



**African Population and  
Health Research Center**

# ADVANCING LEARNING OUTCOMES AND LEADERSHIP SKILLS AMONG CHILDREN LIVING IN INFORMAL SETTLEMENTS OF NAIROBI THROUGH COMMUNITY PARTICIPATION





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This research report has been published by the African  
Population and Health Research Center © 2016

Baseline Report, August 2016

# Preamble

The 'Advancing Learning Outcomes for Transformational Change' (ALOT-Change) project seeks to increase efforts towards securing the future of 12- to 19-year-old boys and girls living in urban informal settlements by improving their learning outcomes, their rates of transition to secondary school, their leadership skills and their social behavior. To achieve these, the project is undertaking an after-school support and life skills mentorship program. The program will run until 2019 and will provide subsidies to pupils, expose parents to guidance and counseling, and provide boys and girls with opportunities that can enhance their leadership skills.

Anticipated project outcomes include improved numeracy and literacy scores, improved knowledge in social behavior and leadership skills, improved retention in primary school, increased transition rates to secondary school and improved parental support and participation in child education.

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**Suggested citation:** Abuya, B., Ngware, M., Hungi, N., Mutisya, M., Kitsao-Wekulo, P., Njagi, J., Gichuhi, N. & Mambe, S. (2016). Advancing Learning Outcomes and Leadership Skills among Children living in Informal Settlements of Nairobi through Community Participation



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# Abbreviations

<b>APHRC</b>	African Population and Health Research Center
<b>CBO</b>	Community-Based Organization
<b>ERP</b>	Education Research Program
<b>FGD</b>	Focus Group Discussion
<b>GER</b>	Gross Enrollment Ratio
<b>HIV/AIDS</b>	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
<b>IDI</b>	In-depth Interview
<b>KCPE</b>	Kenya Certificate of Primary Education
<b>KII</b>	Key Informant Interview
<b>LFPS</b>	Low Fee Private Schools
<b>MDGs</b>	Millennium Development Goals
<b>MoE</b>	Ministry of Education
<b>NUHDSS</b>	Nairobi Urban and Health Demographic Surveillance System
<b>SACMEQ</b>	The Southern and Eastern Africa Consortium for Monitoring Educational Quality
<b>SDGs</b>	Sustainable Development Goals
<b>SSA</b>	Sub-Saharan Africa
<b>TV</b>	Television
<b>USD</b>	United States Dollar



# Acknowledgements

Preparing the Advancing Learning Outcomes for Transformational Change (ALOT-Change) baseline report would not have been possible without the hard work of the community-based organizations (CBOs) and the research team, within the Education Research Program (ERP) that is dedicated to improving the lives of vulnerable boys and girls in urban informal settlements. The ALOT-Change project is implemented by a consortium led by the African Population and Health Research Center (APHRC), with Miss Koch Kenya (MKK) and U-Tena Youth Organization as implementing partners in Korogocho and Viwandani areas respectively. We would like to thank all the project members as well as the Sub-County Education officials and the Nairobi County Education Office for their support during the GEC Phase I and more importantly during the launch of ALOT-Change project.

We acknowledge the diligence of Nelson Muhia and Shem Mambe in coordinating the day-to-day activities of the ALOT-Change project and the ERP team for supporting the training, data collection and report writing activities. We also acknowledge the contribution of the implementing partners Miss Koch Kenya and U-Tena Youth Organization, and more specifically the Program Managers, Mary Njambi and Peter Mokaya, for managing and ensuring that the intervention activities run as scheduled.

The authors thank the anonymous donors who invested in this intervention research that has already begun to provide evidence on ways to improve learner outcomes and transition to secondary school.

Finally, we are grateful to the adolescent boys and girls, their parents/guardians, mentors, counselors and community leaders who participated in the research and took time to share their thoughts and experiences with us. We are also grateful to the schools in Korogocho and Viwandani informal settlements for supporting the project since inception.



# Executive summary

The goal of the Advancing Learning Outcomes for Transformational Change (ALOT-Change) project is to increase efforts towards securing the future of boys and girls aged between 12 and 19 years and living in urban informal settlements. The project aims to do this by improving their learning outcomes, retention in primary school, transition to secondary school, leadership skills and social behavior. The ALOT-Change project, which is a three year study, has the following objectives:

Establish the differential effect of the proposed intervention on learning outcomes and transition to secondary school among boys and girls in Korogocho and Viwandani;

Examine whether mentoring in life skills has different impacts on behavior change, aspirations, interest in schooling and self-confidence among boys and girls;

Establish the impact of leadership skills training on various outcomes (learning outcomes and taking up leadership roles) among boys and girls in the study communities;

Establish whether parental sensitization increases the level of support that parents and community leaders provide towards the education of children in Korogocho and Viwandani.

The fourth objective will be assessed after the last year of the project when boys and girls, who are in grade six at baseline, will have undertaken their Kenya Certificate of Primary Examination (KCPE) at the end of grade eight.

The study adopts a quasi-experimental design. Given this design, one of the study sites was randomly selected to have an additional leadership component. In order to achieve the stated objectives, the intervention study undertook the following activities: implementing an after-school support and life skills mentorship program, providing secondary school subsidies at the beginning of 2019 to the boys and girls participating in the study, exposing parents to guidance and counseling sessions, and providing opportunities to the boys and girls to enhance their leadership skills.

This report details the baseline findings of the ALOT-Change Program prior to the commencement of the intervention in Korogocho and Viwandani. The baseline data collection carried out from 13th April to 10th May 2016 used both quantitative and qualitative techniques.



# Summary of findings

## Characteristics of Respondents

- Overall, 65% of the households were male headed, with 62% in Korogocho and 69% in Viwandani.
- The household heads had low levels of education, with about 55% of them attaining only primary level education. However, in Viwandani, 45% of the household heads had attained at least secondary school education compared with 28% in Korogocho.
- One in every four pupils had lost a parent. This ratio rose to almost one in every three in Korogocho. Among those orphaned, 81%, 8%, and 11% were paternal, maternal, and double orphans, respectively. Korogocho accounted for all double orphans and two-thirds of the paternal orphans.
- While 90% of the parents aspire to their children's attainment of university education, only 43% report university as the most realistic level that their children will achieve; 34% and 18% report secondary and college, respectively.

## Achievement in Numeracy and Literacy

- Overall, pupils in Korogocho significantly outperformed those in Viwandani on the numeracy test but the performance of the pupils in the two slums was about the same on the literacy test.
- Overall, boys performed significantly better than girls on the numeracy test. However, the sex differences on the literacy test were minimal.
- In general, younger pupils outperformed their older classmates on the literacy test. This relationship between test scores and pupil age was not evident in the numeracy results.
- Pupils who performed well in literacy by and large also performed well in numeracy.

## Pupil behavior and Life skills

- The study finds that overall; pupils in both sites have high educational aspirations and future goals, as well as high levels of confidence. These levels were similar in both sites, for girls and boys and across levels of household wealth. However, peer-to-peer encouragement and discussion on key issues affecting the pupils were fairly low in both sites.
- There were significant differences by site on educational aspirations and future goals, and levels of self-confidence among pupils. For instance, Korogocho recorded a higher incidence of educational aspirations and striving for future goals, and higher levels of self-confidence compared to Viwandani. Similarly, reporting of favorable school environment, pupil effort and effort to do well in school was higher in Korogocho compared to Viwandani.
- More pupils (46%) reported that they were comfortable discussing sexuality and puberty issues with their parents, compared to those who were comfortable discussing these issues with teachers (26%) and peers (less than 10%).
- A higher proportion of girls (56%) were comfortable discussing sexuality and puberty issues with their parents compared to boys (35%). In addition, slightly more boys (29%) than girls (22%) were comfortable discussing puberty and sexuality with teachers, compared to girls (22%). Boys also reported being more comfortable discussing puberty and sexuality with their peers and siblings compared to girls.

## Leadership Component

- The items on the social competencies sub-scale were more frequently rated at the lowest level (never) than at the highest level (always), suggesting that pupils did not empathize with the feelings of others or trust people who were not their friends.



- On the other hand, the high ratings on the self-regulatory efficacy sub-scale suggested that it was very easy for pupils to resist negative peer pressure.
- Boys had significantly higher ratings than girls on the social self-efficacy and social competencies sub-scales suggesting that they felt it was easier for them to relate to and communicate with others.
- More pupils in Korogocho than in Viwandani reported that it was very easy for them to resist peer pressure. On the other hand, more pupils in Viwandani reported availability of support within their communities.

#### Perceptions of the Community, Parents, and Pupils

- The community elders saw their role as the face of Government' in their respective communities. They felt it was important for them to explain the policies pertaining to education to the communities, and ensuring its implementation.
- The community leaders' role was also to engage parents to understand the challenges that affect children in school; and to be actively engaged as participants in their children's education.
- Parental monitoring and the follow-up of children was important to parents in Korogocho, in order to establish whether they attended school, and completed work assigned by teachers.
- Effective communication and interaction with teachers was also reported as one of the ways to ensure that children are well educated. These interactions ensured that discipline is maintained in school and at home.
- An interesting finding is that a majority of the children in the study sites aspired to leadership positions related to their informal settlement context; for example, working in the security industry to resolve insecurity issues in their communities.
- In the eyes of community members, there was a clear link between crime and adolescence (especially 14-18 years). At this age, adolescents are most vulnerable to negative influences around them such as drug abuse and destructive peer influences that may drive them to engaging in crime.



# 1. INTRODUCTION



## 1.1 Background

Against the backdrop of the United Nations Millennium Development Goals (MDGs) launched in the year 2000 aimed at reducing extreme poverty worldwide by 2015, many African countries embarked on realizing goal number two; of achieving universal primary education. This saw many countries in Africa, scrap fees in schools in a bid to increase primary school enrolment rates (AAI, 2015). These measures had several positive impacts. The United Nations reported improved enrolment rates in developing countries, at 91 percent in 2015, compared to 83 percent in 2000. Sub-Saharan Africa recorded the highest improvement with an increase of 20 percentage points in the net enrolment rate. In addition, the number of out-of-school children of primary school age reduced from 100 million to 57 million over the same period. Literacy rates among the youth aged 15-24 also recorded an increase from 83 percent to 91 percent between 1990 and 2015 (UN, 2015).

The 17 Sustainable Development Goals (SDGs) and 169 targets which build on the MDGs seek to partly complete what was not achieved between the years 2000 and 2015, as well as address emerging global concerns. As such, there has been a lot of discourse on the important role that education plays in the achievement of the 2030 agenda for sustainable development. Education is one of the most effective means of reducing poverty. For example, it is estimated that if all pupils in low-income countries acquired basic reading skills in school, there would be a 12 per cent drop in global poverty, translating to about 171 million people being lifted out of poverty. In addition, an individual's earnings would increase by up to 10 percent as a result of just one extra year of schooling (UNESCO, 2011).

There is also a strong relationship between a mother's education and children's nutrition. For instance, if all mothers in low-income countries had primary education, 1.7 million children out of an estimated 47 million stunted children would be free from stunting. This number increases to 12 million children if all mothers in these countries attain a secondary education (UNESCO, 2013). Moreover, education has been associated with positive health outcomes. Studies have shown that educated individuals are less vulnerable to health risks compared to those with low or no education. A case in point is the global increase in education of women which resulted in preventing about 4 million child deaths in just four decades (Gakidou, Cowling, Lozano, & Murray, 2010). UNESCO further estimates that the probability of infant mortality reduces by as much as 10 per cent for each extra year of mother's schooling, while children of literate mothers are 50 percent more likely to live past their fifth birthday (UNESCO, 2011).

Education has been shown to be effective in averting child marriages and early births. For example, it is projected that there would be a reduction of the over 2.8 million child marriages in sub-Saharan Africa (SSA) and South and West Asia by 14 and 64 per cent if all girls had primary and secondary education respectively (UNESCO, 2013). Despite these advances, a number of education-related barriers threaten to hamper the progress made so far. Globally, the number of out-of-school adolescents is estimated to be 65 million, with those of lower secondary school age (12-15 years) almost twice as likely to be out of school as children of primary school age (6-11 years). In SSA, about half of all out-of-school children will never enroll in school. Children from the poorest households are more prone to being out of school as well as less likely to benefit from free primary education compared to their counterparts from the richest households (Ngware, Oketch, Ezeh, & Mudege, 2009; UNESCO, 2015).

In Kenya, just over one million children are estimated to be out of school (UNESCO, 2015). Although rural areas are generally seen to exhibit poor education outcomes (Kenya National Bureau of Statistics & Society for International Development, 2013), urban informal settlements tend to be marginalized resulting in unique challenges that impede positive education outcomes (Oketch, Mutisya, Ngware & Ezeh, 2010). Urban informal settlements are characterized by overcrowding, insecurity, poor supply of basic necessities such as water, electricity and sanitation, poor infrastructure and few Government'-owned learning institutions. In addition youth in these areas tend to display low aspirations and expectations (Kabiru, Mojola, Beguy, & Okigbo, 2013).

**Achievement and transition to secondary school:** Although efforts have been made to improve secondary school participation through the introduction of free day secondary school education in



2008, the gross enrolment ratio (GER) in 2014 still remains low at 58 per cent (Kenya National Bureau of Statistics, 2015). The major challenges to participation include low learning outcomes, cost barriers and poor performance in the Kenya Certificate of Primary Education (KCPE) examination. In 2010, 77 per cent of the 2003 grade 1 cohort completed primary school with a subsequent transition to secondary school of 73 per cent. However, in Nairobi, pupils who live in non-slum areas had higher rates of both primary school completion and transition to secondary school (92 per cent and 72 per cent) compared to their counterparts in slums (76 per cent and 46 per cent) (Admassu, 2013). This means that about 27 per cent of pupils in slum areas do not make the transition to secondary school. In a move to improve the situation, there have been calls to education stakeholders to come up with programs to overcome the various hurdles to secondary school participation. These programs should target marginalized groups such as pupils from disadvantaged families and especially girls (Glennester, Kremer, Mbiti, & Takavarasha, 2011).

**Need for training in leadership:** Children born in slums face complex challenges in life and require a great degree of resilience to survive their household poverty, poor physical and social environments. Parents living in these environments devise coping mechanisms to mitigate the challenges that come with slum life. Although Phase I has for the last three years built effective communication between parents and their girls, in order to build an academically supportive relationship, it is important to strengthen the children's ability to function in these constrained settings. Improving the ability of young people to cope with the hardships of slum life in a positive manner is important because they can be empowered to become transformative leaders who champion change (Kabiru et al., 2013).

**Importance of parental involvement:** Extant research has shown the relationship between parental involvement and student academic achievement, with most studies suggesting a positive association between parental involvement and student achievement (Bakker, Denessen, & Brus-Laeven, 2007; Blondal & Adalbjarnardottir, 2009; Castro et al., 2015; Hill & Taylor, 2004; Jeynes, 2007). Interestingly, even in cases where no direct correlation was reported, parental involvement was found to result in better social skills and fewer behavioral problems in children, which may later be associated with better academic achievement (El Nokali, Bachman, & Votruba-Drzal, 2010). In addition, parental involvement has also been shown to be a predictor of better reproductive health outcomes for adolescents living in urban informal settlements (Ngom, Magadi, & Owuor, 2003). Other studies have pointed to a strong relationship between parents' expectations/aspirations and students' academic achievement (Fan & Chen, 2001).

In an attempt to provide innovative solutions to overcome these barriers, APHRC piloted a three-year intervention project from 2013 to 2015. This project was implemented in two major informal settlements in Nairobi – Korogocho and Viwandani – in a bid to generate evidence on approaches to improve learning outcomes and transition to secondary school among girls aged 12-19 years. Drawing on the achievements and the lessons learnt from the pilot study (Abuya et al., 2015), APHRC in collaboration with two partners, U-Tena and Miss Koch are implementing the ALOT-Change project in the same sites. The project seeks to secure the future of boys and girls aged between 12 and 19 years and who live in urban informal settlements by improving their learning outcomes, transition to secondary school, leadership skills and positive social behavior. To achieve these outcomes, the project is: undertaking an after-school support and life skills mentorship program; providing subsidies to children in the program till 2019; exposing parents to guidance and counseling; and, providing these boys and girls opportunities to enhance leadership skills.

The specific objectives of the project are to:

- i. Establish the differential effect of the proposed intervention on learning outcomes and transition to secondary school among boys and girls in Korogocho and Viwandani;
- ii. Examine whether mentoring in life skills has different impacts on behavior change, aspirations, interest in schooling and self-confidence among boys and girls;
- iii. Establish the impact of leadership skills training on various outcomes (learning outcomes and taking up leadership roles) among boys and girls in the study communities;



- iv. Establish whether the parental sensitization component of the intervention increases the level of support that parents and community leaders provide towards education of children in Korogocho and Viwandani.

## 1.2 The intervention

**After-school support with homework in literacy and numeracy:** This component seeks to support boys and girls with their homework in literacy and numeracy. The support is provided through positive role models who are drawn from the community and have completed secondary education with a mean grade score of C+ or above in their end-of-secondary school examinations. The after-school homework sessions held twice a week, cover three weeks in any given month. One session covers literacy skills and the other session covers numeracy skills. Each session lasts at least one hour. Recommended numeracy and literacy textbooks are used for homework support and revision.

**Life skills training:** This component involves sharing knowledge on soft skills among adolescents to help them overcome the challenges of growing up and become responsible adults. The topics taught include values, self-awareness, self-esteem, drug and substance abuse, relationships, HIV/AIDS, effective communication, effective decision-making, career goals and sexual and reproductive health. The life skills training sessions are to be held once every month for the duration of the project.

**Leadership training:** This aspect of the program intends to develop leadership skills through in-house leadership training sessions which cover topics such as ethical leadership, teamwork, building professional and social relationships, communication, and public speaking. Six in-house sessions will be conducted by community mentors. Pupils with leadership potential will be provided with opportunities to develop, refine, and practice their skills. Apart from the in-house sessions, talks by accomplished leaders will be held once every quarter preferably during school holidays, and exposure visits will be held once a year. The leadership component is expected to empower young people to provide transformative leadership in their respective communities by providing them with education and soft skills.

**Primary to secondary transition subsidy:** A subsidy will be provided for new secondary grade 1 entrants in Korogocho and Viwandani who will have scored 250 marks and above in the Kenya Certificate of Primary Education (KCPE) examination. The financial support will subsidize the cost of joining the first grade of secondary school by an equivalent of USD 113. This will enable the beneficiaries to transition to and be retained in secondary school. Public secondary schools use KCPE examination scores as the main selection criterion. Those who score highly are admitted to top, highly-competitive public secondary schools in Kenya. These schools follow the annual school fee guideline set by the Ministry of Education charged at between Ksh. 9000/- and Ksh. 54000/- (Republic of Kenya, 2015), depending on the category of school. However, some of these costs may be pushed upwards by the school management and fees become too costly and unaffordable by parents from the slums where 35% of households live below the poverty line (Emina et al., 2011). Financial support is therefore essential to achieve the aim of improving transition to secondary school.

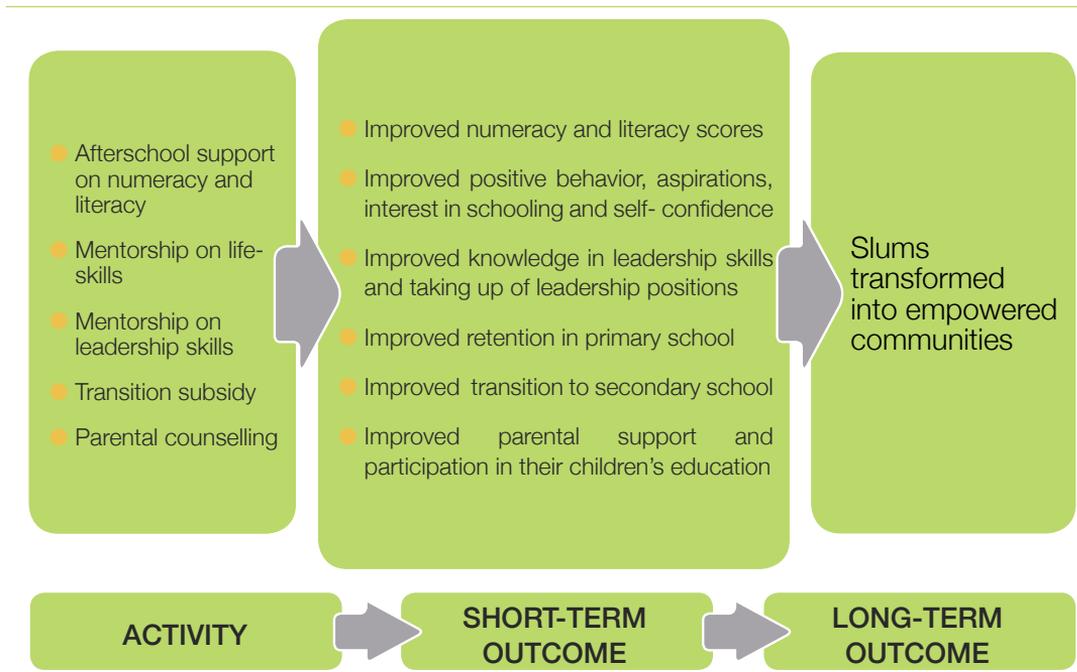
**Guidance and counseling of parents:** This component targets the parents of boys and girls aged between 12 and 19 years and encourages them to provide support for the education and schooling of children who are at risk of not completing primary or secondary school, or not able to progress to secondary school. The intervention sensitizes parents and community leaders on: i) supporting children's schooling; ii) minimizing the time children are engaged in household chores and child labor; iii) supporting children with their studies at home; iv) encouraging their children to attend after-school homework sessions; v) cooperating with the volunteers and mentors to help girls and boys; vi) cooperating with the teachers to track boys' and girls' performance in school; and, vii) participating in sensitization sessions with boys and girls. Parental counseling will be conducted once every month for the first three months and once every quarter for the remainder of the project duration. Each session will last approximately one hour.



### 1.3 Theory of change

The theory of change illustrated in Figure 1.1 proposes that for slums to be transformed into empowered communities, a multifaceted intervention is required. The intervention has five components: after-school support on numeracy and literacy, mentorship in life skills, mentorship in leadership, financial support to subsidize transition cost and parental counseling. In the short-term, it is expected that the intervention will result in improvements in: numeracy and literacy scores; positive behavior, aspirations, interest in schooling and self-confidence; knowledge in leadership skills and taking up of leadership positions; retention in primary school; transition to secondary school; and, parental support and participation in the education of their children. This approach is informed by evidence provided through previous studies suggesting that multiple socio-economic factors affect education status in Kenya, and more so in urban informal settlements (Ngware, 2013). A meta-analysis of 35 studies of at-risk youth reported that out-of-school time programs had a positive effect on reading and math achievement (Lauer et al., 2006). In our case, the aim is to improve achievement in English and Math through after school sessions on literacy and numeracy skills using volunteer mentors. In addition, the intervention will offer life skills training informed by previous programs which show that focusing on improving social and personal skills will lead to improved self-esteem and self-confidence by students. (Durlak & Weissberg, 2007). Examples of these programs include “Go Girls”, a program of structured group sessions that helps improve girls’ body image, assertiveness, self-efficacy, and self-liking and mentoring programs such as “Across Ages” (Taylor, LoSciuto, & Hilbert, 1999), which pairs older adults with students. There is also evidence that after-school support programs can reduce juvenile crime, teenage sex, substance use and pregnancies (Goldschmidt & Huang, 2007; Philliber, Kaye, Herrling, & West, 2002). In India, Banerjee, Cole, Duflo, and Linden (2004) found that engaging young women from an urban community to directly provide after-school support to low performing students improved learning.

Figure 1.1: Theory of change diagram



## 1.4 Study design and approach

The study involves all pupils in Korogocho and Viwandani who are enrolled in grade 6 in 2016 together with their parents. The study is nested within the Nairobi Urban Health and Demographic Surveillance System (NUHDSS) which is run by the African Population and Health Research Center (APHRC). The NUHDSS tracks a population of about 63,000 individuals in about 25,000 households as at May 2015. Using this database, a list of 824 pupils who were in grade 5 in 2015 (expected to be in grade 6 in 2016) was generated followed by a field confirmation on the schooling and grade status. The eligible pupils were recruited into the study, exposed to the intervention and will be followed prospectively for a period of three years. Once recruited, even if a student repeats a grade, they are still eligible. Their parents were also recruited to participate in parental counseling on the sensitization arm of the intervention.

### 1.4.1 Quantitative approach

The target for the intervention study were households in the informal settlement areas of Korogocho and Viwandani comprising boys and girls aged between 12 and 19 years and in grade six. The two sites form study areas for the Nairobi Urban and Health Demographic Surveillance System (NUHDSS) run by the APHRC. The membership and location information of all the households is collected and updated after every four months. Using the database generated by the NUHDSS, all subjects aged between 12 and 19 years by 31st March 2016 were identified. Using the generated list, field confirmation of the grade enrolled in 2016, school name, and school type was undertaken. The target population of pupils was 824, i.e. 424 in Korogocho and 400 in Viwandani. The study adopts a quasi-experimental design to test the effect of the leadership training on the learning outcomes of boys and girls, with adolescents from Korogocho forming treatment group 1 (no leadership component) and those in Viwandani being allocated to treatment group 2 (with leadership component). A coin was tossed to determine which site would be allocated to treatment group 1, and which one to treatment group 2. The study also involves replication of an intervention which was initially piloted in both sites, to be more inclusive and include boys, and to test an additional leadership component.

### 1.4.2 Qualitative approach

For the qualitative approach, purposive sampling was adopted to select participants to be interviewed. In total, 34 qualitative interviews were conducted. Eight focus group discussions (FGDs), four in each site, were held with parents. The groups were categorized as follows: fathers with girls in the program; fathers with boys in the program; mothers with girls in the program; and, mothers with boys in the program. In addition, twelve in-depth interviews (IDIs) with a sample of grade six pupils and key informant interviews (KIIs) with the chiefs from the two sites and twelve village elders were conducted.

**Selection of community leaders:** Community leaders included local area chiefs and village elders. Two chiefs and twelve village elders were selected from Korogocho and Viwandani. The two chiefs are the national government's representatives and administrators at the grassroots in the two sites, while the village elders represented the various villages within Korogocho and Viwandani who support the chiefs in discharging their administrative duties.

**Selection of parents:** A list of parents/guardians in Korogocho and Viwandani was generated using the list of pupils selected for participation in the study. A random selection of 10-12 parents was then made from each category for participation in the focus group discussions.

**Selection of pupils:** Six boys and six girls representing the different villages were selected purposively from each study site. Interviews were conducted after seeking consent from their parents.



## 1.5 Recruitment, training of interviewers and piloting

Field staff was recruited on the basis that they had: at least secondary school level of education; prior experience of working on similar surveys; and, proficiency in Kiswahili and English. Field staff was also required to be resident in either Korogocho or Viwandani. Trainees underwent a one-week training from the 4th to the 8th of April 2016. The training covered the project objectives and a comprehensive review of the data collection tools. The training emphasis was on role-plays, to enable the trainees to understand the purpose of the project and have an opportunity to practice administration of the instruments. Piloting of the survey instruments was done on April 13th 2016 to ensure that all the data collection tools were valid and adequate for the baseline study. Training for the qualitative study was conducted on April 25th 2016.

## 1.6 Data collection

Quantitative data collection took place for three weeks, from April 14th to May 10th 2016. Out of the targeted pupils, complete data were obtained from 329 subjects in Korogocho and 305 subjects in Viwandani. A total of 634 girls and boys were reached. The reasons for not reaching all of the 824 were unavailability for interviews, identified subjects studying upcountry and movement outside the demographic surveillance area. Appendix 1 provides a summary of these reasons.

Data collection for the qualitative study was completed between April 26th and May 1st 2016. As illustrated in Table 1.1, 34 qualitative interviews were conducted: eight focus group discussions with parents, 12 in-depth interviews with pupils, 12 key informant interviews with village elders and two key informant interviews with Chiefs.

**Table 1.1: Number of interviews by type**

Study population	Korogocho (n=17)	Viwandani (n=17)	Total (N=34)
Focus Group Discussions (FGDs)			
Parents	4	4	8
Key Informant Interviews (KIs)			
Chiefs	1	1	2
Village elders	6	6	12
In-depth Interviews (IDIs)			
Pupils	6	6	12

### 1.6.1 Quantitative and qualitative questionnaires

The ALOT-Change baseline study instruments included household survey tools (individual schooling update questionnaire, individual behavior/life skills questionnaire, leadership questionnaire and parental and guardian involvement questionnaire), numeracy and literacy assessment questionnaires and qualitative survey tools (interview guides for parents' FGDs, pupils' IDIs, community leaders' KIs). A brief description of the survey and qualitative tools used are listed below:

**Individual schooling update questionnaire:** This questionnaire collected data on the pupils' schooling history and attendance. The information included type and location of school, absenteeism from school, change of school, repetition and extra tuition.



**Individual behavior/life skills questionnaire:** This questionnaire collected data on pupils' educational goals and aspirations, self-confidence, behavior (substance abuse, sexual activity, etc.), source of information on sex, drugs, smoking and alcohol, knowledge about HIV/AIDS and other sexually transmitted infections (STIs). In addition, the tool also looked at myths about puberty, sex, and HIV/AIDS.

**Leadership questionnaire:** This questionnaire focused on six major modules. The social-efficacy section looked at pupils' ability to relate to and communicate effectively with others; the self-assertive efficacy module collected information on the ability of pupils to speak up for their rights; the self-regulatory efficacy module focused on the ability to resist negative peer pressures; the youth-community connections on neighborhood support and activities; the social competencies module and adult-youth connections outside home & school module.

**Parental/guardian involvement questionnaire:** This questionnaire collected data on parental involvement in the education of boys and girls in the community in terms of provision of resources, checking their homework and follow-up to know how, where and with whom they spend their time. The tool is geared towards investigating whether parents/guardians understand their role in children's education, as well as their awareness of the challenges and barriers towards the same.

**Literacy test:** This tool was used to evaluate the literacy skills of pupils by testing them on listening, comprehension, reading, writing and speaking. In addition, the spelling, punctuation, coherence, paragraphing and handwriting skills of pupils were assessed through a composition exercise.

**Numeracy test:** This tool was used to assess three learning domains in numeracy: knowledge, comprehension, and application. It focused on the curricular outcome areas of numbers and operations, patterns and algebra, geometry, measurement, and basic statistics.

**Parents' focus group discussion protocol:** This protocol was used to elicit discussions around understanding by parents of their role and that of the community towards the education of their children; the challenges that affect girls' education in the two urban informal settlements; and the expectations by parents about the impact of the intervention among pupils' in the community.

**Pupils' interview guide:** This tool sought to investigate the understanding of pupils on their role and that of the community towards their education; find out education challenges they encounter in their communities; explore their understanding and availability of role models in their communities; their leadership aspirations and ways in which they would transform their communities.

**Community leaders' interview questions:** This guide elicits information on community leaders' understanding of their role and that of the community towards promoting education of children; the challenges that affect this education in the two urban informal settlements; and security in the study communities.

## 1.7 Data analysis

Both descriptive and bivariate analyses were used to examine variables in the quantitative data. The descriptive analysis included: 1) mean achievement in math and literacy and their standard deviations and latent variables; and, 2) frequencies, percentages, and proportions for the categorical variables. Test data analysis involved scoring boys and girls on the individual items and competency areas. The item scores were summed and converted into percentages. The leadership and individual behavior data involved a number of constructs (latent variables) derived from specific sets of items. The items attracted Likert scale-type responses. In order to test the internal consistency of the leadership and individual behavior questionnaires, Cronbach's Alpha was used. As Cronbach's Alpha usually averages item scores for each individual for each construct, it also provided an opportunity to interpret



the average scores within the Likert scale continuum. Bivariate analysis involved cross tabulating the variables of interest by study site, gender and wealth status. Chi-square, F-tests, and T-tests were used to establish whether any observed differences were significant. The results are presented in tables and figures.

All the qualitative data were tape recorded and transcribed verbatim into MS Word documents. A coding schema was generated both inductively and deductively. The deductive codes were largely based on the research questions guiding the qualitative study and previous studies. Inductive codes were informed by thematic areas that emerged during coding but not necessarily defined by the research questions. Coding was then done using the NVivo software and a coding report generated for interpretation. Analysis was done by using a constant comparative method that involved putting together similar expressions under the same theme and subthemes (Ryan & Bernard, 2003).



## 2. CHARACTERISTICS OF RESPONDENTS



This section presents information on the background characteristics of the study participants, at both individual and household levels. The results are presented according to study site, gender, and household wealth index.

## 2.1 Household and individual characteristics

### 2.1.1 Participants

The baseline survey involved administration of different study tools – targeting either the household or the individual boys or girls. The boys and girls responded to questionnaires on leadership skills and behavior, and were assessed on literacy and numeracy skills. Parents and/or guardians responded to questions on a parent/guardian tool. In total, 5951 households met the inclusion criteria for this study – i.e. had a boy or a girl who was in grade six in 2016 and residing within the study sites. A total of 634 girls and boys were reached.

**Table 2.1: Pupil participation by study tool**

Tool	Viwandani		Korogocho		Total
	n	% girls	n	% girls	
Parent Guardian	297	52.53	325	48.93	622
School History	297	52.53	325	48.93	622
Leadership	280	53.93	321	49.22	601
Behavior	282	53.55	322	49.07	604
Numeracy assessment	255	54.51	245	49.80	500
Literacy assessment	255	54.51	244	50.00	499
Participated in at least 1 tool	305	52.53	329	48.93	634

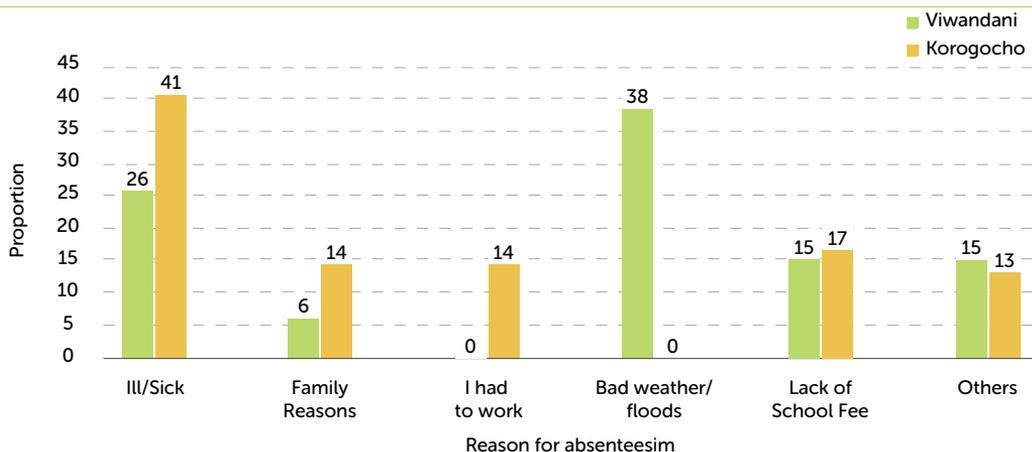
### 2.1.2 Household characteristics

Figure 2.1 illustrates the characteristics of the household heads stratified by study site. Overall, 65% of the households were male-headed – Korogocho 62% and Viwandani 69% – and the difference across sites is statistically significant. The household heads in Viwandani were younger (49% aged below 39 years) than in Korogocho (35% aged below 39 years and 21% aged 50 and above years). The household heads also had low levels of education, with about 55% of them having attained primary school level of education. In Viwandani, 45% of the household heads had attained at least secondary school education compared with 28% in Korogocho. These background characteristics are important elements for the project given that the level of education and age are associated with the level of schooling support provided to the boys and girls within the households (Van Voorhis, Maier, Epstein, & Lloyd, 2013).

<sup>1</sup> There are some households without complete information being followed for administration. In addition, there are households that were eligible, but not in the listing sample which are being followed to administer the baseline tools.



**Figure 2.1: Household head characteristics**



Korogocho (52.3%) had a slightly higher number of households participating in the study than Viwandani (47.8%). Significant differences were observed between the two study sites in terms of household wealth and number of siblings. Overall, Viwandani has more households ranked as poor within the context of slums compared to Korogocho. This showed that Viwandani was better off than Korogocho. The wealth index was calculated using a set of variables capturing household possessions, amenities, and assets. The wealth scores were calculated with the two study sites grouped together.

Respondents from Korogocho reported having a significantly higher number of siblings. On average, a girl or a boy in Korogocho reported having 3.5 siblings, of which about 46% (1.64) were enrolled in primary school. Table 2.2 illustrates this.

**Table 2.2: Household characteristics**

Characteristic	Viwandani	Korogocho	p-value
	%	%	
Overall	47.75	52.25	
Wealth	Poorest	53.54	0.001
	Middle	42.15	
	Least poor	4.31	
Average number of siblings	2.50	3.52	0.001
Siblings in primary school	1.17	1.64	0.001

### 2.1.3 Pupil characteristics

Table 2.3 shows background characteristics of the pupils. Overall, 50.48% of the study sample were girls; and the distribution of gender did not vary significantly by the study site. In addition, enrolment into Low Fee Private Schools (LFPS) was high, at 62%. The boys and girls recruited into the program were in class 6, who according to the Ministry of Education (MoE) policy guidelines on school enrollment, on average should be aged 11 years. Given the spread of birth dates and the timing of data collection for this baseline study at almost the middle of the year (April/May 2016), it is anticipated the boys and girls should be aged around 12 years (Hungu, Ngware, & Abuya, 2014). However, the reported average age for boys and girls is 12.5 years, which is almost 6 months older than the anticipated age. The



age distribution was not statistically different by gender. However, the age varied significantly by study site with participants in Korogocho almost 0.7 years (about 8 months) older than those in Viwandani. The significant differences among study sites remain even after stratifying by either gender or school type. The reported grade repetition was as high as 27%, and this could potentially explain why boys and girls were above the expected average by 6 months. Intuitively, this could mean that in the two informal settlements, children enter school at the right age; however, due to repetition, they complete school almost a year late. Grade repetition though reportedly high in government' schools (31%) was not statistically significant from that reported by children in LFPS (25%).

Nearly one in every four pupils reported that they did not have one surviving parent (orphaned), and this proportion rose to almost one in every three in Korogocho. Among those orphaned 81%, 8%, and 11% were paternal, maternal, and double orphans, respectively. Korogocho accounted for all double orphans and two-thirds of the paternal orphans. More girls and boys in Viwandani reported receiving extra tuition than in Korogocho and almost an equal number (52%) always or sometimes speak English while at home. Self-reported school absenteeism (in the last school week, when schools were in session) was significantly higher in Korogocho (19.4%) than it was in Viwandani (11.5%).

**Table 2.3: Pupil background characteristics**

Characteristic		Viwandani	Korogocho	p-value
		%	%	
Gender	Boy	47.47	51.38	0.33
	Girl	52.53	48.62	
Low fee private school	Yes	50.51	71.69	0.001
Age+	Overall	12.15	12.84	0.001
	Boys	12.28	12.89	0.001
	Girls	12.04	12.79	0.001
	LFPS	12.09	12.79	0.001
	Government'	12.22	12.96	0.001
Repeated at least once	Yes	26.94	27.69	0.833
Orphaned	Yes	17.17	30.46	0.001
Extra tuition	Yes	22.22	6.77	0.001
Speaks English at home	Always/Sometimes	53.87	50.77	0.439
Absent at least one day last school week		11.45	19.38	0.006

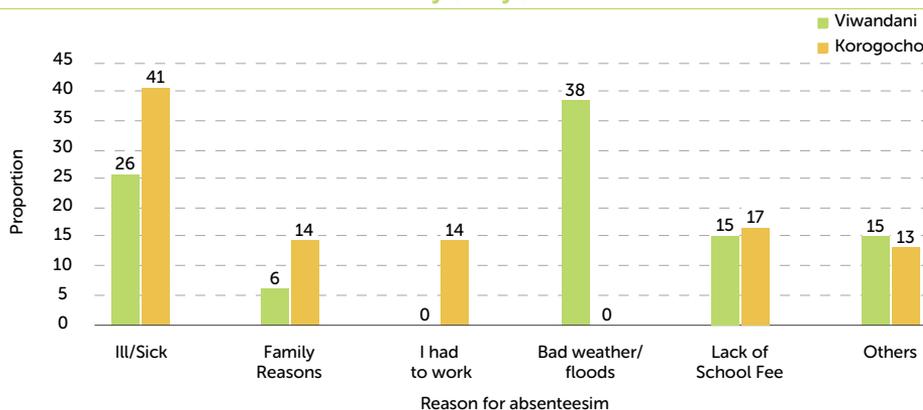
+ mean age is reported

The reasons for school absenteeism (Figure 2.2) varied among the two study sites. While in Viwandani the main reason was bad weather<sup>2</sup> and illness, in Korogocho, reasons for absenteeism included illness, lack of school fees, family reasons, and work-related activities. Overall, illness, which was the most frequently reported, accounted for 36% of school absenteeism, while school fees accounted for 16.5% (Viwandani – 14.7% and Korogocho 17.5%). Specifically, family reasons included taking care of sick ones or young siblings, and household chores or even death within the family.

<sup>2</sup> Bad weather is a seasonal phenomenon. Data collection was conducted during the rainy season and that the two informal settlements are located next to river reserves, weather could have a huge impact on school attendance, especially with heavy downpours.



**Figure 2.2: Reasons for school absenteeism by study site**



### 2.1.4 Homework and homework support

Cooper (1989) defines homework as “tasks assigned to students by school teachers that are meant to be carried out during non-school hours”. Research evidence on the effects of homework on learning achievement is mixed (Cooper, 1989), with studies showing that homework is positively associated with achievement (Cooper, Robinson, & Patall, 2006) while others showing negative or no association (Mikk, 2006). The latter is attributed to correlating the quantity of homework with learning achievement, without taking into consideration other variations such as needs and circumstances of the pupils, families and the environment in which the homework takes place in, including homework support at home (Cooper et al., 2006). Following this, homework support aids the learning process and is a measure of parental involvement in the learning process of their children. In this study, the boys and girls were asked to state the frequency in which they received Math and English homework from school, whether they completed the homework and, whether someone within their household supported them to complete the homework (Table 2.4 and Figure 2.3).

**Table 2.4: Pupil reported Math and English homework**

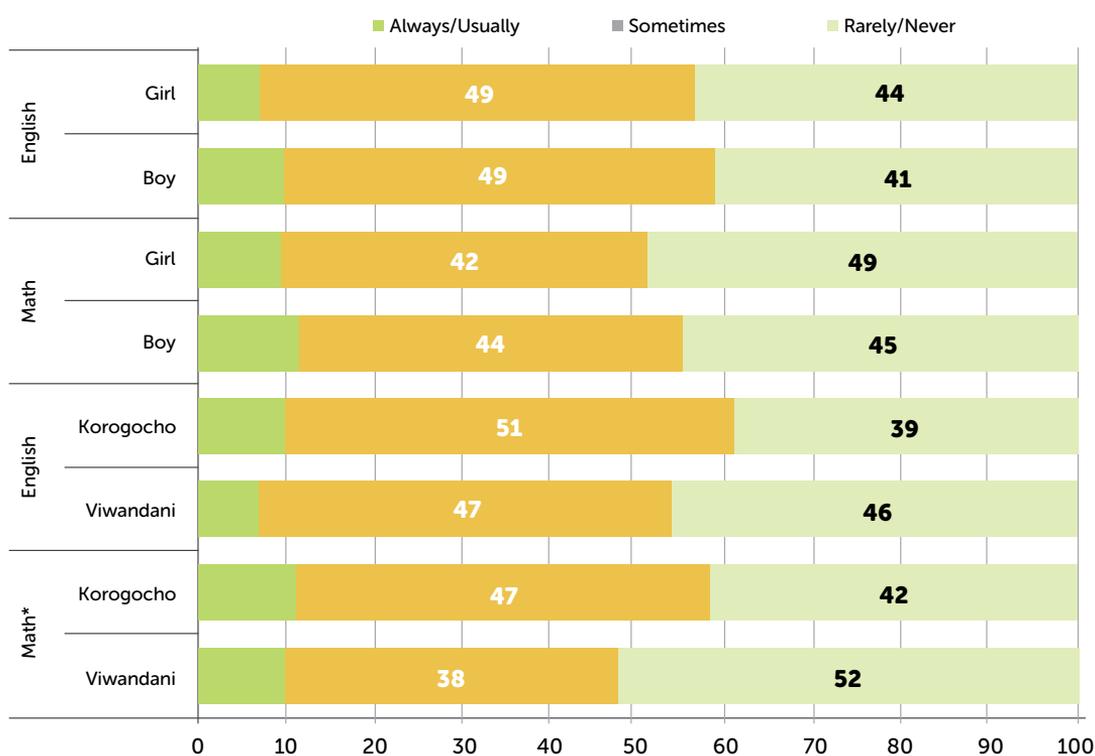
Number of times in a week received homework		Viwandani	Korogocho	p-value
		%	%	
Math homework	Never	5.39	0.62	0.003
	Once	5.72	9.54	
	Twice	21.21	19.69	
	Thrice	21.55	24.92	
	More than thrice	46.13	45.23	
English homework	Never	11.78	4.00	0.001
	Once	14.81	33.54	
	Twice	24.92	29.85	
	Thrice	20.88	17.54	
	More than thrice	27.61	15.08	



Only a handful of the pupils reported that they do not receive either Math or English homework. The majority of the pupils, 68% and 70%, in Viwandani and Korogocho, respectively, reported receiving homework at least three times a week in both subjects. There are significant differences between the two study sites in terms of the frequency with which Math homework was received in a week. However, the difference diminishes when comparing those reporting at least thrice with those reporting to receive homework less than three times in a week.

While at least 70% and 63% of the girls and boys in Viwandani and Korogocho received homework at least three times in a week, the proportion reporting to receive English homework is much lower (45% and 33% in Viwandani and Korogocho). Among the pupils reporting that they receive homework, 82% reported to 'always' complete and this did not differ significantly among the two study sites.

**Figure 2.3: Homework support within the household**



One of the key components of the current study is to sensitize parents on the need to support their children's schooling, specifically in the completion of homework in the household. These data illustrate that more than half of the pupils reported being supported in their homework by someone in the household. Other than in Math, in which there were significant differences between one study site and the other, homework support did not differ by gender (both subjects) and study site (for English). In Math, homework support was higher in Korogocho than in Viwandani. However, the results seem to suggest that slightly higher support is given to boys in their homework than to girls in both subjects, although these differences are not statistically significant. The finding is intriguing and we can posit that in the study context, boys may be more likely to seek for support in their homework than girls. Moreover, girls' participation in other household chores leaves them with little room (time) to seek support and may therefore be motivated to only complete their homework. The finding also shows some potential differentials in parental involvement by gender of the child.



## 2.2 Parental support for and perceptions of education

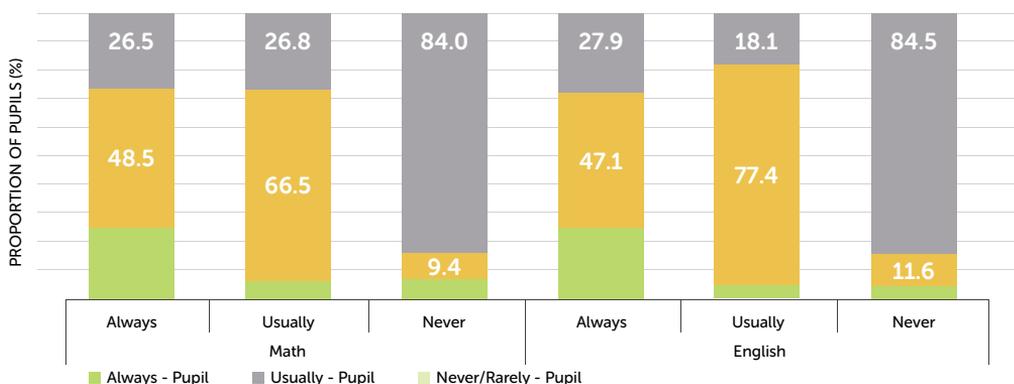
Parental involvement in education of children is shown in different ways often influenced by social cultural, household, parental and individual characteristics (Desforges & Abouchaar, 2003). The literature review by Desforges and Abouchaar (2003) pointed to the fact that at-home support has the largest and positive influence on children’s achievement after taking into consideration other factors associated with achievement and education attainment. Parental involvement defines the interaction that a parent has with the child; involved parents also aspire their children to attain higher levels of education (Gutman & Akerman, 2008). Following this, involvement and aspiration define the parental investments in their children’s schooling. Notably, another component of this study is to increase parental involvement in children’s schooling through mentorship and counseling. Therefore in addition to interviewing the pupils, who are the immediate beneficiaries of the project, we also interviewed their parents in order to collect information on their involvement, perceptions, and aspirations they have for their children’s education. In some cases, similar information was collected such as homework and homework support from both the pupils and their parents, providing an opportunity for triangulation.

Homework and homework support as reported by parents or guardians shows the following:

- 94.7% of the parents report their children come home with homework. The proportion was significantly higher in Korogocho (97%) than in Viwandani (92%) and did not differ significantly by gender of the child;
- Among those receiving homework, 80% in Viwandani and 92% in Korogocho complete the homework.
- Two in every three (67%) of the parents reported that their children are supported in their homework by a household member.
- Parental reporting on homework support is consistent to the pupil reporting in that more boys are always or sometimes supported in their homework than girls, though not significantly different. Moreover, the reported homework support did not differ significantly by study site

We triangulated the responses on homework support as reported by parents and their children in order to gain an understanding on the homework support environment (Figure 2.4). The Y-axis shows the distribution of children’s responses for each parent’s category of response. Overall, there is a high agreement as shown by the large proportion of pupils reporting similar responses as their parents in each category. For instance, among parents who reported that their children are always supported in their homework, 48.5% and 47.1% of their children also reported receiving support in their Math and English homework, respectively. This is also true among those reporting as never being supported – with 84% of pupils posting similar responses as their parents in this category.

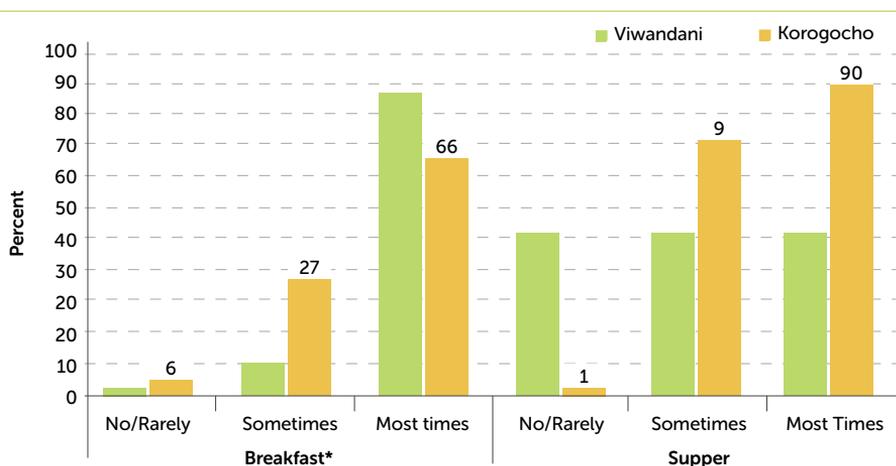
**Figure 2.4: Triangulated responses on homework support**



## 2.2.1 Food security

Food is essential for active daily living and food insecurity can have negative impacts on health (McIntyre, 2003). For school going children, food insecurity is associated with impaired cognitive development, school attendance and reduced attention span (Jyoti, Frangillo, & Jones, 2005). The study setting is characterized by high levels of poverty and food insecurity which sometimes lead to temporary withdrawal from school and/or prevalent absenteeism (Amendah, Buigut, & Mohamed, 2014). The current study requires participating boys and girls to not only attend after-school support programs but also requires their attentiveness. The uptake by children experiencing incidences of food insecurity can therefore be low. Figure 2.5 shows how frequently the child takes breakfast or supper while at home. We use the two as indirect measures of household food security. In general, three in every four parents/guardians report that their children receive both breakfast and lunch 'most of the times' or 'always.' In Viwandani, significantly more children receive breakfast always/most of the times compared to Korogocho. Given that poverty and food insecurity are interrelated, the difference is in line with observed wealth distribution showing Viwandani to be better off than Korogocho.

Figure 2.5: Reported frequency of breakfast and supper

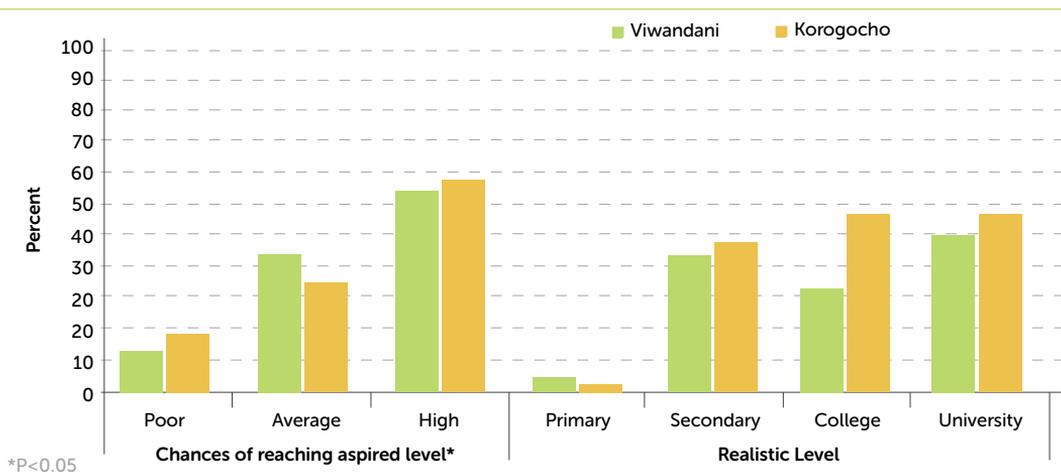


## 2.2.2 Parental education aspirations for their children

Parental education aspirations are often guided by their beliefs, expectations and attitudes on their children's education (Desforges & Abouchaar, 2003). Aspirations are linked to parents' perception on their child's school achievement and ability. Therefore parents who perceive their children's school performance and potential to be better have higher aspirations than those who perceive otherwise (Gorard, See, & Davies, 2012). Education aspirations therefore can influence parent-child interaction and investment. A component of the current study is to increase parental involvement and education aspiration for their children in order for them to increase support, talk positively about their children as well encourage them to achieve and attain the best. Following this, information on parental education aspiration was collected by asking parents to state the highest level of education they would wish for their children to achieve. The answer to this question could define the level of support in school given to the child. In addition, the parents/guardians reported their perceived chances (a possible proxy for child's ability) of the child reaching the aspired level and as well as the most realistic education level (Figure 2.6).



**Figure 2.6: Parental education aspiration**



In general, parental aspiration for tertiary education is high. There is however a disconnect between the aspired and most realistic level of education. That is, while 90% of the parents aspire to having their children attain university education, only 43% report university as the most realistic level that their children will achieve (34% and 18% report secondary and college, respectively). A slightly higher number of parents/guardians in Korogocho (46.4%) reported university as the most realistic level compared to 39.8% of parents/guardians in Viwandani.

### 2.2.3 Parental supervision and school support

Parental supervision, an indirect measure of parental involvement, (Table 2.5) was captured using three items: parent’s awareness on where, and with whom the child spends free time with; support to the school in which the child was enrolled in; and visits to the school to discuss matters related to the child’s schooling. Overall, most parents report that they always know where, and with whom the child spends time after school. Significantly more parents in Viwandani report knowing whom the child spends time with after school, compared to those from Korogocho. The results suggest minimal support (material, monetary and labour) given by households to schools where their child (ren) is/are enrolled.



**Table 2.5: Parental supervision and schooling support**

		Viwandani	Korogocho	p-value
		%	%	
Parent knows where the child spends time after school	Always know	75.59	71.87	0.238
	Sometimes know	21.69	26.61	
	Never know	2.71	1.53	
Parent knows with whom the child spends time after school	Always know	72.54	64.00	0.045
	Sometimes know	24.75	33.85	
	Never know	2.71	2.15	
Household supported school with (.) in the last 12 months (% yes)	Money	16.50	29.97	0.001
	Material	3.03	10.09	0.001
	Labour	1.01	1.83	0.388
A household member visited school in the last 12 months for/ to (% yes)	School celebration	27.95	48.93	0.001
	Discuss performance	79.12	86.54	0.014
	Sort money issues	54.88	67.89	0.001
	Sort child discipline	18.86	18.96	0.973

Despite limited support given to schools, parents seem to be involved by visiting schools to discuss their children's academic performance as well as money-related issues (e.g. school fees). In Korogocho, 86.5% of the household members made school visits to discuss the performance of their children while 67.9% went to sort out money issues. These proportions are significantly different from those reported for Viwandani, 79.1% and 54.9%, respectively. Within the informal settlements, schools in most cases charge fees on a monthly basis. Parents who are unable to pay the charged fees may be motivated to visit schools so that their children are not sent back home. Given this understanding therefore, the lower rate reported for Viwandani regarding the discussion on money issues, further illustrates the better socio-economic status of the study site.



# 3. PUPIL ACHIEVEMENT IN NUMERACY AND LITERACY



This chapter covers the baseline performance of the pupils on standardized numeracy and literacy tests. These tests were adapted from those used by Abuya et al. (2015) in the pilot phase of the current study. The pilot study investigated how schooling outcomes among adolescent girls in Korogocho and Viwandani could be improved by providing after-school homework support and encouraging parental involvement in girls' education. These tests were developed from the official upper primary school (grades 6 to 8) curriculum in Kenya.

It is worth noting that the final numeracy test used in this study had 44 items which covered three specific content areas (number, measurement, and space/data) and four of Bloom's taxonomy of cognitive domains (knowledge, comprehension, application, and analysis). On the other hand, the final literacy test had 63 items which covered three specific content areas (reading, speaking and listening) as well as the same four cognitive domains covered by the numeracy items. The reliability indices of the two tests (0.96 and 0.88 for numeracy and literacy tests, respectively) were found to be well within the acceptable range. During the pilot phase by Abuya et al. (2015), the tests were analyzed using Rasch measurement techniques and the test scores for each subject were transformed into a scale with a mean of 400 and a standard deviation of 100. Moreover, for each test, the item parameters were anchored in order to estimate pupils' scores in the various specific subject content areas and Bloom's cognitive domains. This means that valid comparisons in pupil achievement can be made across subject content areas and cognitive domains.

Results presented in this chapter cover pupils' overall scores on the numeracy and literacy tests as well as pupils' scores on the specific subject content areas mentioned earlier. For numeracy, results are also presented according to Bloom's cognitive domains. Cognitive domains for literacy are not included in this type of analysis because the items in the literacy test were not mutually exclusive and they could fall into more than one cognitive domain (Abuya et al., 2015).

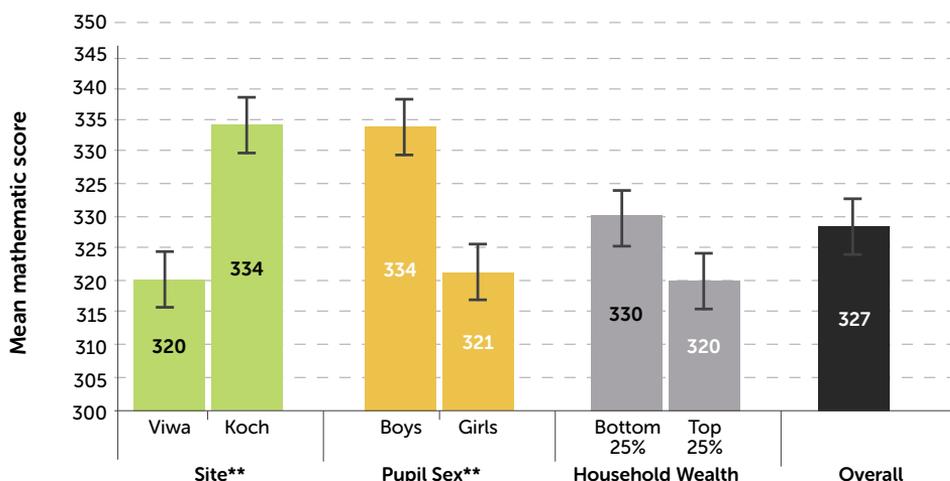
In this chapter, each subject is given comparisons made across the two sites (Korogocho versus Viwandani), between boys and girls, and across two household wealth categories (poorest or bottom 25% versus least poor or top 25%). The main purpose of these comparisons is to examine baseline balance among various groups.

### 3.1 Pupil numeracy and literacy achievement by subgroups of interest

Figure 3.1 and Figure 3.2 depict pupils' mean numeracy and literacy test scores by survey site, pupil sex and household wealth. The data used to plot the graphs in this chapter can be found in Appendix 2 to Appendix 6. The results for numeracy, show that pupils in Korogocho significantly outperformed their counterparts in Viwandani while boys significantly outperformed girls. However, the performance of the pupils in the poorest household wealth category (bottom 25%) did not differ statistically from the performance of pupils in the least poor household wealth category (top 25%) – perhaps indicating there are minimal differences in wealth status among households in these two slums. For literacy, the results in Figure 3.2 show that there were minimal differences in pupil achievement according to survey sites, gender groups and household wealth categories. Regarding pupil sex differences, these results are consistent with what has been reported using other data sets at the Grade 6 level in Kenya. For instance, Hungi and Thuku (2010), analyzing SACMEQ II project data in Kenya, found that Grade 6 boys significantly outperformed girls in numeracy but the authors found no significant sex difference in reading literacy.

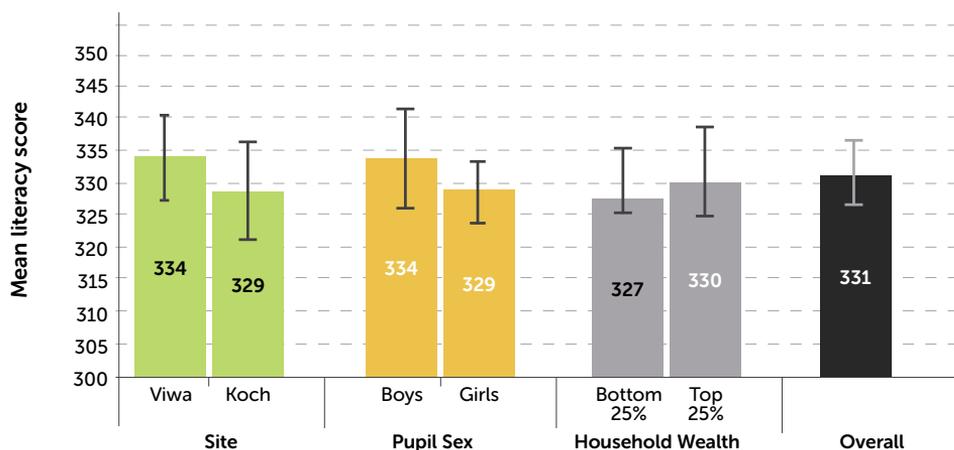


**Figure 3.1: Mean scores for numeracy by survey site, pupil sex and household wealth background**



Notes: \*Significant at 0.10 level; \*\*Significant at 0.05 level.

**Figure 3.2: Mean scores for literacy by survey site, pupil sex and household wealth background**



Notes: \*Significant at 0.10 level; \*\*Significant at 0.05 level.

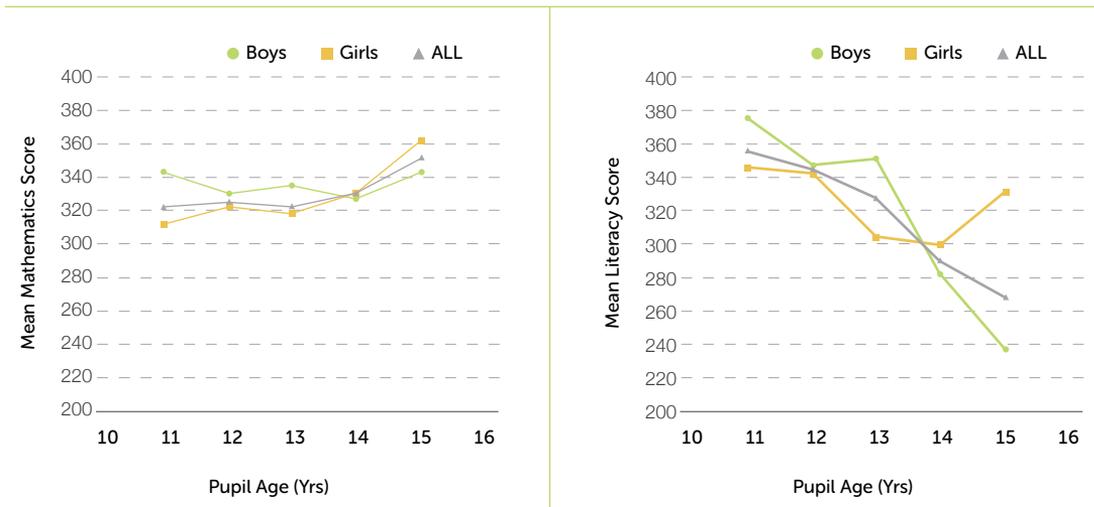
## 3.2 Pupil numeracy and literacy achievement by age

The graphs in Figure 3.3 show the distribution of numeracy and literacy scores by pupil age for boys and girls. The data used to plot these graphs can be found in Appendix 3.

For numeracy, the results show that there was no obvious relationship between pupil age and achievement though pupils in the oldest age category (15 years) had marginally higher numeracy scores compared to younger pupils. On the other hand, younger pupils performed better in literacy than older pupils. An analysis of data collected from Grade 6 pupils attending schools in slums across six towns in Kenya also found that younger pupils consistently outperformed their older counterparts in literacy in the same class (Hungu et al., 2014).



**Figure 3.3: Distribution of numeracy and literacy scores by pupil age**



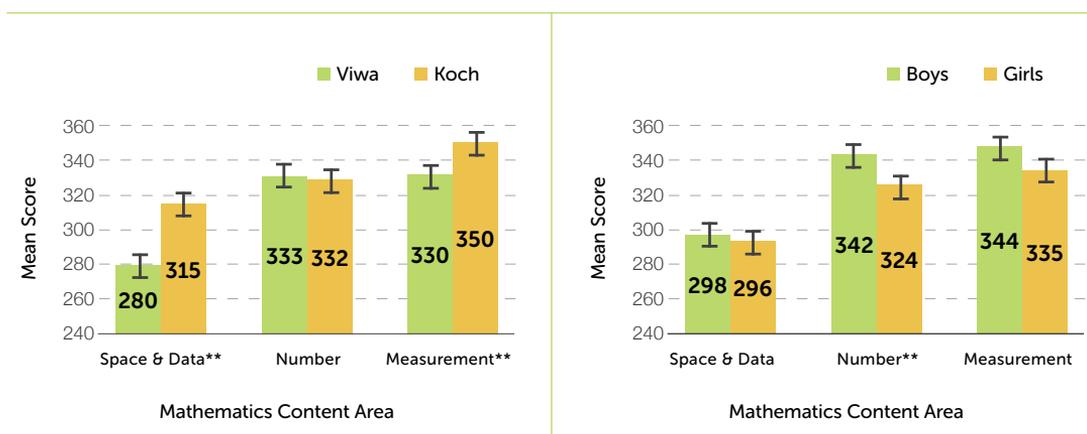
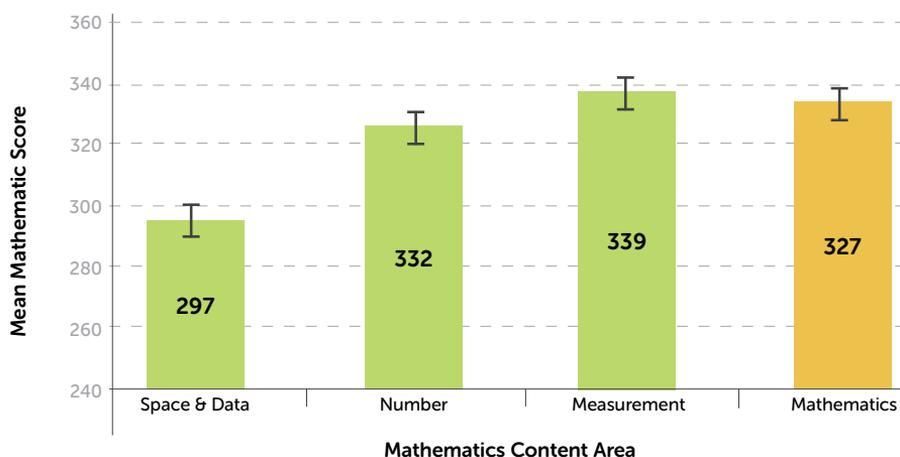
### 3.3 Pupil achievement in specific numeracy content areas and cognitive domains

The overall performance of pupils in the three specific numeracy content areas as well as their performance in these content areas by survey sites and sex is summarized in Figure 3.4. Regardless of survey site or sex of pupil, results show that pupil performance was better in measurement and number content areas than in space and data content areas. Moreover, pupils in Korogocho significantly outperformed those in Viwandani in the space and data as well as in the measurement content areas. However, pupils in the two sites had similar performance levels in the number content area.

In terms of sex differences, results in Figure 3.4 show that boys significantly outperformed girls in the numbers content area but not in the other two numeracy content areas. Perhaps this suggests that those aiming at eliminating sex differences in numeracy achievement among this Grade 6 pupil population should concentrate at giving more support to girls in the number content area.



**Figure 3.4: Mean score for numeracy content areas by survey sites and pupil sex**

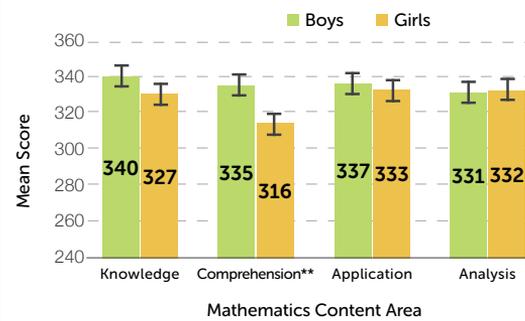
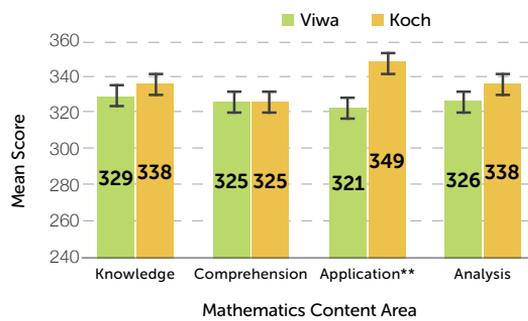
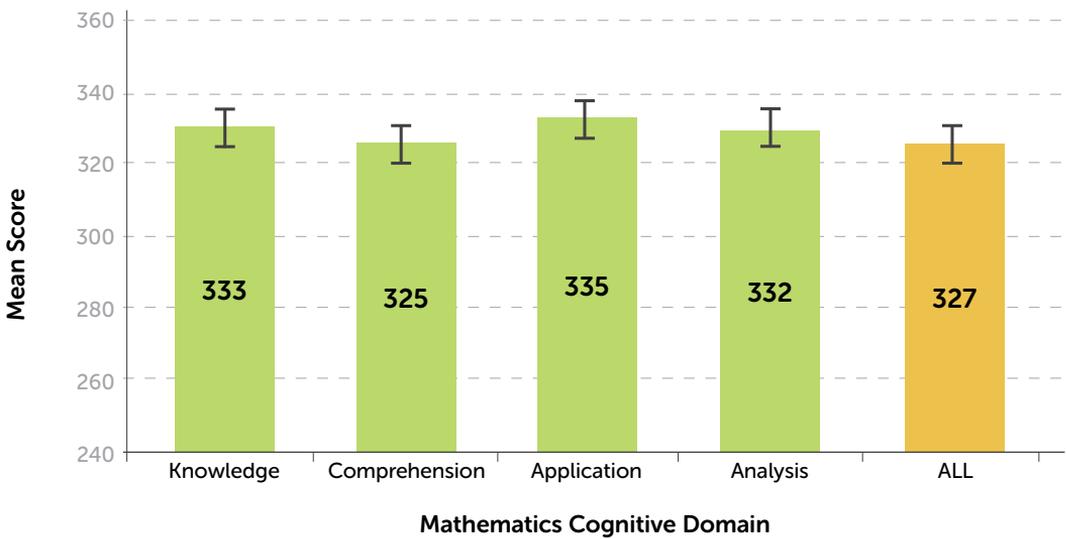


Notes: \*Significant at 0.10 level; \*\*Significant at 0.05 level.

Figure 3.5 shows the overall pupil numeracy scores in the four cognitive domains considered in this study. Pupil scores in the four cognitive domains by site and sex of pupil are also shown in this figure. Overall, apart from the comprehension domain scores which were significantly lower than the application domain score, the scores across the four cognitive domains were about the same. With regards to site, pupils in Korogocho performed much better than those in Viwandani in the application domain but there were minimal site differences across the other three cognitive domains. Likewise, there were minimal gender differences across the cognitive domains though the performance of boys in the comprehension domain was markedly better than that of girls.



Figure 3.5: Mean score for numeracy cognitive domains by survey sites and pupil sex



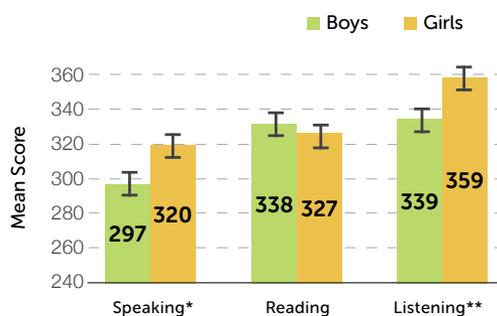
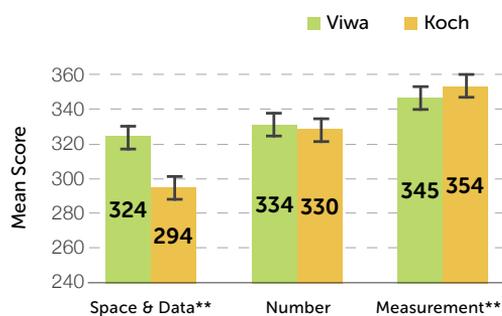
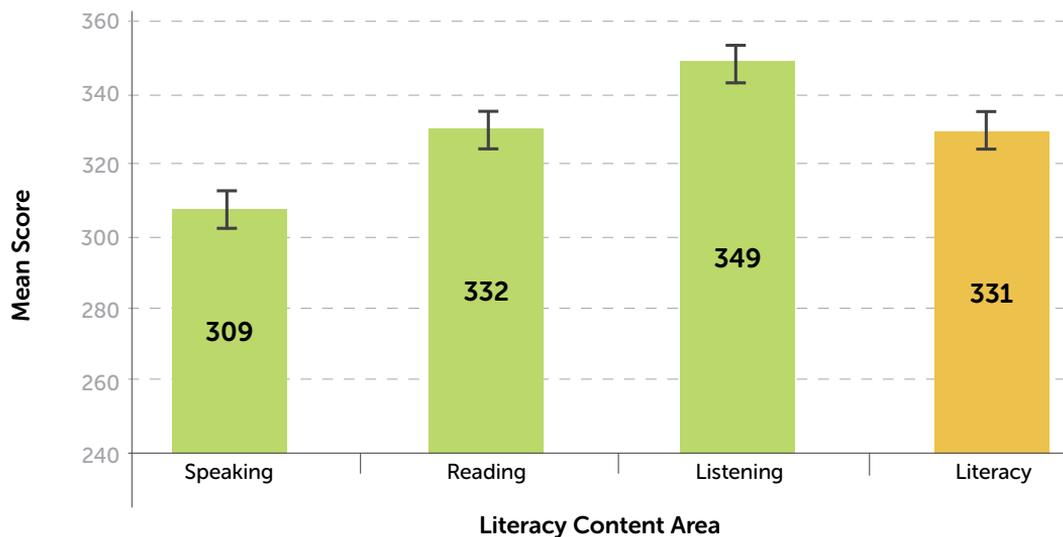
Notes: \*Significant at 0.10 level; \*\*Significant at 0.05 level.

### 3.3 Pupil achievement in specific literacy content areas

The graphs in Figure 3.6 display the overall mean score of the pupils in the three literacy content areas of speaking, reading and listening as well as these mean scores disaggregated by survey site and pupil sex. Overall, pupils performed best in listening, followed by reading and speaking in that order. Pupils in Viwandani significantly outperformed those in Korogocho in speaking but not in the other two literacy content areas. In addition, the performance of girls was statistically better than that of boys in speaking (at the 10% significance level) and in listening (at the 5% significance level).



Figure 3.6: Mean score for literacy content areas by survey sites and pupil sex



Notes: \*Significant at 0.10 level; \*\*Significant at 0.05 level.

### 3.4 Literacy score versus numeracy

The relationship between pupil scores in literacy and numeracy is shown in Figure 3.7. The correlation between these scores was positive and moderate ( $r = 0.40$ ), meaning that a fair proportion of pupils who did well in literacy also did well in numeracy. These results are consistent with the findings from a study carried out by Moses Waithanji Ngware et al. (2016) among Grade 6 pupils in rural Uganda which found that pupils who performed well in literacy also tended to perform well in numeracy.



Figure 3.7: The relationship between pupils' literacy and numeracy scores



# 4. PUPIL BEHAVIOR AND LIFE SKILLS COMPONENT



The World Health Organization (1994) describes life skills as, “abilities for adaptive and positive behavior that enable individuals to deal effectively with the demands and challenges of everyday life”. The term adaptive refers to flexibility and ability to adjust to different circumstances, while positive behavior implies optimism and ability to generate solutions when faced with challenging circumstances (Central Board of Secondary Education, n.d).

Life skills are however different from livelihood skills. Whereas livelihood skills relate to income generation and the capabilities, resources and opportunities to pursue economic goals (Central Board of Secondary Education, n.d), life skills refer to psycho-social competence and ability to maintain a state of mental well-being (World Health Organization, 1994). WHO lists 10 core life skills, namely; self-awareness, empathy, critical thinking, creative thinking, decision making, problem solving, effective communication, interpersonal communication and coping with emotions and stress.

Imparting psychosocial competence through life skills education has become an important aspect of adolescent education, as a mechanism to support young people to cope effectively with a period that is often characterized by vulnerability to behavior related health problems (World Health Organization, 1994). Lack of social and emotional competence among young people can create discipline problems such as the risk of dropping out of school, substance abuse, delinquency and violent behavior, all of which pose a hindrance to achieving academic success (Bwayo, 2014). By equipping young people with psychosocial competence, life skills can be used to address behaviors that are detrimental to their well-being (Bwayo, 2014; World Health Organization, 1994). Moreover, effective application of life skills can contribute to self-confidence and self-esteem, as well as positively influence how one perceives other people and how one is perceived by others (Central Board of Secondary Education, n.d). These can in turn contribute to higher educational goals and aspirations among young people, and consequently impact positive educational outcomes.

## 4.1 Educational goals and future aspirations

Eleven (11) attributes were used to capture the educational goals and future aspirations of pupils in Viwandani and Korogocho. The attributes assessed the aspirations of pupils to pursue and complete various levels of formal education for their future well-being. The items attracted three response categories of Low (1), Middle (50-50) (2) and High (3) and average score per person calculated using Cronbach’s Alpha. Table 4.1 presents the educational goals and future aspirations of pupils in Viwandani and Korogocho.

Overall, pupils have high educational aspirations as shown by average mean values which are close to three; when mapped back to the item responses, this corresponds with “high”. Pupils in Korogocho reported significantly higher educational goals and future aspirations compared to those in Viwandani ( $p=0.001$ ), with no effect for sex, age or economic status. Overall, pupils were confident that they would secure well-paying jobs, own homes, have a happy family life and enjoy good health for most of their life as well as complete primary and join secondary school. There was equally a high level of optimism with regard to social mobility, with most pupils indicating that they would move to a better residential area and be respected within their community.



**Table 4.1: Education goals and future aspirations**

	Mean	Std. Dev	Min	Max	p value
Site					
Viwandani	2.83	0.25	1.18	3	0.001
Korogocho	2.89	0.22	1.73	3	
Pupil Sex					
Boy	2.86	0.24	1.73	3	0.62
Girl	2.86	0.23	1.18	3	
Wealth					
Poorest	2.86	0.24	1.73	3	0.45
Middle	2.88	0.24	1.18	3	
Least poor	2.85	0.21	2.18	3	
Age+	0.00				0.53

+ regression coefficient reported

## 4.2 Self-confidence of boys and girls

Self-confidence was assessed using the six items shown in Table 4.2. The pupils rate themselves using a Likert-type scale ranging from 1 (strongly agree) to 5 (strongly disagree) or 1 (always) to 4 (never) depending on the item. Due to small numbers of responses for “not sure (3)”, “disagree (4)” and “strongly disagree (5)”, we combined the three to a single category, “not sure/disagree”. Significant differences were observed between Korogocho and Viwandani but not by gender. Overall, almost all the pupils either agreed or strongly agreed to the statement that they “feel good about themselves”.

**Table 4.2: Self-confidence of boys and girls**

	Study Site			Pupil Sex		
	Viwandani	Korogocho	p value	Boy	Girl	p value
Do you feel good about yourself?						
Strongly agree	83.69	95.03	0.001	87.80	91.59	0.085
Agree	13.12	3.11		10.17	5.50	
Not sure/disagree	3.19	1.86		2.03	2.91	
Encourages friends to feel good about themselves						
Always	21.63	17.70	0.001	19.66	19.42	0.746
Sometimes	26.95	17.70		22.37	21.68	
Rarely	40.78	40.99		38.98	42.72	
Never	10.64	23.60		18.98	16.18	



	Study Site			Pupil Sex		
	Viwandani	Korogocho	p value	Boy	Girl	p value
Talk positively about your friends						
Always	30.58	40.50	0.001	33.11	38.56	0.007
Sometimes	32.37	25.86		25.60	32.03	
Rarely	34.53	26.17		33.79	26.47	
Never	2.52	7.48		7.51	2.94	
Discuss with your friends about their physical changes during puberty						
Always	10.07	7.19	0.001	9.22	7.87	0.268
Sometimes	14.39	7.81		8.53	13.11	
Rarely	42.45	27.50		36.52	32.46	
Never	33.09	57.50		45.73	46.56	
Discuss with your friends about benefits of safe sex						
Always	11.87	4.98	0.001	8.19	8.17	0.914
Sometimes	10.79	4.05		7.51	6.86	
Rarely	31.65	15.89		24.23	22.22	
Never	45.68	75.08		60.07	62.75	
Discuss with your friends about the importance of personal hygiene						
Always	24.82	9.35	0.001	17.41	15.69	0.628
Sometimes	29.50	8.41		17.41	18.95	
Rarely	39.21	34.58		38.57	34.97	
Never	6.47	47.66		26.62	30.39	

Pupils were also asked to rate on a scale of 1 (always) to 4 (never) how much they; a) encouraged their friends to feel good about themselves; and, b) talked positively about their friends. Overall, half of the pupils reported that they rarely or never encouraged their friends to feel good about themselves while one third, rarely or never talked positively about their friends. Pupils in Korogocho reported significantly ( $p=0.001$ ) higher rates (40%) of talking positively about their friends compared to those in Viwandani (30%). However, pupils in Korogocho reported significantly lower ( $p=0.001$ ) levels of encouraging their friends to feel good about themselves compared to those in Viwandani (17% vs 21%).

Further analysis demonstrated the same trend in peer discussions on physical changes during puberty, the benefits of safe sex, and the importance of hygiene with their friends. Almost three in every four reported that they rarely or never had these discussions. Pupils in Korogocho reported significantly ( $p=0.001$ ) lower levels across the three, compared to Viwandani. In Korogocho, 57% of the pupils had never discussed physical changes during puberty with their friends, compared to 33% in Viwandani. More than 75% of pupils in Korogocho had never discussed the benefits of safe sex with their peers, compared to 45% in Viwandani, while 47% of pupils in Korogocho had never discussed the importance of personal hygiene with their peers, compared to only 6% in Viwandani.



### 4.3 Parental monitoring

Human beings are influenced by different agents and actors, social, economic and political processes and other environmental factors. Therefore, while life skills can equip young people to adapt and display positive behavior, they are not the only determinants of positive behavior. Ecological theorists argue that healthy behaviors are maximized when the environment encourages and supports healthy individual choices. On the contrary, educating people to make healthy choices in environments that are unsupportive produces weak and short term effects (Sallis, Owen, & Fisher, 2008).

Factors such as social support, culture and environment thus affect motivation and ability to behave in positive ways (Central Board of Secondary Education, n.d). Among the most critical influencers of adolescent behavior are parents, teachers and individuals that are seen as role models for young people. Parental involvement and monitoring is particularly critical in influencing positive behavior in adolescents and life skills in general, as parents are often the primary agents in the socialization of children.

To assess whether parents were present in the lives of pupils, the pupils were asked to indicate their living arrangements. Almost all (99%) pupils, with no significant effect across sexes or sites reported that they lived with their parents. In addition to parental presence, parental monitoring was assessed using nine (9) attributes, which captured the pupils’ perceptions on their parents’ knowledge on where and with whom they spend time, what they do during their free time and the type of TV programs they watch. The responses were coded as either “never knows (1)”, “sometimes knows (2)” or “usually knows (3)”. Table 4.3 presents the findings on parental monitoring.

On average, most pupils reported that their parents knew where and with whom they spend their evenings and weekends. This did not differ significantly by study site and household wealth status. However, on average, girls reported that their parents knew where and with whom they spent time with most of the times at significantly higher levels compared to boys. The age of the pupil was significantly associated with parental monitoring (at 90% level of significance).

To further assess parental monitoring, pupils were asked how often their parents knew how they spent their money, the TV programs that they watched, or the magazines that they read, as well as who their best friends were. On all these items, more than 80% of the pupils indicated parental awareness on 6 or more occasions. While parental monitoring was high, with no significant effect across sites and household wealth status, it was significantly ( $p=0.001$ ) higher for girls compared to boys.

**Table 4.3: Parental monitoring**

	Mean	Std. Dev	Min	Max	P-Value
Site					
Viwandani	2.54	0.40	1.00	3	0.123
Korogocho	2.49	0.40	1.22	3	
Pupil Sex					
Boy	2.43	0.42	1.22	3	0.001
Girl	2.59	0.37	1.00	3	
Wealth					
Poorest	2.47	0.40	1.22	3	0.150
Middle	2.54	0.41	1.22	3	
Least poor	2.53	0.40	1.00	3	
Age+	-0.02				0.077

+ regression coefficient reported



Perception on the individual's own schooling was assessed using four attributes, rated on a 3-point Likert-type scale ranging from 1 (strongly agree) to 3 (disagree), as presented in Table 4.4. Pupils were asked to rate how much they liked school, how well they got along with their teachers, whether they tried their best in school and if doing well in school was important for their future. Pupils in Korogocho differed significantly from those in Viwandani in terms of liking school and getting along with their teachers. Pupils in Korogocho rated significantly ( $p=0.003$ ) higher for liking school, with 98% strongly agreeing to liking school compared to 92% in Viwandani. Differences in how well pupils got along with their teachers were also significant ( $p=0.001$ ). In Korogocho, 89% of pupils 'strongly agreed' and 1% 'agreed' that they got along with their teachers, while in Viwandani, 80% of the pupils 'strongly agreed' and 11% 'agreed' that they got along with their teachers.

Self-reported pupil effort in school was also significantly ( $p=0.001$ ) higher in Korogocho with 98% of pupils strongly agreeing to doing their best in school, compared to 90% in Viwandani. Similarly, pupils in Korogocho considered their performance to be important to their future. This was significantly ( $p=0.001$ ) higher, with 99% strongly agreeing that doing well in school was important for their future, compared to 94% in Viwandani.

**Table 4.4: Perception on individual's own schooling**

	Study Site			Pupil Sex		
	Viwandani	Korogocho	p value	Boy	Girl	p value
In general, I like school a lot						
Strong Agree	92	97.82	0.003	94.56	95.7	0.385
Agree	5.09	0.93		3.74	1.99	
Not sure/ Disagree	2.91	1.25		1.7	2.32	
I get along well with my teachers						
Strong Agree	80	89.38	0.001	82.94	87.09	0.345
Agree	11.27	1.56		7.17	4.97	
Not sure/Disagree	8.73	9.06		9.9	7.95	
I try my best in school						
Strong Agree	89.45	98.44	0.001	93.54	95.03	0.682
Agree	8.73	0.62		5.1	3.64	
Not sure/Disagree	1.82	0.93		1.36	1.32	
Doing well in school is important for my future						
Strong Agree	94.53	99.07	0.001	96.26	97.67	0.345
Agree	5.11	0.31		3.4	1.66	
Not sure/Disagree	0.36	0.62		0.34	0.66	



## 4.4 Perception on schooling environment

Similar to ecological theorists, capability theorists argue that education of life skills on its own is insufficient in creating positive behavior among young people. They argue that for the life skills approach to be effective, the learning environment, which includes the school, the home and the community, must be taken into consideration as key in enhancing a person’s capability to act (Bakhshi, Hoffmann, & Radja, 2003). Using the case of India, Dreze and Sen (2002) for instance argue that while low parental interest and child labor have been cited as some of the most common reasons why children drop out of school, the schooling environment is in fact the most critical contributor to students’ demotivation and dropping out of school.

Terming it as the “discouragement effect”, (Dreze & Sen, 2002) argue that children’s initial enthusiasm towards schooling is depleted by stifling school environments created by alienating curriculums, inactive classrooms, indifferent teachers and traumatic experiences of corporal punishment. As such, a poor schooling environment can contribute to negative behavior among young people, and the schooling environment is therefore critical in motivating students and promoting positive behavior among young people.

To understand pupils’ perception of their schooling environment, pupils were asked to rate nine school-environment related attributes, using a Likert-type scale ranging from 1 (strongly agree) to 5 (strongly disagree). The scores were analyzed to generate mean scores, ranging from 1 (better school environment) to 5 (worse school environment). Table 4.5 presents the mean scores of pupils’ perceptions of their schooling environment. Significant ( $p=0.033$ ) differences emerged across the two sites, with pupils in Korogocho reporting better perception of their school environments (mean = 1.94) compared to pupils from Viwandani schools (mean = 2.06). No significant differences were observed between boys and girls or across social economic background. However, higher age of the pupil was significantly associated with rating the school environment as worse. That is, older pupils were more likely to rate the school environment as worse compared to younger pupils.

**Table 4.5: Perception on schooling environment**

	Mean	Std. Dev	Min	Max	p value
Site					
Viwandani	2.06	0.80	1	4.56	0.033
Korogocho	1.94	0.61	1	4.11	
Pupil Sex					
Boy	2.01	0.70	1	4.56	0.489
Girl	1.97	0.71	1	4.56	
Wealth					
Poorest	1.96	0.67	1	4.11	0.202
Middle	2.06	0.74	1	4.56	
Least poor	1.96	0.70	1	4.56	
Age+	0.05				0.006

+ regression coefficient reported

To assess how well behaved pupils were, seven questions were posed to pupils on whether they had engaged in different kinds of delinquent behavior in the last four months. In both sites, majority of the pupils reported that they had never stayed away from home without parental permission (96%), had never carried a weapon for self-defense (99%) and had never hit or threatened to hit an adult (97%). In both Viwandani and Korogocho, none of the pupils had sold drugs, while only 1% had delivered or



sold any alcohol, and only five (0.8%) reported to have used drugs within a four-month period. Taking something that belonged to someone else without their knowledge and picking up fights with peers were the most frequently reported types of delinquent behaviors within a four-month period. In each of the two sites, 85% of the pupils reported to never have taken something that did not belong to them. In Viwandani, a significantly ( $p=0.001$ ) larger proportion (80%) of the pupils had never started a fight with their peers than in Korogocho (65%). Fighting with peers was significantly ( $p=0.001$ ) higher among boys compared to girls.

## 4.5 Perception about their peers' behavior in school

To assess pupils' perception of their peers' a Likert-type scale ranging from 1 (none of them) to 4 (all of them) was used to ask pupils to rate how many of their peers wanted to go to secondary school or college/university and how many of their peers did not get good marks in school. To further assess peer perception, pupils were asked to rate how often their peers engaged in delinquent or risky behaviors that would be counter-productive to good performance in school. These behaviors included engaging in early sexual activity, taking alcohol and drugs, running away from home, and getting into trouble at school or with the police, or behaviors that is frowned on such as failing to attend church/mosque. Scores from these questions were analyzed to generate mean scores, ranging from 1 (better peer perception towards peers) to 4 (worse perception towards peers). Table 4.6 below presents the mean scores of pupils' perceptions of their peers.

**Table 4.6: Perception on how their peers behave**

	Mean	Std. Dev	Min	Max	P-Value
Site					
Viwandani	1.48	0.24	1.00	2.33	0.015
Korogocho	1.53	0.25	1.00	2.44	
Pupil Sex					
Boy	1.53	0.25	1.00	2.44	0.012
Girl	1.48	0.24	1.00	2.11	
Wealth					
Poorest	1.53	0.26	1.00	2.44	0.013
Middle	1.51	0.26	1.00	2.33	
Least poor	1.46	0.23	1.00	2.33	
Age+	0.03				0.001

+ regression coefficient reported.

Significant ( $p=0.015$ ) differences emerged across the two sites, with pupils in Viwandani reporting better perception of their peers (mean = 1.48 compared to pupils from Korogocho schools (mean = 1.53). In terms of gender, girls reported better (mean = 1.48) perception of their peers compared to boys (mean = 1.53), and these differences were significant ( $p=0.012$ ). Similarly, peer perception was significantly ( $p=0.013$ ) different across socio-economic divides with pupils from the least poor households reporting better (mean = 1.46) peer perception compared to pupils from the poorest households (mean = 1.53). The socio-economic status of the household may define children's interaction with their peers, which minimizes exposure to negative and harmful behaviors.



## 4.6 Sexual activity and puberty

To assess awareness on the consequences of early sexual activity, pupils were presented with nine likely consequences to which they were asked to respond with either ‘yes’ or ‘no’ (Table 4.7). Pregnancy and HIV /AIDS were cited as the likely outcomes of early sexual activity by more than 90% of the pupils in both sites. More pupils in Viwandani compared to Korogocho (91% vs 86%) cited STIs as a likely outcome of early sexual activity.

While the physical consequences of early sexual activity were highly cited by both boys and girls, negative social outcomes of early sexual activity were cited by fewer pupils. However, there were significant differences between sexes, with girls citing negative social outcomes more often than boys. For instance, 86% of girls cited dropping out of school as a likely outcome of early sexual activity compared to 70% of the boys. This is an expected outcome as girls are more likely to drop out of school because of a pregnancy. It is worth noting that these items captured boys’ and girls’ knowledge on the consequences of early sexual activity and do not necessarily relate with their experiences. A similar trend was observed with other social consequences with significantly more girls compared to boys indicating being shunned by friends and family ( $p=0.001$ ) and boyfriend/girlfriend ( $p=0.002$ ) as likely outcomes.

Fewer pupils associated early sexual debut with positive outcomes such as increased popularity with friends or with their boyfriend/girlfriend. However, significant differences emerged across the two sites, with significantly ( $p=0.001$ ) more pupils in Viwandani citing positive outcomes of early sex compared to those in Korogocho. For instance, 57% of pupils in Viwandani indicated that they would be more popular with their friends, compared to 43% in Korogocho. Similarly, 31% of pupils in Viwandani indicated that they would be liked more by their girlfriend/boyfriend, compared to 14% in Korogocho, with no significant differences across sexes.

Consistent with awareness on the outcomes of early sexual activity, very few pupils reported to be sexually active, with only seven pupils reporting to have had sex and less than 10 reporting having engaged in sex-related activities such as kissing, fondling and foreplay, in both sites.

**Table 4.7: Consequences of early sex**

I can/I will	Study Site			Pupil Sex		
	Viwandani	Korogocho	p value	Boy	Girl	p value
Get pregnant or impregnate a girl						
Yes	94.68	95.34	0.709	94.58	96.72	0.614
Infected with HIV/AIDS						
Yes	94.68	97.83	0.04	97.29	96.72	0.233
Infected with other STI						
Yes	91.49	86.02	0.035	86.44	91.80	0.107
Drop out of school						
Yes	79.43	77.02	0.474	70.85	86.23	0.001
Become popular with my friends						
Yes	57.45	43.48	0.001	49.49	51.15	0.807
Become liked by my boyfriend/girlfriend						
Yes	31.56	14.29	0.001	25.08	20.00	0.115



I can/I will	Study Site			Pupil Sex		Value
	Viwandani	Korogocho	p value	Boy	Girl	
Shunned by family						
Yes	51.42	48.45	0.466	42.71	57.38	0.001
Shunned by my friends						
Yes	62.77	69.57	0.078	57.97	75.41	0.001
Shunned by my boyfriend/girlfriend						
Yes	56.38	62.11	0.153	53.22	66.23	0.002

Further, the pupils were asked who they felt comfortable to discuss sexuality and puberty issues with. Table 4.8 presents findings of who the pupils feel comfortable to discuss puberty and sexuality issues with and at what age. Parents topped the list (46% of the pupils), followed by teachers (26% of the pupils) then peer (less than 10% of the pupils). However, while more girls (56%) than boys (35%) were comfortable discussing sexuality and puberty issues with their parents, more boys (29%) were slightly more comfortable discussing puberty and sexuality with teachers, compared to 22% of the girls. Boys also reported being more comfortable discussing puberty and sexuality with their peers and siblings compared to girls. Overall, the essential role of parents and teachers in discussing puberty and sexuality information was clear. It is thus necessary to ensure that parents and teachers are equipped with the right information and attitudes about adolescent reproductive health and sexuality.

Approximately half the pupils indicated 12 – 14 years as the best age for parents to discuss puberty and sexuality with them, while 17% indicated before 12 years as the best age for parental discussion with pupils on puberty and sexuality. Girls preferred that their parents discuss puberty and sexuality with them earlier than boys. A higher proportion of girls compared to boys indicated below 14 years as the most appropriate age and more boys compared to girls indicated 14 years and above as the most appropriate age.

**Table 4.8: With whom do you feel comfortable to discuss with about puberty and sexuality issues?**

With whom do you feel comfortable discussing about puberty?	Boy	Girl	Total
	%	%	
Sibling	8.14	6.47	7.28
Parent	35.93	56.63	46.52
Other household member	2.03	0.65	1.32
Related neighbor	0.68	0.32	0.5
Not related neighbor	0.68	0.97	0.83
Other related non HH	1.69	0.97	1.32
Not related	8.47	4.21	6.29
Student	12.2	5.83	8.94
Teacher	29.83	22.98	26.32
Missing	0.34	0.97	0.66

What do you think is the most best age for your parents to discuss with you about sexuality



What do you think is the best age for your parents to discuss with you about sexuality?	Boy	Girl	Total
	%	%	%
Before 12	13.95	21.64	17.86
Between 12-14	50	54.75	52.42
Between 15-17	19.73	16.72	18.2
18 & above	16.33	6.89	11.52

## 4.7 Deviant behavior and sexual activity

Gibbs (2014) defined deviant behavior as “the objective or subjective assessment of problem-producing behavior committed by an individual or group that interferes with the enjoyment of life or essential role performance of oneself or others that is sufficient to produce a social censure or control response intended to change or eradicate that behavior.” Deviant behavior involves activities that are not socially or morally acceptable. Deviant behavior has been shown to be associated with learning outcomes in low resourced settings (Moses W Ngware et al., 2016). Part of the study is to mentor girls and boys in life skills and create role models and leaders who can transform the community they live. Therefore, in this study we examined deviant behavior and sexual activities that the boys and girls have engaged in.

Sexual activity

- Only 7 boys and girls reported to have ever had sex and 10 reported to have either fondled, kissed or even engaged in heavy petting and other sex-related activities.

Drug use

- Only 5 boys and girls reported to have used drugs

**Table 4.9: Deviant behavior**

Behavior	Viwa*	Koch**	p-value
You stayed away from home for at least one night without your parent's permission	3.23	3.75	0.864
You started a fight with your peers	19.78	35	0.001
You took or tried to take something that belonged to someone else without their knowledge	14.75	14.69	0.186
You carried a knife, gun, or other weapon to protect or defend yourself	0.72	1.87	0.406
You hit or threatened to hit an adult	2.51	1.25	0.471
You delivered or sold drugs (e.g. bhang, khat, glue)	0	4.39	-
You delivered or sold any alcohol (e.g. chang'aa, busaa, beer)	1.08	1.57	0.802

\*Viwandani; \*\*Korogocho



The prevalence of deviant behavior in the study community was generally low. Other than starting a fight, which was significantly higher in Korogocho than in Viwandani, the prevalence of other deviant behavior did not differ significantly between the study sites. Moreover, delivering and selling of drugs was only reported in Korogocho, with 4.4% of the boys and girls reporting to have been involved at one point in time. About 15% of the pupils reported to have engaged in some form of stealing.



# 5. LEADERSHIP SKILLS TRAINING COMPONENT



Leadership development activities have three components i.e. education, training and experience. The education component provides knowledge on leadership; the training component provides the ability to convert knowledge to skills while the experience component provides opportunities to practice leadership skills (Li & Wang, 2009). Adolescence is the best time to introduce leadership skills training as leadership plays an important role during the process of maturity into adulthood (Hancock, Dyk, & Jones, 2012; van Linden & Fertman, 1998). Previous studies in the US have demonstrated that leadership questionnaires can be used on children as young as 12 years, with positive outcomes reported over time (Sabatelli, Anderson, Trachtenberg, & Liefeld, 2005). It is for this reason that the leadership component was included in the current study.

The leadership questionnaire administered in the current study has 39 items grouped under six sub-scales: 1) Social Self-Efficacy; 2) Self-Assertive Efficacy; 3) Self-Regulatory Efficacy; 4) Youth-Community Connections; 5) Social Competencies; and, 6) Adult-Youth Connections outside home and school. Self-efficacy is defined as “the belief in one’s capacities to organize and execute the sources of action required to manage prospective situations” and it is a context-specific assessment of competence to perform a specific task or domain (Bandura, 1997). Accurate assessments of self-efficacy may be based on three sets of skills which are thought to be associated with leadership; these include social self-efficacy, self-assertive efficacy and self-regulatory efficacy. Social self-efficacy refers to the capability of an individual to respond proficiently during interpersonal circumstances (Coleman, 2003). Self-assertive efficacy is the ability to speak up for one’s rights while self-regulatory efficacy is the ability to resist negative peer pressures. The Youth-Community connections sub-scale is concerned with neighborhood support and neighborhood activities. Neighborhood support involves receiving help and protection, and a sense that people work together in the neighborhood while neighborhood activities refers to the perception that there are available activities in the community (Sabatelli et al., 2005). As has been suggested by Sabatelli and colleagues, youth participating in leadership programs are more likely to experience high levels of neighborhood support than those who do not. The capacity for empathy with others, that is, the ability to be sensitive to the feelings and experiences of others, is a social competency that may be affected by a leadership program. Good leaders should be able to listen well to others and show sensitivity (McCauley & van Velsor, 2003). Adult-Youth connections are characterized by supportive relationships with adults to the point where youth perceive the adults as resources for helping them to deal with social and emotional experiences (Sabatelli et al., 2005). Youth who participate in leadership programs are more likely to report positive relationships with supportive adults outside the home and school (McCauley & van Velsor, 2003).

The seven items under the Social Self-Efficacy sub-scale ask adolescents to rate their ability to relate to and communicate effectively with others. For instance, one of the items asks, “How easily do you become friends with other children?” Within the four items of the Self-Assertive Efficacy sub-scale, pupils are asked to rate their ability to speak up for their rights. Adolescents’ perceived ability to resist negative peer pressure was measured using 10 items within the Self-Regulatory Efficacy sub-scale. The ten items under the Youth-Community Connections sub-scale ask pupils to rate neighborhood support and activities. Under the four items in the Social Competencies sub-scale, pupils are asked to rate their ability to empathize with the feelings of others. The Adult-Youth Connections sub-scale has four items which ask pupils questions about the support they are able to get from adults that they know, and not friends or peers. All the items in this questionnaire were obtained from various sources, including past studies of adolescent behavior (Bandura, 1997; Caprara et al., 1998; Sabatelli et al., 2005).

The questionnaire is designed such that respondents rate each of the domains on a 3-point Likert scale, with a higher rating denoting a more positive response than a lower rating. The response format varies according to the domain: “not easily at all” to “very easily,” for items dealing with self-perception (sub-scale 1, 2 and 3); “not at all true” to “completely true” for items dealing with community support (sub-scale 4 and 6); and “never” to “always” for items dealing with relationships with others (sub-scale 5).

The leadership questionnaire was administered to 601 pupils between April and May 2016. Boys (n = 292, 48.6%) and girls (n = 309, 51.4%) were nearly equally distributed in the sample. The mean age



of the sample was 12.5 years (SD: 1.25; range: 9.8 to 21.1). Nearly all the pupils (n = 577, 96.0%) responded to all the items on the leadership questionnaire (Table 5.1). When computing the sub-total and total scores, we excluded the scores of pupils who had a missing response on any item.

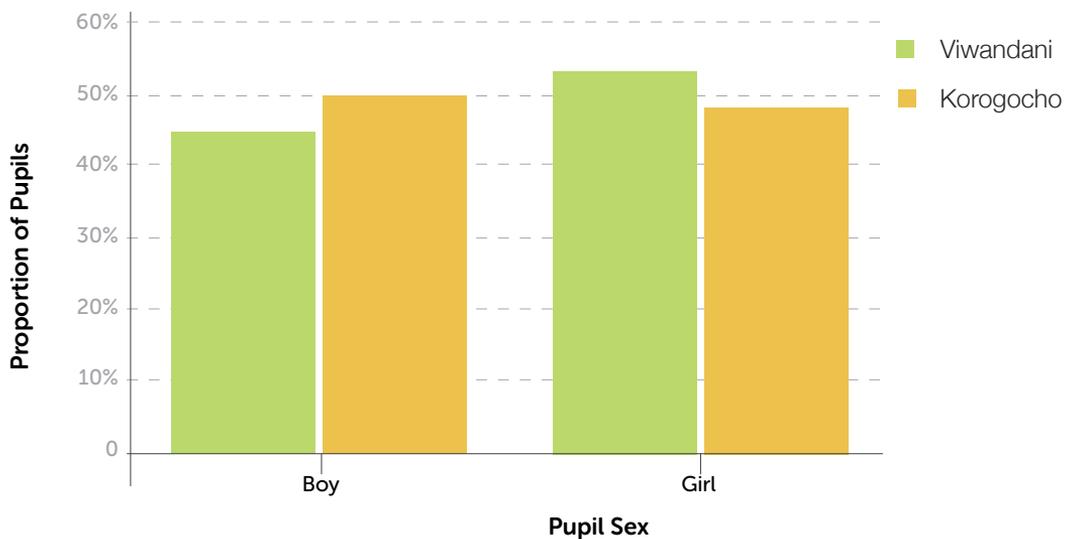
**Table 5.1: Items with missing responses**

Number of items with missing responses	N	%
None	577	96.0
1 – 5	19	3.3
6 – 10	3	0.5
11 – 15	1	0.17
More than 15	1	0.17

## 5.1 Differences across sites

The Korogocho site had a slightly higher number of pupils (n = 321, 53.4%) than Viwandani (n = 280, 46.6%) (Figure 5.1). A chi-square test of independence was performed to examine if there were any differences in the gender distribution across study sites. There was no significant difference found,  $\chi^2(1, N = 601) = 1.327, p = .249$ .

**Figure 5.1: Distribution of boys and girls**



## 5.2 Reliability analysis

Before any further analysis was conducted on the items, one of the items under the Youth-Community Connections sub-scale, 'People in your neighborhood/community are mean' was reverse-coded. This is because the item was negatively-worded and numerical scoring scale needed to run in the opposite direction to denote a more positive response. To better understand how well the items on the leadership questionnaire measure the same construct, we subjected the items to a reliability analysis to calculate their internal consistency. In the ideal situation, all the items should be categorically



similar so that the summed score becomes a reliable measurement of the behavior under study. The leadership questionnaire was found to be highly reliable,  $\alpha = .84$ , suggesting that the component items are related to each other and contribute to an overall measurement of leadership. In addition, all the sub-scales appeared to have acceptable to excellent internal consistency, with alpha levels ranging from .50 to .90. These alpha levels suggest that on the Social Competencies sub-scale, there was moderate cohesiveness or inter-relatedness among the responses to the four items on this sub-scale; on the other hand, the responses to the ten items on the Self-Regulatory Efficacy sub-scale and the four items on the Adult-Youth Connections sub-scales were highly related. These results are presented in Table 5.2.

**Table 5.2: Sub-scale and overall scale reliability levels**

Sub-scale	N of items	Cronbach's alpha	Interpretation
Social Self-Efficacy	7	.60	Acceptable
Self-Assertive Efficacy	4	.69	Good
Self-Regulatory Efficacy	10	.89	Excellent
Youth-Community Connections	10	.85	Good
Social Competencies	4	.48	Acceptable
Adult-Youth Connections	4	.88	Excellent
Overall Leadership Scale	39	.84	Good

### 5.3 Leadership questionnaire scores

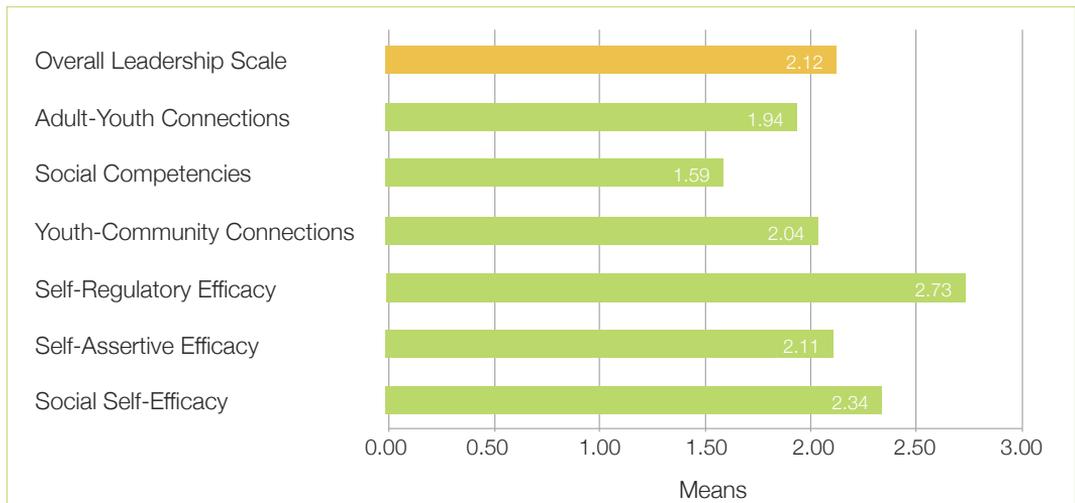
Descriptive statistics for the sub-scales and overall leadership scale are summarized in Table 5.3. The overall mean score on the leadership questionnaire was 2.14. This score suggested that, when considered across all the items the proportion of learners endorsing the three levels was nearly the same. Mean scores on the sub-scales ranged from 1.59 on the Social Competencies sub-scale, to 2.73 on the Self-Regulatory Efficacy sub-scale (Figure 5.2). Items on the Social Competencies sub-scale were endorsed by less than 25% of the learners at the highest level (always), while items on the Self-Regulatory Efficacy sub-scale were endorsed by 60% or more learners at the highest level (very easily).

**Table 5.3: Descriptive statistics for the sub-scales and overall leadership scale**

	N	Mean (SD)	Range	Min	Max	Skewness	Kurtosis
Social Self-Efficacy	600	2.34 (.37)	1.86	1.14	3.00	-.381	-.267
Self-Assertive Efficacy	597	2.11 (.56)	2.00	1.00	3.00	-.193	-.709
Self-Regulatory Efficacy	592	2.73 (.40)	2.00	1.00	3.00	-2.399	5.858
Youth-Community Connections	592	2.12 (.50)	2.00	1.00	3.00	-.054	-.777
Social Competencies	599	1.59 (.40)	2.00	1.00	3.00	.429	-.159
Adult-Youth Connections	596	1.94 (.71)	2.00	1.00	3.00	.084	-1.272
Overall Leadership Scale	577	2.14 (.26)	1.42	1.41	2.83	-.018	-.280



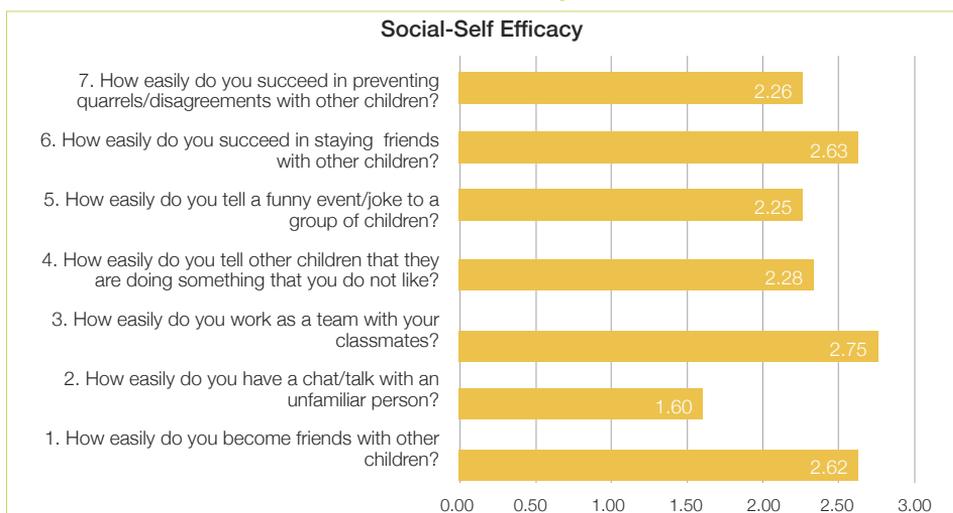
**Figure 5.2: Mean scores on overall leadership scale and sub-scales**



### 5.3.1 Social self-efficacy

The Social Self-Efficacy sub-scale mean scores suggested that it was ‘moderately easy’ for learners to relate to and communicate with others. The mean scores for the various items indicated that it was generally ‘very easy’ for learners to become friends with other children (endorsed at level 3 by 68.4%), work as a team with classmates (endorsed by 77.4% at level 3), tell a funny event/joke to a group of children (endorsed by 46% at level 3), remain friends with other children (endorsed by 68.2% at level 3) and prevent quarrels/disagreements with other children (endorsed by 47% at level 3) (Figure 5.3). The item on ‘How easily do you have a chat/talk with an unfamiliar person?’ was endorsed at level 1 – ‘not easily at all’ – by many pupils (57%) suggesting that learners were not free with those they considered strangers. These results suggest that boys and girls in both Korogocho and Viwandani had moderate levels of social self-efficacy. Social self-efficacy is positively associated with self-esteem, social confidence and problem-solving skills (S. L. Anderson & Betz, 2001; Hermann & Betz, 2006; L. Di Giunta et al., 2010). As self-esteem, social confidence and problem-solving skills are some of the good leadership qualities, adolescents with high social self-efficacy are therefore likely to make efficient leaders. Building up these skills among the adolescents in the current study will promote their leadership qualities.

**Figure 5.3: Mean item scores on the Social Self-Efficacy sub-scale**



### 5.3.2 Self-assertive efficacy

The mean scores on the Self-Assertive Efficacy sub-scale suggested that it was ‘moderately easy’ for learners to speak up for their rights (Figure 5.4). The item on ‘How easily do you express your opinions when other classmates disagree with you?’ was endorsed as ‘moderately easily’ by 36% of the learners compared to 30% at the other levels. A slightly higher proportion of the pupils were able to ‘very easily’ stand up for themselves when they felt they were being treated unfairly (38%) than those who endorsed other levels (27% said ‘moderately easily’ and 34% said ‘not easily at all’). More than half of the pupils (59%) responded that it was generally ‘very easy’ for them to stand firm to someone asking them to do something unreasonable.

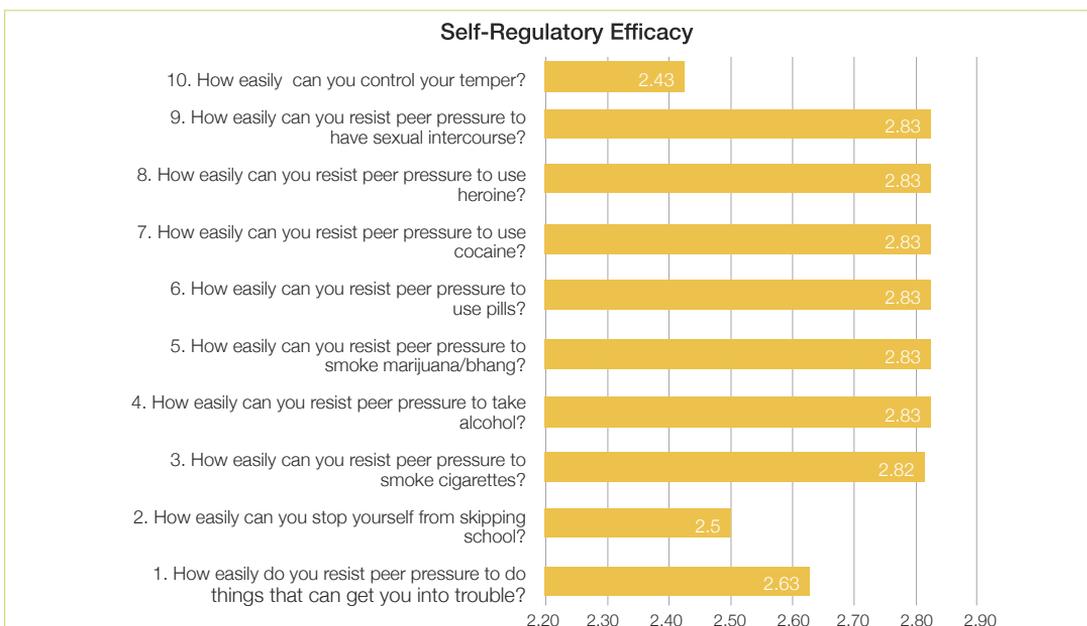
Figure 5.4: Mean item scores on the Self-Assertive Efficacy sub-scale



### 5.3.3 Self-regulatory efficacy

On the Self-Regulatory Efficacy sub-scale, the responses to the various items suggested that it was generally ‘very easy’ for learners to resist negative peer pressure to engage in bad behavior such as skipping school, smoking cigarettes, taking alcohol, taking drugs and engaging in sexual intercourse (Figure 5.5).

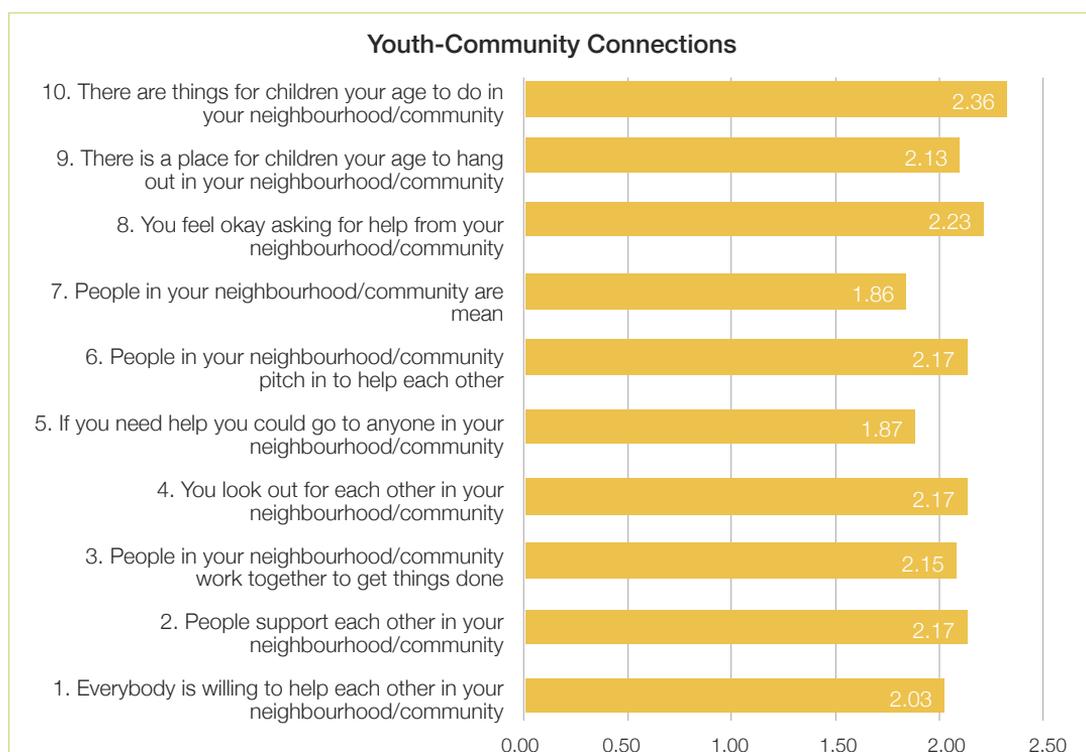
Figure 5.5: Mean item scores on the Self-Regulatory Efficacy sub-scale



### 5.3.4 Youth-community connections

On the Youth-Community Connections sub-scale (Figure 5.6), on average, learners indicated that it was ‘somewhat true’ that; the people in the neighborhoods in which they lived generally provided support to each other and worked together, and that there were activities for children their age. On the items asking for help or going to anyone in the neighborhood for help, many learners (more than 40% compared to 30% or less for the other ratings) responded that it was ‘not at all true.’ Nearly half of the learners responded that it was ‘not at all true’ for the item stating that “People in your neighborhood are mean.” These findings suggest that even though adolescents were generally hesitant to ask for help from others in the neighborhood, overall, they felt that there was a high level of community connectedness. Previous research has shown that a sense of connection to one’s community is key in positive youth development (Eccles & Gootman, 2002) which in itself is a precursor for development of leadership skills.

Figure 5.6: Mean item scores on the Youth-Community Connections sub-scale

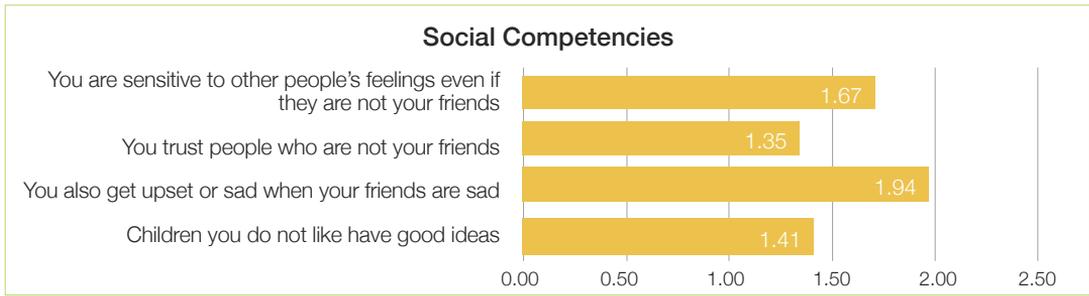


### 5.3.5 Social competencies

On the Social Competencies sub-scale (Figure 5.7), learners most frequently reported that they ‘never’ appreciated the ideas of children they did not like or trusted people who were not their friends. Nearly half reported that they ‘sometimes’ empathized with their friends or felt sensitive to the feelings of those who were not their friends.



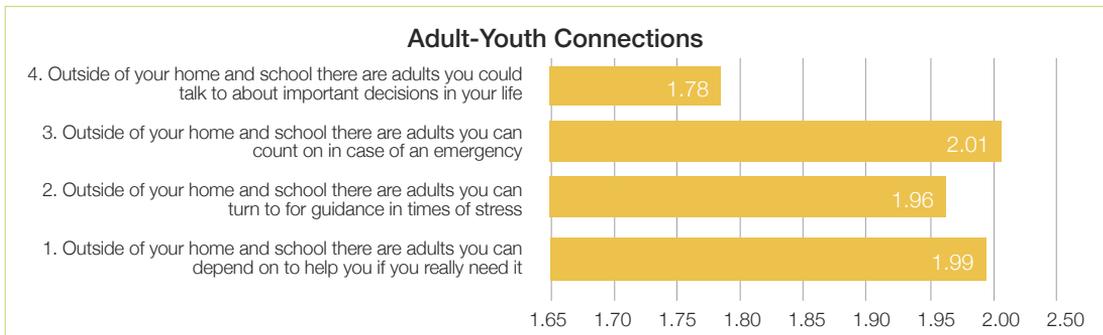
**Figure 5.7: Mean item scores on the Social Competencies sub-scale**



### 5.3.6 Adult-youth connections

On the Adult-Youth Connections sub-scale, on average, ratings across the three levels were nearly similarly distributed when learners were asked to indicate if outside their homes and schools, there were adults whom they could depend on when in need of guidance or during an emergency. It was 'not at all true' for nearly 50% of the learners that outside the home and school, there were adults that they could talk to about important decisions in their lives (Figure 5.8).

**Figure 5.8: Mean item scores on the Adult-Youth Connections sub-scale**

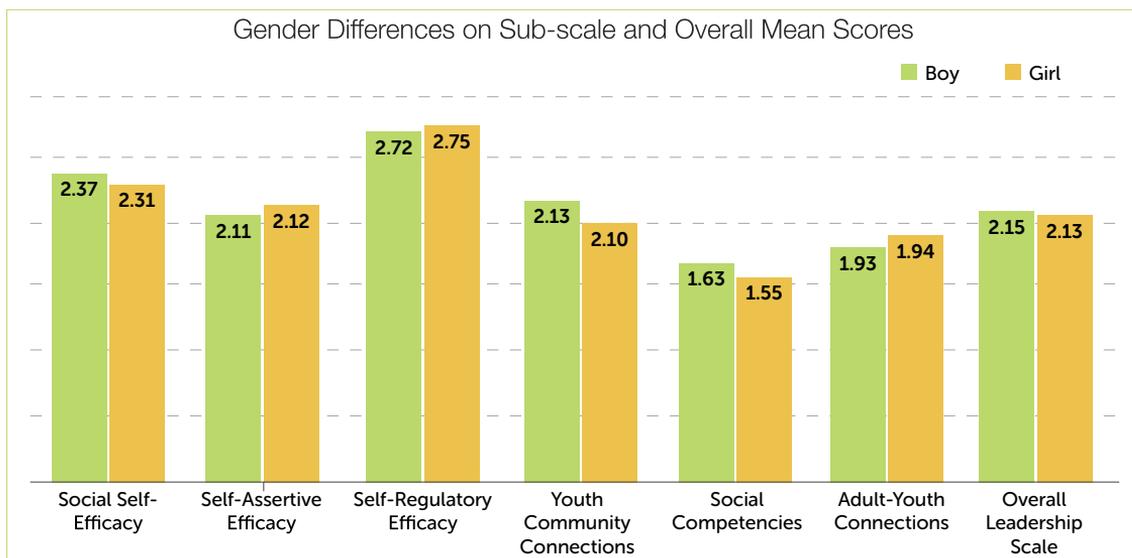


## 5.4 Gender differences

Previous studies suggest that there may be gender differences in leadership attributes and perceptions (Osmane, 2015). As shown in Figure 5.9, boys scored significantly higher than girls on the Social Self-Efficacy (boys' mean (SD) = 2.37 (0.37); girls' mean (SD) = 2.31 (0.37);  $p = 0.044$ ), and Social Competencies (boys' mean (SD) = 1.63 (0.41); girls' mean (SD) = 1.55 (0.39);  $p = 0.014$ ) sub-scales. The detailed results are presented in Table 5.4. These results demonstrate that a higher proportion of boys than girls reported that it was 'very easy' for them to relate to and communicate effectively with others. For instance, 72% of boys compared to 62% of girls said that it was 'very easy' for them to "become friends with other children," while 62% of girls compared to 51% of boys said that it was 'not easy' for them to "have a chat/talk with an unfamiliar person." On the Social Competencies sub-scale, a higher proportion of boys also endorsed the rating of 'sometimes' on the items asking if other children that they did not like had good ideas, if they got upset when their friends were sad, if they trusted people who were not their friends and they were sensitive to other people's feelings, even those who were not their friends. These findings suggest that boys were more outgoing than girls in their relationships with others, and that they respected and showed appreciation for others more often than girls.



**Figure 5.9: Differences in mean scores across gender**



**Table 5.4: Mean score differences across gender**

Sub-scales	t	df	p-value	95% CI	
				Lower	Upper
Social Self-Efficacy	2.015	598	.044	.001	.121
Self-Assertive Efficacy	-.386	595	.699	-.108	.073
Self-Regulatory Efficacy	-.975	590	.330	-.096	.032
Youth-Community Connections	.884	590	.377	-.044	.117
Social Competencies	2.473	597	.014	.017	.144
Adult-Youth Connections	-.081	594	.935	-.119	.110
Overall Leadership Scale	1.020	575	.308	-.021	.066

## 5.5 Site differences

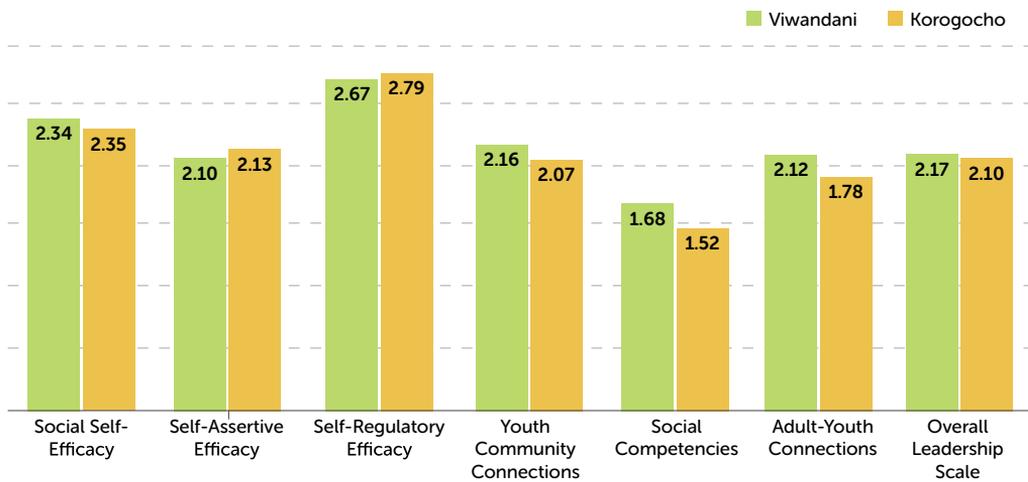
Adolescents living in Korogocho had significantly higher Self-Regulatory Efficacy sub-scale scores than their counterparts in Viwandani. These results suggest that more adolescents in Korogocho than in Viwandani reported that they were able to resist negative peer pressure ‘very easily.’ On the Youth-Community Connections, Social Competencies and Adult-Youth Connections sub-scales, adolescents in Viwandani had significantly higher scores than those in Korogocho (Figure 5.10). Adolescents in Viwandani were more likely to report the availability of neighborhood support and activities, and the support of adults outside their homes and schools. On the overall Leadership Scale, a higher proportion of adolescents in Viwandani than in Korogocho on average endorsed items at the moderate rating level.



**Table 5.5: Mean score differences across sites**

Sub-scales	t	df	p-value	95% CI	
				Lower	Upper
Social Self-Efficacy	-4.28	597.4	.669	-.072	.046
Self-Assertive Efficacy	-.585	595	.559	-.117	.064
Self-Regulatory Efficacy	-3.83	409.9	.000	-.196	-.063
Youth-Community Connections	2.137	590	.033	.007	.168
Social Competencies	4.914	543.1	.000	.096	.223
Adult-Youth Connections	6.01	594	.000	.229	.452
Overall Leadership Scale	3.13	535.2	.002	.026	.113

**Figure 5.10: Differences in mean scores across sites**



# 6. COMMUNITY, PARENTS’ AND PUPILS’ REFLECTIONS ON EDUCATION



This section highlights the individual perception of parents, children and the community towards the education of boys and girls in the urban informal settlements of Korogocho and Viwandani. Eight focus group discussions (FGDs) were conducted with parents and followed this pattern: fathers with girls in the program; fathers with boys in the program; mothers with girls in the program; and mothers with boys in the program. In addition, twelve in-depth interviews (IDIs) were done with sampled pupils and key informant interviews (KIIs) were done with the two chiefs and village elders. Perceptions of the participants were sought on the roles of various participants on education (community, parents, and the boys and girls); the understanding of constructive leadership; and the security situation within the community. The current chapter is organized as follows: First, we highlight the perception of community gatekeepers and parents about their roles in keeping girls and boys in school; perceptions on the role of both boys and girls in staying in school; the general understanding of the construct leadership; and the perception of community leaders on the security situation in both Korogocho and Viwandani.

## 6.1 Perception of community leaders on keeping children in school

Community leaders whose opinions were sought concerning keeping children in school included chiefs, and village elders of both Korogocho and Viwandani. The chiefs and the elders, whose responsibility is to disseminate Government’ policies down to the people in the location and sub-location respectively, agreed that their roles in keeping children in school were three-fold. These included explaining to the parents Government’ policy that children need to remain in school; engaging with parents to ensure that children are taken to school; and creating partnerships within and outside the community in support of school attendance by children.

### 6.1.1 Explaining to parents the government’ policy on education

The chiefs and village elders in the two sites of Korogocho and Viwandani strongly felt that as community gatekeepers, they have to explain Government’ policy to parents. More precisely, the community gatekeepers felt that they have a duty to explain to the wider community including parents that Government’ policy requires that they take the children to school, and ensure that they remain enrolled in school. The chiefs use public platforms – barazas – to sensitize parents on ways to keep children in school. Most importantly, the community leaders have also decided to use the “Nyumba Kumi Initiative” as a forum to encourage parents to take their children to school. In such forums, the community talks openly about those parents who are not sending their children to school. This is an attempt to encourage parents, and in extreme cases, punish those who refuse to take their children to school. The chief of Viwandani explained the importance they have attached to education in their public forums in this way:

...In our barazas, every time we hold barazas, that is referring to education one of the key agenda. ...It is an agenda we have never relented to pick out in any baraza, and to show the parents or guardians the need of taking the children to school, in order to eradicate the problems we have in the slum area....After indicating the need, you indicate Government’ policy, what does the Government’ say about taking children to school... (KII, Community leader, Chief, Viwandani, 29042016).

The Nyumba Kumi initiative was reported by community leaders as an important way of disseminating Government’ policy with regard to parental obligations on ensuring that their children access schooling. The chief, a community leader in Viwandani explained it thus:

From there we have the village elders, ‘Nyumba Kumi’ team and the parents themselves. We emphasize owning that program...It is your work to come and tell us who this parent is who does not take a school going child to school....We talk it out with the person concerned and where the talk gets to the end, and nothing is happening, we even arrest the parent or the guardian and they can be jailed for three years with a fine not exceeding 50,000 shillings... (KII, Community leader, Chief, 29042016).



The role of the community leaders as custodians of the communities, and as intermediaries between the Government' and the communities was underscored by the community elders in Korogocho. The community elders were of the opinion that as the face of Government' in their respective communities, it was important that they explain the policies to the communities, and enforce their implementation. For this reason, they had to ensure that parents send their children to school. A community leader from Korogocho said:

...Like I had said earlier on, you know the Government' has really put emphasis on education, so as a village elder in the community we have Government' policies and we must take them to the community level so I have to go and tell the parents that they have to take their children to school (KII, Community leader, Korogocho, 27042016).

These narratives point to the need for community leaders to be empowered to perform the executive functions on behalf of Government' in their respective communities. In this case, community leaders should exercise collective empowerment. Westthorp et al. (2014), refers to this as collective empowerment where communities make choices that can influence both policy makers and the rest of the communities at different levels. Therefore, communities and their leaders are able to sustain service provision—in this case are able to work with the members of the community to ensure children attend school.

### 6.1.2 Engage parents so that they can take the children to school

Community leaders also felt that their role was to engage parents to understand the challenges that affect children in school; and to be actively engaged as participants in their education. For the community members in Viwandani, they felt that they needed to engage the parents more, so that they can be able to take their children to school. A village elder in Viwandani explained further:

For me mostly is to check whether there any pupils who are not going to school. In case I get any I summon the parents. If we get it is something we can resolve, like the child is refusing to go to school, we may threaten them that we will take them to the police and they agree to go...If it is case that is beyond me I take it to the next level, which is to the assistant chief, who takes up the case of the parent who does not want to take the child to school... (KII, Village elder, Viwandani, 27042016).

For the community leaders in Korogocho, their role seemed to go beyond just checking that children are not going to school, but rather to find out the challenges that keep children out of school. A village elder in Korogocho said:

... My greatest role is that after knowing the challenge that makes the child not go to school, I go and talk to the parents. If it is school fees, we find ways of solving it, also we build the capacity of parents to start small businesses so that they can be able to take care of themselves and also pay school fees... (KII, Village elder, Korogocho, 27042016).

Engagement by the community with parents to ensure they send their children to school, was a realization of the importance of parental involvement in their children's schooling. This is consistent with what the extant research shows in regard to the association between parental involvement and academic achievement of their children with most studies suggesting a positive link between parental involvement and student achievement (Castro et al., 2015).



### 6.1.3 Build partnerships with organizations for children to learn

The community leaders particularly in Korogocho were of the opinion that continued partnership between them, the community, parents and non-governmental organizations and the government would be beneficial for the education of children within the two communities. As the leaders had identified earlier in the initial phase of the GEC I, collaboration is vital if problems that impede children's education have to be addressed. The community leaders recognized the work that APHRC has done with the just concluded GEC I where they partnered with two community based organizations in the urban informal settlements. As a result, they wanted to see a replication of that collaborative effort. The chief in Korogocho intimated:

... we have also partnered with APHRC in their project of girl child education and now in ALOT to ensure that the very needy children have gotten support from this program to go back to school. We have also ensured that we have data on all needy cases in this community so that we ask the government to support them through CDF and bursary from the government (KII, Chief, Korogocho, 29042016).

Public-private partnerships have been mentioned as important for providing multi-pronged solutions to the issues affecting girls' education in the urban informal settlements. The qualitative narratives here re-emphasize the need to embrace public-private partnerships, since there is a general understanding that the Government may not be in a position to provide all the solutions to the problems that afflict the education of children among the urban poor. This was indeed echoed by a representative from the Ministry of education at a stakeholders forum held in September 2016 in Nairobi. The official stated, "the need is great, and we welcome the participation of all others to help the government provide basic education to the children of Nairobi"

## 6.2 Perceptions of parents regarding their role in their children's education

This section details the perception of parents regarding their role as parents to their children and by extension their children's education. There were six ways in which parents described their roles in their children's lives. These included: monitoring the children in and out of school, providing basic needs for the boys and girls, including paying of school fees; interaction with teachers in the respective schools that their children attended; forging closeness with their children for improved learning; and support with homework.

### 6.2.1 Parents monitoring of children in and out of school

Parents felt that it was important for them to monitor the children in and out of school. They felt responsible for ensuring that their children reached school and attended classes. They also wanted to know what their children were doing while out of school and whom they were associating with. Monitoring of children was mentioned by female parents with boys in the program and male parents with girls in the program as being important. Parental monitoring and the follow-ups with children to establish whether they attended school, and completed work assigned by the teachers was mainly evident in Korogocho. Female parents with boys in the program explained it in this way:

...So I have to confirm you go to school and when you come back and what you are doing... So, you have to control the child after school...What are they doing?...in the slums the children are on the roads, they start looking for money, they start skating, playing football.... the child has no time, we parents need to sit down with the children so that the child does not lack discipline...and can attend school (FGD, female parents with boys, Korogocho, 01052016).

If parents have to effectively monitor the children, then it is important that they collaborate with the teachers in the respective schools. This will enable the teachers and the parents to address deviant



behavior by the children which may interfere with their learning. This teacher-parent collaboration to enhance monitoring of children was particularly important to male parents with girls in the program in Korogocho. This how these parents perceived it:

...the parent responsibilities, he is not living up to them accordingly. The child comes from school and goes to do evil out there, but when the teacher calls the parent; he [referring to the parent] says that this is my child, let him stay how he wants to...So, if he takes the gun, it's okay; if he takes the knife it's okay just here in school but that is not parenthood. (FGD, male parents with girls, Korogocho, 01052016).

These parental narratives point to the two most important mechanisms in the literature that link parental involvement to student achievement outcomes. First, when parents are involved through monitoring of what children do in school, and interact with the teachers, they increase the social capital (Hill & Taylor, 2004; Putnam, 2000) of the children. The children also get to acquire skills and information through increased parental interaction with schools. In so doing the parents become well placed to assist the children in everyday school related activities. This interaction with the schools, offers parents an opportunity to build a consensus as families and schools with regard to the acceptable behavior that their children should exhibit in school and at home (McNeal, 1999). This enhances social control, and inhibits problem behavior among children (Hill & Taylor, 2004).

## 6.2.2 Providing basic needs for the children

Parents also felt that their role was to provide the basic needs for their children. Basic needs are vital for children to be able to attend school. Critical to the schooling of children are the provision of their basic needs, such as food, and uniform for school. For instance, children who go to school without food cannot concentrate in school and risk dropping out of school. Provision of basic needs was perceived to be a necessity by female and male parents with boys and girls in the program, and particularly in Korogocho. A male parent attending a male FGD of parents with boys in the program explained:

...The child needs food, when sick they need the medical checkup. So, as a parent, I will ensure that the child has food and that he has the books he requires in school. Also, when he drops in performance of a subject you (referring to the parent) will go and see the teacher, and so if you are told they need certain books, you go and buy... (FGD, male parents of boys, Korogocho, 01052016).

For parents in Viwandani, the main concern revolved around the boys; therefore their main concern beyond the basic needs in the house was payment of school fees and keeping the boys in school. Paying school fees as a necessity for children to attend school was important to female parents with boys in the program, and particularly from Viwandani. A female parent while attending an FGD of female parents said:

...I need to work hard to ensure that I have paid school fees, and also I have bought uniform, so that am not just sending him to school, yet, I have not paid the school fees... (FGD, female parents of boys, Viwandani, 30042016).

Parents in Viwandani were convinced that paying school fees was a basic need to enable the children to attend school. This was because parents did not want the boys to end up with worse schooling outcomes than their parents. A female parent with a boy in the program intimates:

...My role is to see that this child goes to school and finishes his studies...Personally, I did not go to school, I reached class six and got pregnant then I dropped out of school. So, I do not want my child to go through that life since as a boy he can become a thief or a street boy so I don't want that... (FGD, female parents of boys, Viwandani, 30042016).

On the provision of basic necessities for their children in the two sites, the narrative from parents point to the payment of school fees. However, in Kenya, free primary education (FPE) was introduced in 2003



(Oketch, Mutisya, Ngware & Ezeh, 2010). Scholars have established that despite the introduction of the FPE program, levies continue to be charged in many schools (Abuya, Oketch, & Musyoka, 2013). Therefore, when the parents in Korogocho and Viwandani report that payment of school fees is a basic need, they may be referring to the extra levies that are still charged in schools. According to Abuya et al. (2013), the payment of levies is embedded in the charges levied in low fee private schools (LFPS), while in public schools these levies cater for the externalities not covered by the capitation grants. Therefore, scholars may be right in their assertion that FPE was not the magic bullet for schooling problems of those living in informal settlements (Oketch et al., 2010).

### 6.2.3 Interaction with the teachers

Parents were of the opinion that part of their role was to interact with teachers and follow up the performance of their sons and daughters and in school. Parents felt that interacting with teachers was one of the ways in which they could ensure that the children attended school. In Viwandani, the community leaders, as parents were emphatic about the role that the parent should play as the caregiver to the children. A community leader in Viwandani explained,

“...As a parent, if your child is going to school, you need to visit the school...take the teacher’s number to call and find out how the child is progressing...” (KII, Community Leader, 28042016).

Moreover, the community leaders were also of the opinion that it is important for parents to interact with teachers in order to reduce the probability of children becoming truant. The community leader felt that even if the children belong to different households, it is the responsibility of all members in the community to ensure that they go to school. This includes interacting with the teachers who teach these children in school. A community leader from Viwandani explained:

So, the headmaster called me, since the child used to say the mother is in town. So, when I went the Headmaster, told me that Beyoncé says that the mother tells her to hold the baby, yet I don’t see like the mother has a baby. So, we found that the child was lying so that she can play. So, you see that following up is very good [Emphasis added] because if you don’t follow up, then the children start lying. Even when I see a child who is not mine...I will talk to that child then he will change in his education and even at home. (KII, Community Leader, Viwandani, 28042016).

Parents also felt that interaction with teachers reduces the chances that children will succumb to peer pressure. In the absence of continued teacher-parent interaction, children get derailed from attending school. Parent-teacher interaction reduces the chances of children following other children into activities that are not school related, like watching movies, whenever children are sent home to bring school fees. Interaction with teachers in order to reduce peer pressure was important to female parents with girls in the program, particularly in Viwandani. This is what one of the female parents said:

...In my case what I do, in every class where my child is I have the teacher’s number. Initially when the children are sent home because of fees yet I have paid for my girl who is in class seven the other girls would convince her to go their homes so that they can watch TV. So, I took the responsibility of having the teachers’ numbers, so, when the pupils are sent home I call the teacher and ask whether Faith is in school. So, one time the teacher told me that she cannot see Faith...I went and found six girls and one boy in a house where they were talking as they were watching movies. I took that responsibility so as to know whether my child is in class or not... (FGD, Female Parents of girls, Viwandani, 30042016).

Interaction with teachers is important for parents to know what is happening in school. Parents get to monitor what their children do in school, gaining the necessary information to be able to assist their children. In this way they not only build the social capital needed between the family and the school, (Hill & Taylor, 2004), but also guide the children on acceptable behavior, and agree with the schools on this set behavior. It is only then that teachers can teach effectively (Abuya et al., 2013).



## 6.2.4 Forge closeness with their children for improved learning

Parents in both Korogocho and Viwandani strongly felt that they needed to understand their children well, and forge a close relationship with them for improved learning. The emphasis was on knowing the children's friends; as such friends can be highly influential in their child's life. Knowledge of friends was particularly important to female parents with boys in the program, and who lived in Korogocho. A female parent attending an FGD of female parents with boys in the program explained:

At times you find that we as parents we do not care about the child we do not even know their friends, we need to know who he plays with because you can think that he plays around yet he has gone to learn bad things (FGD, female parents of boys, Korogocho, 30042016).

For parents in Viwandani, their emphasis was on being friendly to their children so that the children could open up about issues affecting them in the day to day activities in school. Moreover, parents envisaged themselves as role models for their children. This is what a male parent attending an FGD of male parents with boys in the program said:

My son is 11 years...initially when he did something, I was harsh to him and he used to run away from me. So, I became friendly and he has started coming back to me and he wants to learn from me. So, for me I have created that friendly environment and I can counsel him since he is almost becoming a man... (FGD, male parents of boys, Viwandani, 30042016).

When parents interact and become involved with their child's life on a daily basis, they can socialize meaningfully with their children (Spera, 2005). These parental narratives apply to both Korogocho and Viwandani. With respect to socialization of school related activities of achievement, learners agree that parental involvement includes, helping with homework, attending parent teacher meetings/conferences, volunteering to be appointed in leadership positions in the school, and being available to help with extra-curricular activities in their children's schools (Spera, 2005).

## 6.2.5 Support with homework

Parents were of the opinion that their role also included supporting children with homework. This was to ensure that the children (both boys and girls) completed homework given by their teachers in school. Parental roles in this case included making sure the homework was done, and also, following-up with teachers regarding the children's performance. Support with homework was a common narrative among female parents with boys in the program, and male parents with girls in the program. Notably, this theme was not very common among female parents with girls in the program. A male parent attending an FGD of males who have girls in the program explained:

...So as parents we need to look at their books and see what they are doing...if you don't do that the child will develop a hard head (referring to being stubborn) since they will see that you are not concerned. But if you visit the school, maybe after two weeks, and follow up on what the child is doing then you also send a signal to the teacher what you have been observant at home. Through that, you will have streamlined the child and even the teachers will see that you are strict, and so they will be keen on the child. So, when the child comes in the evening we need to ensure that they do their work... we need to be keen with the child at home and the teachers can do their part in school... (FGD, male parents of girls, Viwandani, 02052016).

## 6.2.6 Perceptions of the boys and girls with regard to their role in school

The pupils in both Korogocho and Viwandani felt that their immediate role was that they should work hard in school, pay attention to their teachers in class, and ensure that they do their homework, and also listen to their parents. A female pupil in Korogocho says,

"...to understand what the teacher is teaching (pay attention)..." (IDI, Female Pupil, Korogocho, 26042016).



This sentiment was echoed by a pupil from Viwandani who also perceived her role as listening to the parents over and above being able to read and to listen to her teachers. This is what the female pupil from Viwandani says,

“...I am supposed to read and listen to the teacher and also my parents.” (IDI, Female Pupil, 26052016).

Some of the other pupils from Viwandani, while agreeing that indeed their role was to study hard in the quest to attain their aspirations, added that they needed to do this with a plan. A male pupil from Viwandani said:

First, I am supposed to make my time table that helps me everyday to know the subject that I will be revising...what I can't do I ask my parents to help me, and I do the rest. If I am in school and I am not understanding something maybe in math, I go to the teacher and tell her I don't understand, and she helps me and when the exams come I will do well...(IDI, Male Pupil, Viwandani, 27042016).

For some learners their role extended to offering advice to their peers, whose school attendance was compromised by coming from households where parents are drug addicts. A pupil from Viwandani had this to say:

...if my teacher or parent has advised me I also advise the other pupils who don't go to school or don't have parents and are using drugs....I tell them that the drugs they are using are not good, they have an effect on the body of the human being...For example the cigarette it affects the chest and alcohol affects the liver. (IDI, Pupil, Viwandani, 27042016).

## 6.3 Leadership aspirations in the community

This section details the perceptions of parents and pupils with regard to leadership aspirations and opportunities for children in the two communities. The section details who are considered as role models, what leadership positions the children aspire for, and the ease of achieving aspired leadership positions. The narratives should be looked at from the fact that there is a strong association between interventions that aim to improve the social, personal skills, and improved students' self-esteem and self-confidence (Durlak & Weissberg, 2007). Leadership skills are part of the soft skills that children need to acquire in order to effectively fit in their respective communities. At the end of the GEC Phase 1, parents of girls called for leadership skills to be imparted to their children so that they could become future role models and community leaders, thereby providing an opportunity for the groundbreaking development of a leadership program for lower primary school students, for both boys and girls (Abuya et al., 2015).

### 6.3.1 Role modeling

According to most pupils their parents are their role models. However, some of the other role models that they see present in the community include; the chief, doctors (who sometimes visit the community), and teachers. The children articulated that the reasons why they see their parents as role models is because the parents are able to support them, pay their fees, and provide for their basic needs. Moreover, children also saw their parents as role models because they are committed to supporting them in times when they get into trouble. This pupil from Viwandani who is in class six explains:

...My parents are not the type that runs to beating me when they are told that I have committed a mistake. They will first sit down with the people who claim I have committed that mistake, then understand what mistake it is and look at whether it is true. If it is found that I have committed the mistake, they will not rush to beating me or chasing me away no they will ask me to ask for forgiveness and to never repeat that mistake again (IDI, Pupil, Viwa, 27042016).

Some of the pupils who thought teachers were role models, were of the opinion that these teachers



who are role models will understand the children if and when they have problems at home—like lack of school fees payment, and when they come from households where parents are on drugs. A pupil from Viwandani said:

...Because he is the kind of person who understands in case you do not have school fees. He will understand you, he will not just chase you away. And in case your parents are using drugs, he will understand you and even talk with the head teacher and they allow you to continue schooling... (IDI, Pupil, Viwandani, 27042016).

### 6.3.2 Aspired leadership positions

The children in both Korogocho and Viwandani aspire for leadership positions. An interesting observation is that their aspirations were linked to their context -- that is the environment that they live in. For instance, most of the children interviewed aspired to be either soldiers, or work in the security industry. However, there were others who wanted to be doctors, lawyers, and surgeons. A majority who wanted to work in the security industry, were motivated by the urge to solve issues of insecurity that continue to afflict the urban informal settlements. This is how one of the male pupils in Korogocho saw it:

...he stops the crime and stops the drugs. I always tell my mother that when I grow up in future I would like to be a soldier so that I can save Kenya one day one time... (IDI, Male Child, Korogocho, 25042016).

Parents were also interested in their children holding leadership positions in future. However, there was the tension and ambivalence around what parents' expectations were and what the reality is as relates to the capability or the choice of the child to be able to accept the desired leadership position. However, these parents recognized their role as motivators for their children to pursue these leadership positions to the best of their abilities. The motivation is to keep the children working hard in school in order to achieve their academic dreams thereby act as a springboard to their leadership positions.

A male parent with boys in the program explained:

...when you are parents you expect your child to do well in future and to be a leader, it is one of those great things you expect, he is always saying he wants to be a pilot...I told him that it is not hard so long as you study hard...On the issue of leadership, I encourage them that whatever you want to become you can be so long as you study hard. My role is to encourage them... (FGD, Male parents of boys, Korogocho, 30042016).

This tension between what the parents want for their children as future leaders and what children want was also evident in Viwandani. The following excerpt was from a female parent who echoed the sentiments of fellow parents in Korogocho:

...My expectation is that she will excel and be somebody big in this life, so the work that she will get depends on her education and the grades that she gets. So I will take her to the career that she wants. (FGD, Female Parents of girls, Viwandani, 30042016)

For a few parents, aspirations of leadership for their children is borne out of seeing the successes that that have come out of Korogocho. The successful people who were born and bred in Korogocho and succeeded like the former Chief Justice was an inspiration to many parents to aspire for leadership positions for their children. This parent who went to school around the same time and still lives in Korogocho said:

...For me, I see a person like Mutunga (referring to the former Chief Justice). Mutunga has studied here in Korogocho, he has come from here in Korogocho. So, when I see him; I just think of how we were with him and now, just see where he is...He comes to visit us,... he came from here,... he studied hard and then he became a lawyer and then he got up there. Now, I also want Carol



to be fine (meaning succeed in life). She will be visiting the ones that she has learnt with here... Korogocho is not bad...when she comes to visit us, she knows that she was brought up here and she was born here... (Male Parents of girls, Korogocho, 01052016).

In relation to ease of achieving aspired leadership positions, the pupils in both Korogocho and Viwandani were of the opinion that they can eventually become the leaders that they aspire to be. Pupils believed that this only comes with hard work in school, and also putting into practice some of the skills that they think the leader they aspire to be does on a regular basis. A pupil from Korogocho explained,

“...In our school when there is a case I try my best to resolve it. There are those cases that I can solve, and others I cannot...” (IDI, Pupil, Korogocho, 26042016).

The ease of achieving the leadership position is dependent on hard work of pupils in school. A pupil in Viwandani explained:

...It is not easy (ease of being a leader), you should work hard and ensure that you pass your exams. It is not that when you get to form one, you say that you passed well.... (IDI, Pupil, Viwandani, 27042016).

## 6.4 Sentiments about the security situation

This section highlights the perceptions of community members with the security issues in both Korogocho and Viwandani. The main reason for the interest in the security situation was to investigate how boys and men who live in these two communities are prone to insecurity and gang violence. It was necessary to find out how this may have impacted on the schooling of children. The concern with issues of insecurity arose out of the fact that insecurity not only reduces the boys' school attendance but at times may lead to death.

There was a general feeling among community members that the security situation in the two slums has relatively improved compared to past years. In their opinion, these improvements could be credited to deliberate efforts by different stakeholders in both communities to improve security. Such initiatives included community policing or 'Nyumba Kumi'<sup>3</sup>; rehabilitation of delinquent youth; slum upgrading that has made movement and response to crime easy; and efforts by law enforcement agencies such as the police. However, there was emphasis that the effectiveness and success of these initiatives is highly dependent on partnerships and synergies between these stakeholders. This was what a community leader in Korogocho had to say:

...it has improved tremendously, I am telling you in 2011 you could record like 15 incidences of crime in a day but now you can record just 10 in a month...the regular police, the Administrative Police, the 'nyumba kumi' initiative or 'nyumba kumi' committees, the community policing committees, the village elders and all of us including the private sector we partnered to ensure that crime in Korogocho has reduced. So, crime rate is very low because of the partnership, because of the cooperation that we have had, because of the hard work of the police and all of us in general. (KII, Chief, Korogocho, 27042016).

In addition, the local administration officials - chief and village elders - were cited by respondents as being pivotal in maintaining security. This is especially so because, by virtue of being community members themselves, they are able to keep track of happenings in the community, vet residents and identify law-breakers easily. These gate keepers also arbitrate conflicting parties in case of crime and even draft peacekeeping agreements. A village elder explained their role in this way:

...as the chairmen we know everyone in that village and even when you come as a new comer we want to know where you have come from...we know it is someone's son who has done this so we go and talk to him and know why he has done it. If we don't agree we take action according to

<sup>3</sup> Nyumba Kumi is a community policing strategy anchored at household level or any other clusters - such as market centres, residential blocks, gated communities or villages - that are aimed at creating safe, sustainable and prosperous neighborhoods through elimination of fear of crime and social disorder.



the laws of Kenya...if the child has done something bad in your house and you forgive them then as the chairmen we just write a peacekeeping agreement and we finish the issue like that. (KII, Village Elder, Viwandani, 27042016)

It is however interesting to note that although the general view was that the security situation had improved due to effective partnerships between different stakeholders, these efforts were frustrated by rogue and ineffective police officers who were either blamed for slow response or said to aid criminal activities. An elder intimated:

In fact the chairman should tell the chief the issues of insecurity then the chief tells the police but currently when you tell the police about the issue of insecurity or a crime they will take so long before coming so there is no association. The policeman cannot help you nowadays. (KII, Village Elder, Viwandani, 29042016).

Furthermore, respondents insinuated that visitors to these slums still experience insecurity by virtue of being easy targets as compared to usual residents who might easily identify the criminals.

...for me these children were born when I was here so I walk with my phone the whole day around here but for you since you are new you will get it (all laughing). (KII, Village Elder, Viwandani, 27042016).

### 6.4.1 Adolescence and crime

Extensive literature on the age-crime curve posits that criminal behavior increases in adolescence (peaking at around 15-19) and then declines in adulthood (Farrington, 1986; Loeber & Farrington, 2014; Shulman, Steinberg, & Piquero, 2013; Steffensmeier, Allan, Harer, & Streifel, 1989). This trend means that there are increased numbers of delinquent youth during their adolescent years.

According to respondents, adolescents are the main perpetrators of criminal activities in the slums. Most of them cite ages 14-18 as the most prone to delinquent behavior. It is at this phase that they are most vulnerable to negative influences around them such as drug abuse and destructive peer influences which serve as an impetus to crime. A village elder from Korogocho explained:

You know in Korogocho most of the criminals are the young children of 14 and 15 years ...it is those children who are like ants they hold you (moderator laughing) many of them and they are very foolish since they will steal from you and stab you. (KII, Village Elder, Korogocho, 27042016).

This notion of adolescence and crime was reinforced by an elder in Viwandani when he said:

...the criminals are members of the community who are like 14 or 15 years the ones who use drugs and smoke bhang and so they normally come out very early. (KII, Village Elder, Viwandani, 28042016).

However, while young boys and girls were reported to engage in criminal activities willingly, in some cases, they are used by older criminals to traffic weapons and drugs. This, according to community members, is very common since they can easily escape the unsuspecting eyes of law enforcement.

...older boys use them to transport their guns, so you can see a young boy with a bag and you don't know what is in the bag maybe he is transporting a gun because maybe in the area there is a policeman so they give the young boys then they pay them something small...young boys are sent to go and buy bhang then they bring to the adults so those are some of the criminal activities they are involved in the community. (KII, Village Elder, Korogocho, 27042016).



## 6.4.2 Drug abuse and crime

Although some researchers tend to hold the notion that the drug-crime link is not as direct as most people perceive it to be and that it should be studied “in the context of the interaction and interrelation of a range of factors operating at different levels” (White & Gorman, 2000), a strong body of evidence points to this association (Bennett & Holloway, 2009; Bennett, Holloway, & Farrington, 2008; Klee & Morris, 1994). Long term effects of drug use have also been associated with other adverse outcomes in later life such as poor educational outcomes (Fergusson & Boden, 2008) and mental health problems (Dragt et al., 2010).

Respondents suggested that there is a strong link between crime and drug abuse. For example, many youth were reported to engage in crime in order to get money that is in turn used to procure drugs. A community leader intimated,

...their main aim is to take this phone, sell it and get the money to chew miraa (khat), take bhang...” (KII, Village Elder, Korogocho, 28042016).

In addition, drug abuse was said to result in irrational behavior. In one case for example, a boy was reported to have raped his grandmother while under the influence of drugs. Efforts to stop drug abuse in the communities have however been impeded by unethical practices such as bribery among police and drug peddlers. In addition, community members who take a stand against these practices are deemed to be interfering and consequently threatened.

...if the police arrest these people who sell the drugs then they give them money and they are released and that person continues selling the drugs then that problem will never end. When someone like me speaks you are threatened because you are the one who is interfering with where they get their income. (KII, Village Elder, Korogocho, 28042016).

Furthermore, garbage collection and drug abuse among the youth were said to be linked. Smoking bhang for example, was alleged to provide energy to individuals who engage in this trade. Parents therefore have a difficult time convincing their children to study hard and pursue better jobs other than garbage collection, as the garbage collectors are said to earn relatively better incomes despite indulging in drug abuse and being illiterate. A male parent attending an FGD of male parents in Viwandani said:

...before they do that job (collect garbage) they will first smoke bhang until they feel good and they are enticed by the older ones who tell them that for you to do this well you need to smoke bhang...they will not go to school since when they see their friends getting their money from the garbage. They ask themselves why they should go to school and so and so is able to pay for rent through collecting garbage. (FGD, Male Parents, Viwandani, 02052016).

## 6.4.3 Illiteracy and crime

Some studies have shown that poor education outcomes such as poor academic performance, poor attendance and school cessation increase the probability of engaging in criminal and delinquent activities (Namadi & Haruna, 2016). This study by Namadi & Haruna continues to link unemployment and anti-social behavior as it results in boredom, low self-esteem and self-confidence.

To many community members, crime is a negative consequence of not being educated. According to them, without education, an individual cannot secure employment easily. As a result, they engage in criminal activities and are susceptible to being negatively influenced by others. An elder in Viwandani said:

...if this person does not have education they don't get a job and then they will join bad company. You know when people meet in school they get to know each other from other areas and so when one area has children who are spoilt like Kaiyaba they will influence the other children to go and commit crime. (KII, Village Elder, Viwandani, 27042016)



Furthermore, respondents pointed out that there were more crime reports when schools closed for holidays suggesting that pupils were largely involved in criminal activities.

...now the schools are closed you will find the children who are in school are the ones who are involved in this but when they go back to school you will not hear such cases. (KII, Village Elder, Korogocho, 28042016).

#### 6.4.4 Social activities and crime

Several studies have reported the adverse effects that violent video games and time spent watching television have on adolescents' social behavior such as predisposition to aggressive behavior (C. A. Anderson, Gentile, & Buckley, 2007; Johnson, Cohen, Smailes, Kasen, & Brook, 2002; Möller & Krahé, 2009). This means that, if adolescents are regularly exposed to such violent games in play stations and video dens, then there is a high likelihood of acquiring antisocial behavior and delinquent tendencies.

Play stations and video dens were also adversely mentioned by community members as providing an environment for adult criminals to associate, recruit and train youngsters to engage in crime. It is here that school children are recruited in trafficking guns and drugs using school bags. This village elder from Viwandani explained:

You see when they get into the play stations, you will find that there are adults who are there not just the children, so they start associating with them you will find the child is carrying a school bag and they have a gun...like recently you heard in Reuben that 8 boys were gunned down and one of them was in form three so when you look at what has led this person to crime it is just that... (KII, Village Elder, Viwandani, 29042016).

### 6.5 Recommendations for improving security

With the realization that perhaps the negative social influences prevalent in the slums, are a major contributor to delinquent behavior among children, community leaders have taken it upon themselves to counsel them against engaging in crime. Providing advice and guidance in the right direction is therefore seen as more effective for delinquent youth who may be engaging in criminal activities out of the undesirable influences they come across in the community. The chief in Viwandani said:

...So we try to counsel these kids since for some it is not the problem of their making, it is the social setting they are living and their background. (KII, Chief, Viwandani, 29042016).

Some parents were also said to seek the service of Approved Schools in a bid to remedy delinquent behavior among their children.

...they tell me madam write me a letter where we can take the child (to) approved school because the child is stealing from me. I cannot leave my handbag, or he went to the neighbor's house and stole a phone. (KII, Chief, Viwandani, 29042016).

It is during the challenging period of adolescence that children were prone to engage in crime hence target interventions at this age would be most effective. The chief of Viwandani continued:

...because it is the transition of 14 to 18 years that is disturbing them once they get to 18 years they are very good...So if there could be a direct machinery where that child can be helped with the transitioning and the parent does not suffer so much to correct that child between 14 and 18. You know the highway robbers... that is the stage where they get spoilt and by 18 they are mature criminals. (KII, Chief, Viwandani, 29042016).

Respondents mentioned vigilance as one of the ways to reduce insecurity. They were encouraged to raise and report any suspicious activities in their communities. According to them, preventive measures are more effective than reactionary. The Chief of Viwandani further explained:

...like we sensitize and say that if you see a group of boys have hired a house and they are at



home during the day but at night they are never there, raise it, let us preempt rather than be reactive. (KII, Chief, Viwandani, 29042016).

Parents were challenged to act as good role models for the children. According to community members, parents play a fundamental role in shaping the character of their children by guiding them towards the right path. In some cases, parents were reported to encourage criminal activities among their children by aiding and abetting. For example, some parents were said to bribe police to release their children when arrested for crime. In an interesting twist, some parents were also mentioned to be accomplices. A community leader explains:

You know security starts from us because there is no time my child will drop out of school and start stabbing people then when he is arrested I run to the police and bribe them then he is released. Tomorrow he will also stab someone else... some parents are ones who are contributing because the mobile phone is stolen from here and the child passes to the mother through the window, “will such a child stop stealing?” (KII, Village Elder, Korogocho, 27042016).

In a bid to minimize chances of collaboration between police and criminals, community members suggested the need for police officers to get regular transfers. In their view, these collaborations are a result of police officers living in an area for too long. A village elder observed:

It will come from the thief since they have a link with the police because when you say that and you are asked by the thief “what did you tell that policeman?” That issue is very common here... when the policemen stay in area for so long then they start associating with the criminals. (KII, Village Elder, Korogocho, 29042016).



# 7. CONCLUSIONS



## 7.1 Conclusions

Children in informal settlements face unique challenges because the physical and socio-economic conditions of where they live pose significant threats to positive outcomes. Building on the experience of an earlier intervention piloted among adolescent girls living in Korogocho and Viwandani, the ALOT-Change project sought to improve education and social outcomes for both boys and girls through a multi-pronged approach. This baseline study is important to establish whether the indicators of interest were comparable across gender, across sites and across household wealth levels. The findings of this baseline study will provide information on which indicators need to be taken into account when evaluating the impact of the intervention, and will inform recommendations on how to improve or modify intervention packages, if necessary.

The findings on household characteristics demonstrate that household heads were predominantly male, were generally young and had low levels of education. However, households in Viwandani have a higher socio-economic status, which is expected given their location near the city's industrial area, while Korogocho has a larger household size perhaps because the population is more stable as most residents have lived here for many years. These differences in socio-economic and demographic characteristics among households highlight the importance of treating the two sites as separate entities when planning interventions.

In terms of individual characteristics, several challenges to education outcomes are highlighted in this report. Excessive grade repetition in both sites may have resulted in children being too old for their class at higher levels of schooling. There was a large proportion of orphans, meaning that many children were left to fend for themselves. High absenteeism rates were also reported. The rates for these indicators, which may influence the uptake of the intervention packages, were particularly high among pupils in Korogocho. It is necessary to consider these differences when assessing the degree to which the changes observed in outcomes can be attributed to the intervention itself.

These challenges notwithstanding, children reported receiving extra tuition to help them catch up with their studies, the use of English at home and parents' ability to provide homework support, all of which boost chances of doing well at school. Moreover, high aspirations on the part of parents and the children themselves for their progression through the schooling system, particularly in Korogocho, as well as parental monitoring and involvement in their children's education (which was higher in Viwandani) encourage better schooling performance and deter adolescents from engaging in delinquent behavior. These findings suggest that although the components of the intervention which are concerned with homework support, and parental monitoring and involvement are likely to attract high levels of support from the parents of the pupils involved in the study, the differences observed in each site need to be taken into consideration.

In terms of intervention outcomes, the site, gender and age differences observed in learning achievement as seen through the performance on the numeracy and literacy tests suggest a lack of baseline balance. Not unexpectedly, girls reported higher levels of parental monitoring and comfort in discussing issues affecting them than boys, while boys were more likely to engage in delinquent behavior than girls. Girls were more comfortable discussing sexuality issues with their parents compared to boys; on the other hand, boys preferred to discuss such issues with their peers and siblings. Whereas both girls and boys were highly knowledgeable about the consequences of engaging in negative social behavior such as substance use, the ones in Korogocho were more likely to report ability to resist peer pressure than the ones in Viwandani. Boys also reported higher social self-efficacy and social competencies levels. Moreover, pupils in Viwandani reported greater levels of support at the community level. Although we anticipate that the intervention will have an impact on behavior change, aspirations, interest in schooling and self-confidence, we expect that there will be differences among boys and girls, and that some of the changes observed will be minimal. These findings are also noteworthy as they may have a bearing on the organization of the intervention components that are concerned with after-school support with homework, life skills and leadership training and parental counseling. When establishing the differential effect of the proposed intervention on the various outcomes, these differences should therefore be accounted for.



Community leaders perceived that they had an important role to play in ensuring that children remained in school, and they recognize the importance of community partnerships in promoting children's education. Parents also recognized the important role they had to play in their children's education. This is a good entry point as support at this level will ensure success and sustainability of interventions to improve educational outcomes for children, and will help them to navigate the challenging period that adolescence represents.

The inclusion of boys into the program augurs well for a setting where boys face similar challenges as girls. Education intervention programs targeted at adolescents living in informal settlements in Nairobi should consider the input of parents and community leaders to ensure their success and sustainability. Such programs should also consider the uniqueness of the intervention sites in terms of individual and household characteristics.

The value of this study is in demonstrating that a multi-faceted approach, when implemented as intended, will likely result in improvements in outcomes in a setting where pupils face multiple risks. This study will also add to the literature on the effectiveness of interventions targeting adolescents in informal settlement settings, and the factors that may influence outcomes. As multi-faceted implementation strategies can be costly, identifying the barriers and facilitators to implementation will guide the planning of future interventions, especially those at the national level.



# 8. APPENDICES



## 8.1 Appendix 1: Summary of reasons for not reaching some students at baseline

	Korogocho	Viwandani
Child in boarding school	10	14
Child studying upcountry	36	11
Child in class 3, 4, 5, 7	13	15
Refusal	5	9
Child with special needs	2	
Double entry	1	2
Moved out of demographic surveillance area	11	28
Taken to rehabilitation	2	
Child not in school	1	
Parents not found /not available /travelled upcountry	18	24
Child not on database checklist		1
Relocated within demographic surveillance area but not traced	2	7
<b>TOTAL</b>	<b>101</b>	<b>111</b>

## 8.2 Appendix 2: Mean scores for numeracy and literacy by survey sites, pupil sex and household wealth categories

Mean		Numeracy		Literacy	
		SE	Mean	SE	
Site	Viwandani	320.2	4.32	334.1	7.12
	Korogocho	334.1	3.60	328.6	6.86
Pupil sex	Boys	333.8	3.96	333.9	7.29
	Girls	321.1	4.01	329.2	6.74
Household wealth	Bottom 25%	330.0	4.36	326.7	8.92
	Top 25%	320.3	5.53	330.4	8.83
Overall		327.1	2.84	331.4	4.94



## 8.3 Appendix 3: Distribution of numeracy and literacy scores by pupil age

### i. Numeracy

Pupil age	Boys		Girls		ALL	
	Mean	SE	Mean	SE	Mean	SE
11	344.5	9.76	313.7	7.42	324.2	6.08
12	331.2	6.89	323.0	6.95	327.0	4.89
13	334.0	8.00	315.3	8.94	324.3	6.06
14	326.2	8.45	327.7	9.67	326.9	6.34
15	344.3	12.04	363.8	12.50	351.3	8.97
Total	333.8	3.96	321.1	4.01	327.1	2.84

### ii. Literacy

Pupil age	Boys		Girls		ALL	
	Mean	SE	Mean	SE	Mean	SE
11	370.7	16.79	346.4	10.57	354.7	9.04
12	345.4	10.68	340.0	11.35	342.6	7.80
13	348.9	14.90	304.7	15.55	326.0	10.95
14	282.1	19.32	297.8	20.23	289.8	13.90
15	237.1	28.62	329.6	37.43	270.4	24.04
Total	333.4	7.32	328.6	6.77	330.8	4.96

## 8.4 Appendix 4: Numeracy scores in various content areas by survey site and pupil sex

### i. Survey site

Content area	Viwandani		Korogocho		Difference (V-K)
	Mean (V)	SE	Mean (K)	SE	
Space & Data	279.7	6.28	314.9	5.82	-35.29**
Number	332.7	5.30	331.7	4.78	1.05
Measurement	329.6	5.50	349.7	5.32	-20.08**
Overall	320.2	4.32	334.1	3.60	-13.89**



ii. Pupil sex

Content area	Boys		Girls		Difference (B-G)
	Mean (B)	SE	Mean (G)	SE	
Space & Data	297.6	6.37	296.4	5.98	1.22
Number**	342.1	4.92	323.6	5.08	18.50**
Measurement	344.2	5.62	335.3	5.28	8.87
Overall	333.8	3.96	321.1	4.01	12.74**

## 8.5 Appendix 5: Numeracy scores in various cognitive domains by survey site and pupil sex

i. Survey site

Cognitive domain	Viwandani		Korogocho		Difference (V-K)
	Mean (V)	SE	Mean (K)	SE	
Knowledge	328.7	5.70	338.1	5.98	-9.39
Comprehension	324.8	5.10	324.6	4.93	0.23
Application	321.0	4.50	349.2	4.52	-28.22**
Analysis	325.7	6.21	338.4	6.22	-12.68

ii. Pupil sex

Cognitive domain	Boys		Girls		Difference (B-G)
	Mean (B)	SE	Mean (G)	SE	
Knowledge	340.4	5.90	327.1	5.75	13.37
Comprehension	335.1	5.11	315.5	4.85	19.56**
Application	337.1	4.65	332.9	4.54	4.24
Analysis	331.3	6.18	332.4	6.24	-1.16



## 8.6 Appendix 6: Literacy scores in various content areas by survey site and pupil sex

### i. Survey site

Content area	Viwandani		Korogocho		Difference
	Mean (V)	SE	Mean (K)	SE	(V-K)
Speaking	324.1	8.56	294.1	8.37	30.09**
Reading	334.1	7.24	330.5	6.98	3.66
Listening	345.0	6.56	353.8	7.33	-8.85
Overall	334.1	7.12	328.6	6.86	5.52

### ii. Pupil sex

Content area	Boys		Girls		Difference
	Mean (B)	SE	Mean (G)	SE	(B-G)
Speaking	297.3	8.64	320.0	8.34	-22.68*
Reading	338.3	7.54	327.1	6.73	11.18
Listening	338.7	7.13	358.6	6.71	-19.88**
Overall	333.9	7.29	329.2	6.74	4.65



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