Johnson, S. (2005). Girls' experiences of menarche and menstruation. *Journal of Reproductive and Infant Psychology*, *23*(3), 235–249. http://doi.org/10.1080/02646830500165846

Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Sage.

Dawo, J. I., & Simatwa, E. M. W. (2010). Opportunities and challenges for mixed day secondary school headteachers in promoting girl-child education in Kenya: A case study of Kisumu Municipality. *Educational Research and Reviews*, *5*(12), 730–741. https://repository.maseno.ac.ke/handle/123456789/458

Hallman, K. (2005). Gendered socioeconomic conditions and HIV risk behaviours among young people in South Africa. *African Journal of AIDS Research*, *4*(1), 37–50. http://doi.org/10.2989/16085900509490340

Hammersley, M., & Atikinson, P. (1995). *Ethnography: Principles in practice* (2nd ed.). Routledge.

Kenya National Goals of Education. (2013). The national goals of education in Kenya: Interrogating the achievement of national unity. *Journal of Education and Practice*, *4*(4), 149–156.

Leech, N. L., & Onwuegbuzie, A. J. (2008). Qualitative data analysis: A compendium of techniques and a framework for selection for school psychology research and beyond. *School Psychology Quarterly*, *23*(4), 587–604. http://doi.org/10.1037/1045-3830.23.4.587

Lloyd, C. B., & Young, J. (2009). *New lessons: The power of educating girls.* The Population Council, Inc.

Montgomery, P., Hennegan, J., Dolan, C., Wu, M., Steinfield, L., & Scott, L. (2016). Menstruation and the cycle of poverty: A cluster quasi-randomised control trial of sanitary pad and puberty education provision in Uganda. *PLOS One*, *11*(12), 1–26. http://doi.org/10.1371/journal.pone.0166122

Montgomery, P., Ryus, C. R., Dolan, C. S., Dopson, S., & Scott, L. M. (2012). Sanitary pad interventions for girls' education in Ghana: A pilot study. *PLoS One*, *7*(10), 1–7. http://doi.org/10.1371/journal.pone.0048274

Omwami, E. M. (2011). Relative-change theory: Examining the impact of patriarchy, paternalism, and poverty on the education of women in Kenya. *Gender and Education*, *23*(1), 15–28. http://doi.org/10.1080/09540251003674105

Oruko, K., Nyothach, E., Zielinski-Gutierrez, E., Mason, L., Alexander, K., Vulule, J., Laserson, K. F., & Phillips-Howard, P. A. (2015). "He is the one who is providing you with everything so whatever he says is what you do": A qualitative study on factors affecting secondary schoolgirls' dropout in rural western Kenya. *PLoS One*, *10*(12), 1–14. http://doi.org/10.1371/journal.pone.0144321

Paski, S. (2016). Addressing child marriage and adolescent pregnancy as barriers to gender parity and equality in education. *Prospects*, *46*(1), 109–129. http://doi.org/10.1007/s11125-016-9379-0

Patton, M. Q. (2002). *Qualitative research & evaluation methods* (3rd ed.). Sage Publications.

The Population Council. (2005) . *Building assets for safe, productive lives: A report on a workshop on adolescent girls' livelihoods.* Population Council.

Sifuna, D. N. (2006). A review of major obstacles to women's participation in higher education in Kenya. *Research in Post-Compulsory Education*, *11*(1), 85–105. http://doi.org/10.1080/13596740500507995

Sommer, M. (2010). Where the education system and women's bodies collide: The social and health impact of girls' experiences of menstruation and schooling in Tanzania. *Journal of Adolescence*, *33*(4), 521–529. http://doi.org/10.1016/j.adolescence.2009.03.008

Tesch, R. (1990). *Qualitative research: Analysis types and software tools.* The Falmer Press.

UNESCO Institute for Statistics. (2015). *Fixing the broken promise of education for all: Findings from the global initiative on out-of-school children.* http://www.uis.unesco.org/Education/Documents/oosci-global-report-en.pdf

Warrington, M., & Kiragu, S. (2012). "It makes more sense to educate a boy": Girls "against the odds" in Kajiado, Kenya. *International Journal of Educational Development*, *32*(2), 301–309. http://doi.org/10.1016/j.ijedudev.2011.05.004

Yin, R. (2014). *Case study research: Design and methods* (5th ed.). Sage.

Republic of Kenya & National Bureau of Statistics. (2014). *Kenya demographic and health survey.* https://dhsprogram.com/pubs/pdf/fr308/fr308.pdf