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Bridge International Academies: A School in a Box

In August 2010 Jay Kimmelman, co-founder and CEO, Bridge International Academies, sat in his office in Nairobi, Kenya reviewing the early data from seven of the ten schools which were in continuous operation in the first half of 2010. Collectively these schools had active enrollments of more than 1,100 children and had recruited 32 classroom teachers to impart the curriculum. Kimmelman was pleased to note that the early financial numbers (**Table A**) were consistent with planned projections (see **Exhibit 1** and **Exhibit 2**). Furthermore, Kimmelman had received "performance" results from the schools as well - all data seemed to indicate that the children in his school outperformed those in comparable schools, public or private.

Table A: Aggregate financial results for schools in operation during the first two quarters, 2010

Cash Receipts (US$)	**25,269**	**100%**
Expenses		
Teacher Salaries	12,844	51%
School Manager: Salary & Bonus	5,287	21%
Supplies	778	3%
Water	744	3%
Food	1,662	7%
Phone and Fees	1,473	6%
Repairs & Facilities	158	1%
Security	2,314	9%
Marketing	421	2%
Total Expenses	**25,681**	**102%**
Net Cash Flow	**(413)**	**-2%**

Source: Company documents

The students and staff were currently enjoying their term break, but in just a couple weeks classes would resume once again. At about the same time the students and staff returned to the classroom, Bridge International was planning to hold a training program for teachers and school managers. Two hundred teachers and 50 managers were scheduled to attend the training program – three times the number of participants in the first training program. The hope was that the majority of those who attended the training program would become employees of Bridge International within the next year,

Professor V. Kasturi Rangan and Research Associate Katharine Lee prepared this case. HBS cases are developed solely as the basis for class discussion. Cases are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective management.

thus enabling the company to open additional schools. Even as Kimmelman was finalizing the details of the training program he was also working closely with investors who were planning to invest $10 million in the company; it looked as though the deal would be complete within the next 60 days. The largest investor was a venture fund focused on the education space (the fund's largest investor was one of the largest worldwide education companies).

While Kimmelman was pleased with everything that was happening at and for his company, he could not help but reflect on his grand vision and what he needed to fix from the early experience in order to reach his final goal.

In 2007 Kimmelman, along with Shannon May and Phil Frei, had founded Bridge International Academies with the objective of operating a franchise-like network of low-cost for profit primary schools to provide access to affordable high quality education for poor families in the developing world. The idea was that by operating a network of schools supported by a strong central headquarters Bridge International would have the scale, experience and capacity to invest in systems of management, support, training and innovation that would allow individual schools to dramatically increase their effectiveness. At the heart of the model was the "School in a Box." The "School in a Box" was developed by the initial team and included all of the tools, curriculum, materials, systems, processes, training programs, research and monitoring needed to open and run an affordable but high quality school. It also standardized operations across all schools.

The first school had opened in 2009, and by August 2010 Bridge International operated a total of 10 schools in the slums of Nairobi. These schools employed 60 teachers and school managers and had 1,500 active students. The company had set a target of operating 3,337 schools by 2018; these schools would serve close to 2.5 million students.

Kimmelman estimated that the size of the potential market in Kenya was 6.1 million students and that the market in the developing world was enormous –for example, the potential size of the market in Uganda was 4.9 million, 5.5 million in Ethiopia and in Nigeria it was an astounding 28 million. Through Bridge International Kimmelman wanted to be able to continue to expand within Kenya as well as into these markets. However, he first needed to determine what adjustments, if any, he needed to make going forward. For example, to date the average school had been able to enroll upwards of 100 students within the first two months of operation, and the average time from conception to operation of a new school was five and a half months. Kimmelman wondered what needed to be done to ensure the quick enrollment rates and building out of schools continued. On the flip side, the churn rate for teachers had been thirty percent higher than anticipated. While data showed this was largely due to issues with communication Kimmelman wanted to be sure, especially with the upcoming training, that he fully understood why teachers were leaving Bridge International and what could be done to decrease the churn rate. More broadly Kimmelman had the following questions: Would the company be able to achieve profitability by 2014 as projected? Were individual schools on target to reach profitability? And, indeed, if the model was on track, what should their strategy be for expansion?

Just out of college Kimmelman had founded a software company and three years later he sold the company ($20 million revenue) to the publishing giant Houghton Mifflin. Kimmelman wanted Bridge International to be an even greater success. Being a for profit company with a social mission Kimmelman measured success in two ways – providing affordable education to poor families in developing countries and being able to operate at a profit. To date Bridge International had been able to raise $5 million dollars from both commercial and social investors, and, as noted earlier, it looked as though a second round of investments totally $10 million would be made by commercial investors in just a short period of time. Together these two rounds of funding would enable Bridge International to fully build out and iterate on its complete school in a box system and open more than

300 schools – to reach its target of 3,337 schools Bridge International would need considerably more funding. While Kimmelman knew that the company's social mission was attractive, he also knew that the return on investment, about 20 percent annualized, would be quite attractive to investors as well. Kimmelman wanted to determine how best to obtain future funding.

The State of Education

In 1990 there were more than 100 million children worldwide who did not have access to primary education. Furthermore there were more than 960 million illiterate adults – a significant obstacle in terms of development and poverty alleviation. In response to these figures, at the 1990 World Conference on Education for All representatives from 155 countries and 150 organizations pledged to provide education for all by 2000.[1]

By 2000 the number of illiterate adults had dropped to 880 million, but the number of children without access to primary education had increased to 113 million. At the World Education Forum in 2000 countries re-committed themselves to the goal of education for all – this time by 2015.[2]

The 2010 Education for All Global Monitoring Report noted that "While much has been achieved over the past decade, many of the world's poorest countries are not on track to meet the 2015 targets."[3] According to the report, in 2007 there were 72 million children out of school and 749 million illiterate adults. Furthermore, in twenty-two countries, 30 percent or more of young adults had less than four years of schooling – and millions had left school without acquiring basic skills.[4]

In Sub-Saharan Africa primary school enrollment had increased from 56 percent to 73 percent between 2000 and 2007;[5] however, the region was not on track to achieve the goal of education for all by 2015. In 2007 one in four children in Sub-Saharan Africa did not attend school (more than 32 million primary school aged children); this was almost half of the worlds out of school population.[6]

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[1] "World Declaration on Education for All," World Conference 1990, *United Nations Educational, Scientific and Cultural Organization Web site*, http://www.unesco.org/education/efa/ed_for_all/background/jomtien_declaration.shtml, accessed September 2010.

[2] "Dakar Framework for Action," World Education Forum 2000, *United Nations Educational, Scientific and Cultural Organization Web site*, http://www.unesco.org/education/efa/ed_for_all/dakfram_eng.shtml, accessed September 2010.

[3] United Nations Educational, Scientific and Cultural Organization. *Reaching the Marginalized: EFA Global Monitoring Report* Paris, France: United Nations Educational, Scientific and Cultural Organization, 2010, p. 5.

[4] United Nations Educational, Scientific and Cultural Organization. *Reaching the Marginalized: EFA Global Monitoring Report* Paris, France: United Nations Educational, Scientific and Cultural Organization, 2010, p. 5.

[5] United Nations Educational, Scientific and Cultural Organization. *Reaching the Marginalized: EFA Global Monitoring Report* Paris, France: United Nations Educational, Scientific and Cultural Organization, 2010, p. 62.

[6] *Brief: Education in Africa*, from United Nations Educational, Scientific and Cultural Organization website http://www.unesco.org/fileadmin/MULTIMEDIA/HQ/ED/GMR/pdf/gmr2010/aid-release-ssa-brief-en.pdf, accessed September 2010.

Although enrollment rates were increasing, more than 28 million students dropped out of school each year and only one in three students attended secondary school.[7]

Most importantly, for those who did attend school, literacy was not guaranteed - in some countries young adults with five years of education had a 40 percent probability of being illiterate. Overall, the region had the world's lowest literacy rate – only 38 percent of the adult population was literate.[8]

Only 21 percent of sixth graders across seven countries in Eastern and Southern Africa could read at the desired level. Less than 35 percent of Kenyan sixth graders were considered competent in numeracy.

Universal "Free" Primary Education

In an effort to achieve education for all, a number of countries decided to make primary education free. These countries included: Malawi (1994), Uganda (1997), Lesotho (2000), Tanzania (2001), Zambia (2002), Kenya (2003) Madagascar (2003), Benin (2004), Mozambique (2004), and Burundi (2005). As a result of these initiatives the number of children who enrolled in primary school skyrocketed – in Kenya enrollment increased by more than 20 percent the first year Free Primary education (FPE) was introduced.

In general, increased enrollment did not result in increased funding. Because of this, schools became increasingly overcrowded, supplies per student decreased, and systems which were already inadequate to start with began to rapidly deteriorate further. According to the United Nations Educational, Scientific and Cultural Organization (UNESCO) in effective classrooms 80 percent of class time was spent on learning (850 to 1,000 hours of instruction per year) – "time on task." However, this did not occur in many classrooms. Kimmelman recalled studies in which researchers, "went with stop watches to observe a number of class rooms. Only 90 minutes on an average, in an entire day, were devoted to instruction. Even in a developed country setting only five percent of kids in any class have the capability to learn by on their own, the other 95 percent need instruction."

Another issue was that of fees. While tuition fees were illegal in countries FPE had been introduced, other fees including desk, exam, fees, and school maintenance fees could still charged. Furthermore, many schools also charged students a number of non-sanctioned fees such as fees for tutoring or teacher "motivation fees." These fees, which many parents were either pressured to pay or were told were mandatory, essentially served as a replacement for tuition. In 2008 and 2009 Bridge International's research department conducted household economic surveys in dozens of the major slum areas in Nairobi and in many areas found that greater than 50 percent of respondents stated that the "free" government education was costing them more than $3.00 in fees (sanctioned and non-sanctioned) each month. The company's research had revealed that in Kenya, like that in many countries of south Asia and sub-Saharan Africa, "education" was high on the hierarchy of purchased commodities, usually right behind food and shelter.

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[7] *Brief: Education in Africa*, from United Nations Educational, Scientific and Cultural Organization website http:/ / www.unesco.org/ fileadmin/ MULTIMEDIA/ HQ/ ED/ GMR/ pdf/ gmr2010/ aid-release-ssa-brief-en.pdf, accessed September 2010.

[8] *Brief: Education in Africa*, from United Nations Educational, Scientific and Cultural Organization website http:/ / www.unesco.org/ fileadmin/ MULTIMEDIA/ HQ/ ED/ GMR/ pdf/ gmr2010/ aid-release-ssa-brief-en.pdf, accessed September 2010.

Private Schools

The perception that private schools were only for the middle class and the elite was being increasingly challenged by the growing number of private schools targeted at the poor. At these schools the fees were often competitive with the tuition replacement fees of "free" government schools. A 2005 Cato Institute report noted:

> In Uganda and Malawi, private schools have 'mushroomed due to the poor quality of government private schools,' and in Kenya 'the deteriorating quality of public education…created demand for private alternatives.' In Sub-Saharan Africa and Asia generally, 'the poor and declining quality of public education has led to growing numbers of parents sending their children to non-state schools' and in south Asia 'this amounts to mass exodus.'[9]

According to Jay Kimmelman:

> In a country like Kenya, in some very poor slum communities, more than 50 percent of the children already go to a private school. Take a community like Kibera for example [a sprawling slum of nearly 750,000 residents in Nairobi], there are only three public schools. Where else will parents send their kids for education? The place is teeming with entrepreneurs running a school here or a school there.

Research studies found that students who attended low-cost private schools targeted at the poor outperformed students attending government schools in both English and mathematics. One study, for example, found that students attending registered private schools outperformed students attending government schools 22 percentage points in mathematics; for English the difference was even more marked.[10]

Kimmelman explained why private schools had the potential to outperform the government schools:

> Private schools can solve the inherent accountability and incentive flaws persisting in the government system. Although in some schools fees are very low, parents who are paying tuition with incredibly scarce and hard-earned funds do not tolerate obvious abuses, including teachers being absent, homework not being assigned and graded, and teachers not using all available instructional time for teaching. For concerned parents, these are all relatively easily observed proxies for what happens in the classroom, and because the schools are run on a for-profit basis, the school manager is held completely accountable to the families of his or her students – usually the sole source of the school's income. Parents not only want to see these proxy measures satisfied but also are focused on the true educational output of the school. As a result, low performing teachers are fired. Both human resources and physical infrastructure of the school are managed with a focus on improving student educational attainment and examination outcomes. Recent studies show that, as a result of this accountability, absenteeism is much lower (less than 10 percent) and instructional time is used more efficiently.

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[9] James Tooley and Pauline Dixon. *Private Education is Good for the Poor: A Study of Private Schools Serving the Poor in Low-Income Countries* (Washington, DC: Cato Institute, 2005) p. 3.

[10] James Tooley and Pauline Dixon. *Private Education is Good for the Poor: A Study of Private Schools Serving the Poor in Low-Income Countries* (Washington, DC: Cato Institute, 2005) p. 2.

Background

A year after graduating from Harvard University with a bachelor's degree in computer science and electrical engineering Jay Kimmelman started an educational software company from his apartment in San Francisco. Just three years later Kimmelman's company, Edusoft, had revenue of more than $20 million and was the recognized market leader in educational assessment software in the US – at that time the company's educational assessment platform was serving more than three million students in more than 400 school districts. In late 2003 Houghton Mifflin, a Boston-based publishing company, purchased Edusoft. Kimmelman stayed at Houghton Mifflin through 2004 as president of the division and helped to establish Edusoft as a cornerstone of Houghton Mifflin's K-12 assessment strategy.

Around the same time Kimmelman was preparing to leave Houghton Mifflin his then-girlfriend, Shannon May, announced she was moving to China for two years to carryout field research for her PhD in anthropology from UC Berkeley. Kimmelman decided to travel to China with May.

May's expertise was working with and researching the economic transformation of poor and rural communities in developing countries as well as uncovering the underlying drivers of success and failure of local and international community development initiatives. In China May conducted a field research study of a transnational sustainable development project located in the rural farming community of Huangbaiyu located in China's northeastern mountains. Kimmelman and May were married in a traditional three-day Chinese wedding ceremony that was hosted by friends they had made in Huangbaiyu and which was attended by more than 1,000 villagers.

Following their experience in China, May and Kimmelman traveled throughout Asia and Africa researching scalable, transformative solutions to poverty. After considering several options, they decided to start a company focused on providing high-quality, low-cost education to the urban poor in Kenya. Phil Frei, a roommate of Kimmelman's from his San Francisco days, was working in Africa at the time and Kimmelman and May approached him to see if he would be interested in collaborating with them.

After graduating from the Massachusetts Institute of Technology with a BS and MS, Fei moved to San Francisco where he founded and ran a new business unit at IDEO, an international design consultancy, to commercialize and broker new technologies. In 2005, Frei decided to focus his work on applying new business approaches and technologies to existing practices in the developing world, with that in mind he moved to Malawi. In Malawi, Frei led a GTZ-funded organization working with small-holder farmers in the country to adopt a new technology for tobacco-curing barns that reduces by 10 tons per farmer the consumption of wood.

Kimmelman, May and Frei each drew upon their experiences and backgrounds to conceive of and launch Bridge International Academies.

Bridge International was founded in 2007 as a US company; operating a wholly owned subsidiary in Kenya. When Bridge International was founded there was no process by which it could register its school(s) with the government as there was no formal registration in place for what the government considered non-formal schools (since they existed in non-formal settlements like slums). The company's primary mission was to provide high-quality primary education to the lower income segments in developing countries. Bridge International was unique in that it was a for profit company and operated in a manner similar to that of a franchise. More specifically, each Bridge International school was run by an individual School Manager who lived in the community that the school served. While each School Manager was responsible for the performance of their particular school, all of the schools were owned by and were actually the responsibility of Bridge International

Academies. School Managers reported to and were held accountable by Bridge Headquarters for every aspect of the school. School Managers managed the school based on the systems, processes and guidelines that are established by Bridge International Academies.

Bridge International Headquarters maintained a constant relationship with each of the School Managers, monitoring the school and the School Manager for performance, and providing critical support and training services to help make the school a success.

Bridge International decided to focus on primary education. Kimmelman explained why:

> Primary education provides students with basic skills which, in themselves, are life-changing. These skills are literacy (the ability to read with true comprehension), numeracy (the capability of performing basic mathematic calculations that relate to real world situations), and critical thinking (applying logical problem solving skills to complex life situations). If you can provide these skills to not just to one child, but instead can scale access to millions of children, you can transform the quality of life and prosperity for an entire nation or continent.

To reach the greatest number of students, Bridge International had decided to initially, operate schools in areas with a high population density (more than 125 people per square kilometer). In this setting a typical Bridge International school (at scale) looked like the following: 1,000 students in grades pre-K through eight, an average class size of between 55 and 65 students, and a tuition fee of $4.00 per month (tuition included regular school hours as well as Saturday and morning tutoring). Kimmelman noted that reaching an enrollment of 1,000 took time, but that an individual school would be able to breakeven with enrollment between 200 and 300 students (see **Exhibit 1**). At the central level, Bridge International projected that it would achieve profitability once its network of schools enrolled 300,000 students (see **Exhibit 2**).

Kimmelman explained how the company would be able to be profitable while charging students just $4.00 a month:

> Our low tuition makes it so that we have limited resources. However, we are able to leverage these resources by implementing cost effective, but research proven interventions at the individual school level as well as interventions that become cost effective because we are able to leverage them over our entire network of schools.

Kenya

In 2008 the GNI per capita in Kenya was $730. Forty-six percent of the population lived below the poverty line. The population was young – 43 percent of the population was under 14 years of age, and 21 percent of the population lived in urban areas.[11] With respect to education, 18 percent of primary-school aged children were out of school. Forty-eight percent of girls and 50 percent of boys attended secondary school.

The Bridge International Model

Kimmelman, May and Frei researched a number of educational models. Through their research they found substantial evidence that low-cost for-profit schools, if managed correctly, could overcome the problems facing many government schools – a lack of accountability and the absence of incentives for improving performance and educational outcomes. Through their research they also

[11] World Bank, "Kenya at a Glance," World Bank Web site, http://devdata.worldbank.org/, accessed July 2010.

found there were several critical challenges that prohibited the burgeoning movement of stand-alone, single-proprietorship low cost private schools from providing high-quality education to the vast majority of poor families. These included a high variance in quality and cost effectiveness of individual schools, a limited capacity to invest in innovation and instructional infrastructure, high initial capital investment barriers, and a reliance on a limited set of uniquely qualified entrepreneurs. According to Kimmelman:

> Given these challenges, we decided to develop a franchise-like model that overcomes many of these challenges. It does so by developing a highly effective school unit operating model complemented by extensive training, support and research to provide a complete "school in a box" package for a much broader universe of potential school managers, investing significant amounts in research-driven instructional innovation and management that can be leveraged by individual schools, lowering the cost of instructional support services and educational inputs through economies of scale, and implementing rigorous monitoring and quality control based upon data driven management across our network of schools. At scale, Bridge International's critical focus on the cost effective service delivery of its model and research-based allocation of instructional resources allows school operators to run schools on a profitable basis, while maintaining a financially sustainable business model at the central network level.

"School in a Box"

As discussed earlier, each Bridge International school was run by an individual School Manager. While each School Manager was responsible for the performance of their particular school, all of the schools were owned by and were actually the responsibility of Bridge International Academies. School Managers reported to and were held accountable by Bridge International Headquarters for every aspect of the school. School Managers managed the school based on the systems, processes and guidelines that are established by Bridge International Academies. These systems, processes and guidelines were spelled out in the "School in a Box" Operating Manual and training program which was provided to each School Manager.

The "School in a Box" was developed by the company and it standardized all operations across the Bridge International network. More specifically, the "School in a Box" standardized instruction by providing lesson plans and scripts for teachers, and standardized the daily operations of the school by providing the School Manager with a detailed manual which outlined how to manage the school's finances and personnel as well as how to interact with students and parents. Additional components of the "School in a Box" included a central payroll and expense processing system and standardized assessment and evaluation tools for students, staff, and for the schools themselves.

School Operations

Teachers/Instruction

The largest ongoing cost for operating a private school was teacher salaries. Bridge International maximized the impact of this investment by hiring, training and supporting secondary school graduates instead of relying exclusively on government certified teachers. Kimmelman explained that hiring teachers who did not have government certification did not mean the teachers at Bridge International schools were unqualified:

> Looking at the research we found that secondary school graduates without government teaching credentials, but who received short but intensive initial trainings, extensive ongoing support, and monitoring, and are held accountable for results can outperform government certified teachers in terms of their students' educational outcomes.

All Bridge International teachers were required to complete an intensive training program and received a certificate from Bridge International's teacher training program, the Bridge International Training Institute (BITI). This training program included an intensive full-time induction course that covered the theoretical aspects of teaching, practical hands-on teaching, classroom management, the syllabus, curriculum and dozens of other critical areas.

The fall 2010 training program also planned to include a section where Bridge International teachers would present at the training program. The teachers would present on the realities of being a teacher and working at Bridge International. The churn rate for teachers had been higher than anticipated (30 percent) and one of the main reasons given by teachers when they left was lack of communication. Bridge International hoped that by having current teachers present on the day to day realities of being a teacher and working for the company the churn rate could be reduced.

Teachers who successfully completed and passed the course received a certificate. School Managers selected and hired teachers from the pool of certified teachers.

Teachers who were hired by Bridge International then received additional training - ongoing in-the-field training and professional development. Additionally, teachers were given daily support by the School Manager, and Professional Development Coaches made regular observational and working visits to teachers' classrooms to improve instructional and pedagogical approaches, provide updated training and support, review actual student and class level assessment data, and collaboratively work to solve any issues with a particular teacher or class. Teachers received additional certification from BITI as they passed certain training milestones. The extensive in-the-field training and support was a core component of Bridge International's model.

Bridge International also provided teachers with "scripted" lesson plans. "Scripts" were provided for each lesson and provided teachers with step by step instructions on how to conduct the lesson. For example, the script told the teacher how to prepare for the lesson, how to present the lesson to the students (including what to say and what to write on the board), what homework to assign, and how to quiz or test the students on the material. **Exhibit 3** provides examples of these scripted lesson plans.

These lesson plans standardized instruction across all Bridge International schools.

In general, the scope and sequence of the Bridge International curriculum was based on government standards so that Bridge International students were prepared to take national exit exams (in Kenya this was grade or standard eight), however, in the earlier grades Bridge International placed a greater focus on basic literacy, numeracy and critical thinking skills than the government schools.

Regular high-quality assessments standardized across Bridge International schools were delivered on a monthly basis, to provide checkpoints on the progress against specific learning objectives for students, teachers, school management, parents and Bridge International itself. Teachers were trained and supported on an ongoing basis to utilize the results from these assessments during tutoring sessions which were held after each assessment. Detailed student assessment data was regularly collected at the central level for ongoing monitoring and quality assurance across the entire network of schools, in addition to being utilized as part of the continual evolution of Bridge International's training programs, instructional approach and overall school-level model. After analyzing longitudinal student performance data, Bridge International provided regular reports back to school management, teachers and parents highlighting progress and concept-level strengths and weaknesses.

Schedule/Calendar

The Bridge International schools operated for 45 weeks a year and operated six days a week. This calendar enabled students to spend more than 260 days per year in school. The school day was from 7:30 to 5:00 on weekdays, and 9:00 to 4:00 on Saturdays. All Bridge students thus attended school for 54 and one half hours per week.

Kimmelman noted:

> One of our most critical interventions is providing significantly more 'time on task' and 'opportunities to learn' in the classroom. This includes a schedule that accommodates significantly more classroom instructional time and a system of teacher training, support, and monitoring that hold teachers and school management accountable for the performance of the students. The policies of a year round education and an extended school day are not simply a numbers game. They have a very important purpose; to ensure students become high achieving learners. At Bridge International Academies, how well each child does matters above all else. We want every student to achieve success, to not lose information and knowledge, and to be constantly learning and re-learning. So the more they are in school, the higher the chances of that happening. We want to comprehensively educate children by enrolling them into consistently rich and diverse learning experiences, and to keep children in our volatile communities safe and secure within a caring and nurturing school environment.

School Management

Each school was run by a School Manager. The School Manager was required to manage the school based on the systems, processes and guidelines established by Bridge International and he/ she was responsible for the performance of their school.

Bridge International required all School Managers to partake in an initial training program that provided extensive grounding in all aspects of managing the Bridge International school model, coaching on specific financial and management skills needed to operate the school, and significant practical management exposure through the shadowing of other successful school managers. Additionally, school managers were provided with a School Manager's Manual. This manual provided detailed instructions for School Managers on how to carry out the daily operations of the school and how to operate/ grow the school so as to achieve profitability. Sections of the manual included: general management; calendar and schedule; instructional leadership; admissions and payment; expenses and payroll; facilities management; and recruitment and marketing. **Exhibits 4, 5 and 6** provide examples from the manual.

School Managers were provided with ongoing monitoring, coaching and support by Bridge International's field support team in field visits to schools during each term and in end-of term review meetings at regional headquarters for extensive support, collaborative problem solving and community building among other school managers. Observations during school field visits was complemented by extensive data collection on all aspects of school operations, including financial records kept in Bridge International accounting diaries, attendance records, randomized surveys of parental satisfaction and student performance that enabled the Bridge International support team to cross-reference, carefully monitor and help improve the performance of individual schools.

The School Manager received a monthly bonus along with their salary. This bonus was dependent on the success of the school. Specifically, the number of students, the number of new students added each month, how well expenses were kept under budget, and if parents made payments on-time or not. Initially Bridge International had provided School Managers with a formula to calculate their

bonus and bonus potential. However the School Managers found the calculations to be too complicated. In 2010 Bridge International decided to provide the School Managers with a table which included the inputs discussed above and the corresponding compensation. In the first year half of compensation was from salary, however over time the percentage earned from salary decreased and the percentage earned through bonus increased. In the first year School Managers could earn around $1500 a year and by year three they had the potential of earning more than $3,200 per year (**Exhibit 1**).

Achieving Profitability

Each school was funded, 100 percent, by school fees. An individual school was projected to reach profitability when it reached enrollment of between 200 and 300 students. Bridge International provided each School Manager with a detailed plan on how to grow his/her school. The plan detailed class size, the number of classes, grades served, and number of teachers. **Exhibit 7** provides the specifics.

Headquarters

In September 2010 Bridge International's headquarters staff totaled 35; this was up from eight one year prior. There were five operational divisions at the headquarters level: school operations; finance, operations and administration; land acquisition and construction; the instructional department; and research and marketing (see **Exhibit 8** for an organizational chart and **Exhibit 9** for an overview of the services carried out at the headquarters level).

The School Operations Officer, located within the school operations division, served as the direct contact between the School Manager and Headquarters. The School Manager reported to the School Operations Officer and it was this School Operations Officer who managed the relationship between Headquarters and the School Manager, and who was responsible for supporting and ensuring that School Managers are successful at running their schools. Kimmelman explained that it was the responsibility of the School Operations Officer to conduct audits at the school level and to "ensure that the School Manager was operating the school with fidelity." Each School Operations Officer was responsible for between six and eight schools.

Each school was also assigned a Professional Development Coach (PDC). The PDC was responsible for working with the school's teachers and School Manager to insure that the instructional delivery of the school was to Bridge International standards.

The majority of the work carried out by headquarters staff was carried out in the field, that is, at the school. Kimmelman noted that when Bridge International moved forward with launching schools outside of Nairobi field offices would have to be established:

> When we start to regionalize our operations we are going to need to establish field offices in each of the regions where we open schools. This is so that our headquarters staff will be able to work directly with the schools, as is a necessary part of our operational model.

The following describes the activities of the finance, operations and administration division and the land and construction division.

Finance, Operations and Administration

Bridge International had found that in other schools, many school managers spent upwards of 50 percent of their time being a "cash register." That is, they spent their time collecting tuition payments, paying teachers, paying vendors, etc. Bridge International decided to centralize these

functions in an effort to better utilize the manager's time as well as to make the financial management of the schools more efficient. Centralizing the financial management also allowed Bridge International more oversight and reduced the opportunity for corruption.

All schools were made cash-less. Parents could make tuition payments either by using M-PESA, a mobile banking service which enabled them to make a payment using their cell phone, or at an Equity Bank branch (the person making the payment at the bank did not need to be an account holder at the bank). Tuition payments were tracked via SMS messages. Information from the bank and from Safaricom, the operator of M-PESA, was downloaded into a Bridge International database daily. The database tracked all of the fees due for each student, the fees paid, etc.

Daily text messages were sent from the database to the mobile phone of each school manager. The messages told the school manager who had paid, who owed money, etc. Using a specially designed Master Roster form, the school manager could then quickly and efficiently update his/ her records. Using the Company's custom-developed interactive SMS system, the school manager could send specially coded text message at anytime to the central office requesting additional information or to identify errors, reassign payments, change billing for absent students, etc.

With respect to payroll, the school manager would send a text message to the head office requesting payment for a specific teacher. The head office would check to make sure the person was employed at the school and verify the salary. The head office would then make the deposit into the teacher's account. Payments for vendors were conducted in a similar manner.

In addition to financial data, operational and academic data was sent between the school and head office.

Operational data included: student tardiness; total number of student absences; total number of tuitions unpaid; total number of staff late arrivals/ early departures; total number of staff absences; and summary data for cashbox payment categories for the month. This information was used by the head office to determine if there were problems that required additional investigations or conversations. If it was determined that action needed to be taken, a field-level support person would follow-up either by phone or with an in-person visit.

All Bridge International schools used the same assessments. The following information from the assessments was sent to the head office on a monthly basis: mean academic performance (per class) and the number of students struggling per class (this was defined by a low cutoff threshold). The head office used this information to determine if follow-up was needed - either via phone or in-person.

In addition to the monthly academic data, Bridge International conducted a controlled testing study sampling its schools along with a dozen additional schools that served similar populations. The assessments were carried out by an external "assessor team." The team would go to each school to individually assess the students in reading and other subjects, and proctor and administer written exams. This data was collected by the head office on a term basis and was used to evaluate the overall progress of Bridge International schools and programs. Preliminary indications from the study show that Bridge Students substantially outperformed their peers by 30 to 100 percent on core reading skills.

Land Acquisition and Construction

Bridge International made the decision not to rent space, but rather to purchase land and to construct schools. Rather than rely on another company to seek out available land, Bridge International operated its own real estate division – the division was responsible for identifying plots

of land which would be a good location for a school, building a knowledge base of available plots and prices, determining if the land was titled land, and negotiating the purchase of the land (see **Exhibit 10** for a more detailed description of the land acquisition process). Prior to purchase, Bridge International's research team did a complete and detailed assessment of the local community, cost competitiveness of its schools, economics of households, parent's desire for new schooling options, important variables related to the specific plot, such as security, etc, to determine if the plot is viable for a school.

Much of the land Bridge International purchased was not titled land. This meant that although Bridge International purchased the land, it did not hold a title to the land.

Once the land was purchased, construction began. In Kenya schools were constructed of iron sheeting around wooden frames and concrete floors. The cost of building one classroom was around $2,000. Construction materials comprised $1,850 of the total cost, the remainder included the costs of the blackboards and other materials needed to complete a classroom, as well as amortized cost of central infrastructure (latrines, office), and construction management (see **Exhibit 11** for images of a completed school and operational classroom). Kimmelman described the construction:

> For each school we purchase a plot of land that will enable us to build a school that will accommodate between 800 and 1,000 students. However, we begin by building just five classrooms, as the number of students increases we add classrooms. We have designed our schools so that local construction managers are trained to build them with the kind of instructions that you would see Ikea. Because of this it is easy to assemble a school and to add to a school – and it is cost-effective.

Scaling

Bridge International had developed its model with the idea that it would expand. The three founders had developed a framework to determine where to scale. The framework considered the following factors: need; size of the population of school-aged children; population density, acceptance of/ opinion of private schools; and the general stability and infrastructure of a given location (a country in general and a given location within a specific country).

While Bridge International hoped to expand across the developing world, it anticipated it would first expand within Sub-Saharan Africa. It therefore evaluated the countries of Sub-Saharan Africa against the above described factors. Based on these factors the following countries formed Bridge International's initial target list: Kenya, Uganda, Ghana, Nigeria, Malawi, and Ethiopia. **Table B** shows the possible addressable market in each of these countries.

Table B: Potential Market, by Country

Country	Overall Population	Approx School Aged Population	% of Population living >= 125/sq km	Currently Addressable # of Students
Kenya	38M	7.6M	80%	6.1M
Uganda	31M	6.3M	78%	4.9M
Ghana	23M	3.9M	58%	2.3M
Nigeria	146M	35M	80%	28M
Malawi	14M	2.6M	78%	2M
Ethiopia	83M	9.2M	60%	5.5M
SubSaharan Africa	800M	130M		

Source: Company documents.

The Way Forward

"Our biggest challenge," Kimmelman explained, "is that we need to ensure we standardize everything. If we want to be able to operate like McDonald's we need to be sure that we systematize every process, every tool – everything we do. As we scale and regionalize operations this is especially important and it is something we have come to struggle with on a daily basis."

To date Kimmelman was pleased with many things including the quick enrollment rates, the performance indicators, the funds the company had been able to generate, and the time it took to get a school operational. He was also, generally, pleased with the performance of the staff and the growth of the company. Over the next several months and year, however, there were a number of key events which would test the company. In the immediate future there was both the training program for new teachers and managers and the second round of funds, $10 million. The influx of capital, human and financial, would enable Bridge International to scale. As the new sites would be outside of the Nairobi slums (where all of the current schools were located), Bridge International would have to regionalize operations and establish field offices. The big questions for Kimmelman were:

- Was the model he had created, along with the company's co-founders, truly scalable?
- Were there were any glaring risks or stumbling blocks that he and his team had missed?
- Could Bridge International successfully provide affordable education to poor families in developing countries and be able to operate at a profit? and finally,
- What type of investors would be interested in such a model?

Exhibit 3 Sample teacher script

BRIDGE INTERNATIONAL ACADEMIES - NUMERACY - STANDARD TWO

EXERCISE 1.2.5

Place value game

Before this Exercise, collect the following materials and put them in 3 different transparent containers: bottle tops, sticks, and stones. Label the container with the bottle tops 'Hundreds', the container with the stones 'Tens' and the container with the sticks 'Ones'.

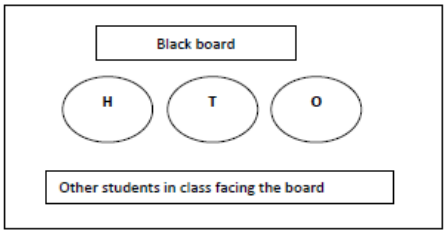
Get three thick papers of 100 square centimeters and make a hole at the top center of the papers and tie a string on each paper so that you end up with three necklaces.
Using a marker pen, write 'Hundreds' on the first paper, 'Tens' on the second paper and 'Ones' on the third paper.

1. **Now we are going to play a game.**
   a. Call on 3 students to come to the front of the class and give each student one necklace out of the three necklaces that you made earlier with 'Hundreds', 'Tens' and 'Ones' written on them. Ask the students to wear the necklaces.
   b. Write 345 on the board. **How many groups of hundreds are in three hundred and forty five?** *(Signal.) Three groups of hundreds.* **I am going to call on the student with the 'Hundreds' necklace**

BRIDGE INTERNATIONAL ACADEMIES - NUMERACY - STANDARD TWO

container and stand next to the students with the 'Tens' necklace, facing the rest of the students.

   f. The illustration below shows how the students wearing the necklaces should stand facing the other students. H stands for hundreds, T stands for tens and O stands for ones.



   g. **Now I am going to call on the three students to display and count what they collected from the different containers.** Ask the students to display and count what they collected.
   h. **Good. We have three bottle tops for the three hundreds, four stones for the four tens and five**

EXERCISE 1.2.5

to go to the 'Hundreds' container and collect 3 bottle tops. Call on the student with the 'Hundreds' necklace to collect 3 bottle tops from the 'Hundreds' container.

   c. **How many groups of tens are in three hundred and forty five?** *(Signal.) Four groups of tens.* **I am going to call on the student with the 'Tens' necklace to go to the 'Tens' container and collect 4 stones.**
   d. Call on the student with the tens necklace to collect 4 stones from the 'Tens' container and stand on the left hand side of the students with the 'Hundreds' necklace, facing the rest of the students in the class.
   e. **How many individual ones are in 345?** *(Signal.) Five individual ones.* **I am going to call on the student with the 'Ones' necklace to go to the 'Ones' container and collect 5 sticks.** Call on the student with the 'Ones' necklace to collect 5 sticks from the 'Ones'

EXERCISE 1.2.5

sticks for the five individual ones. That gives us 345.

2. Ask the three students to give back the necklaces and sit down. Call on another group of 3 students and give them the 'Hundreds', 'Tens' and 'Ones' necklaces respectively.
   a. Write 520 on the board. **Now I am going to ask these students to come and collect stones, bottle tops and sticks from the containers in front of the class so that they end up with the number on the board.**
   b. Ask the students with the hundreds, tens and ones necklaces to pick stones, bottle tops and sticks from the containers labelled 'Ones', 'Tens' and 'Hundreds' and then ask them to stand in front of the class as shown in the illustration on Exercise 5 part 1 f.
   c. Point to the student wearing the 'Hundreds' necklace. **What was this student supposed to collect?** *(Signal.) Bottle tops.*

Exhibit 3 cont.

BRIDGE INTERNATIONAL ACADEMIES - NUMERACY - STANDARD TWO

EXERCISE 1.2.5

d. To the student wearing the 'Hundreds' necklace. **Display and count what you collected.**

e. **Now I am going to call on a student to say whether this student got the place value right.**
Call on a student to say whether the student got the place value right. If they didn't, ask another student to correct them.

f. Point to the student wearing the 'Tens' necklace. **What was this student supposed to collect?** *(Signal.)*
Stones.

g. To the student wearing the 'Tens' necklace. **Display and count what you collected.**

h. **Now I am going to call on another student to say whether this student got the place value right.**
Call on a student to say whether the student got the place value right. If they didn't, ask another student to correct them.

i. Point to the student wearing the 'Ones' necklace. **What was this student supposed to collect?** *(Signal.)*
Sticks.

j. To the student wearing the 'Ones' necklace. **Display and count what you collected.**

k. **Now I am going to call on another student to say whether this student got the place value right.**
Call on another student to say whether this student got the place value right. If they didn't, ask another student to correct them.

l. Ask the three students to give back the necklaces and sit down. Call on several other students in groups of three and repeat Exercise 5 part 2 with the following numbers:
- 900
- 234
- 349
- 34
- 2

Source: Company documents.

Exhibit 4 Exceprt from School Manager's Manual: Instructional Leadership Responsibilities

A Summary of Instructional Leadership Responsibilities

Every Day

- Monitor the actual arrival time of students and staff, the departure time of staff, and the attendance records of students and all staff.
- Audit time-on-task by checking the start and end times of lessons.
- Supervise the pace and progress of lesson coverage in all academic areas.

Every Week

- Observe teachers teaching full lessons and give them feedback.
- Collect and review samples of students' class work and homework books, and stamp/ date them.
- Collect and carefully analyze various assessment forms, tutoring records and class reports.
- Attend all standard-level level meetings or be conversant with the issues discussed by immediately reviewing meeting minutes. Regularly contribute items for discussion in the agenda book.
- Plan and facilitate weekly school business meetings and teacher training sessions (with the PDC where required and/ or needed).

Every Month

- Confer on instructional leadership in general and on individual teachers with the PDC or other HQ staff following their observations.
- Review the make-up and size of reading groups.
- Monitor ability-based class seating arrangements in all classes.
- Undertake an instructional materials inventory.
- Communicate with parents.
- Engage the community.

Every Term

- Organize mid-term tests with headquarters.
- Prepare teachers for writing report cards.
- Photocopy end-of-term/ year exams from headquarters.
- Most of these items are now presented in detail below – others appear in detail in other sections of the manual.
- Each item is organized under "Scheduled" meaning there is a specific time the school manager must undertake this responsibility, or under "Flexible" which means the school manager can do it any time within that day (Daily), week (Weekly), month (Monthly) or term (Termly).

Source: Company documents

Exhibit 5 Exceprt from School Manager's Manual: Expenses and Payroll – Summary Reports

Sending Summary Reports to Headquarters

Towards the beginning of every month, you will need to send HQ a summary of some basic information in your school. This includes your expenses for the month from which we will calculate your bonus.

The date by which you MUST send this information will be on the Weekly Planner. You may send the information earlier if you have it ready.

You will use the **EP06 - SMS Summary Data TO HQ** form to help you pull together the information you need to send. When filling in the information for a particular month, you will fill in information for every row in one column.

You will write in your school code in the first row and the first three letters of the month for which you are sending information.

From the **AP06 - Student Attendance Audit** forms for each teacher you will calculate the total number of unpaid students you found in class for the month and add that number to the third row. For the next two rows, you will add up the total number of days that all your teachers were absent in the month and the total number of days all your teachers were late or early.

The next 9 rows are related to your total expenses for the month. Use the **EP03 - Monthly Budget and Expenses** Form to fill in those rows. You will notice that the number in the Budget and Expenses From matches the number in the SMS Summary Data to HQ form. So if you spent a total of 250/ = on water for the month, you should enter 250 into the Expenses 1. Water row of the SMS Summary Data to HQ form. You are entering the total for each category for the month.

When you get to the row asking for the Petty Cash Balance, you should look at your **EP02 - Petty Cash Ledger** form and find the last balance of the month for which you are sending the information.

For the class sizes, you should write zero in any class which you don't have. For the classes you do have, you should write the number total number of children present during the last class count you recorded on your Weekly Planner (GM01) for the last week of the month you are reporting on.

Once you have this information on the form, you should use your phone to text the information to HQ at **0714 600 534**. You will text the information in the specified format on the form, which is the information in the first row followed by a space and the information in the next row. This continues until you have types all the information into the SMS.

The message should look like the following:

EXPENSES KN JUL 46 655 12 5 0 4500 8000 250 1230 430 0 4000 3250 0 220 0 9580 1310 23 35 30 33 0 28

If there is something incorrect in the message you will be contacted by HQ.

Source: Company documents.

Exhibit 6 Excerpt from School Manager's Manual: Weekly Planner

January 11 - 16, 2010

Daily Activities

Monday

A. Staff Attendance (#Absent) (#Late)
B. Classrooms Visited
C. #Allocated Time Probs (Start) (End)
D. Whole School Assembly (Time)
E. EOD Accounting Summ (Cashbox Balance) (Total Daily Expenses)
F. Update MasterRoster info (#SMS Received and Used)

Tuesday

A. Staff Attendance (#Absent) (#Late)
B. Classrooms Visited
C. #Allocated Time Probs (Start) (End)
D. Attend Grade Level Mtgs (Grade Levels Attended)
E. EOD Accounting Summ (Cashbox Balance) (Total Daily Expenses)
F. Update MasterRoster info (#SMS Received and Used)

Wednesday

A. Staff Attendance (#Absent) (#Late)
B. Classrooms Visited
C. #Allocated Time Probs (Start) (End)
D. EOD Accounting Summ (Cashbox Balance) (Total Daily Expenses)
E. Update MasterRoster info (#SMS Received and Used)

Thursday

A. Staff Attendance (#Absent) (#Late)
B. Classrooms Visited
C. #Allocated Time Probs (Start) (End)
D. School Summit (Time)
E. EOD Accounting Summ (Cashbox Balance) (Total Daily Expenses)
F. Update MasterRoster info (#SMS Received and Used)

Friday

A. Staff Attendance (#Absent) (#Late)
B. Classrooms Visited
C. #Allocated Time Probs (Start) (End)
D. Whole School Assembly (Time)
E. Attend Grade Level Mtgs (Grade Levels Attended)
F. EOD Accounting Summ (Cashbox Balance) (Total Daily Expenses)
G. Update MasterRoster info (#SMS Received and Used)

Saturday

A. Staff Attendance (#Absent) (#Late)
B. Classrooms Visited
C. #Allocated Time Probs (Start) (End)
D. EOD Accounting Summ (Cashbox Balance) (Total Daily Expenses)
E. Update MasterRoster info (#SMS Received and Used)

Information for the Week

A. # Students (Don't do count onSaturday)

P-A	P-B	1-A	1-B	2-A	2-B	3-A	3-B

B. # New Registrations This Week

Source: Company documents.

Exhibit 7 Achieving profitability at the school level

Class Sizes

The target class size was 66 students. This number was determined based on extensive research conducted across the world on the impact of class sizes on educational outcomes. It was designed to be an optimal balance between not being too large so that the teacher could still actually focus on individual children, but being large enough that financially the class and the school could be successful.

School Enrollment Growth

Headquarters determined what the growth in student numbers should be in order for the school to be on track financially to succeed and what could reasonably be attained. The following were the expected target numbers for the school:

In the first year of a new school, five classrooms were built to serve Pre-Unit through Standard Three. Given that there was one teacher per class, there would be a total of five teachers that first year. The average class size for year one was expected to be about 50 students, therefore during year the one the school could reach about 250 students.

By year three, the school was expected to have scaled to reach more than 700 students in 11 classes with the oldest students in Standard Five.

The way the school added classes was very specific to having offering certain grades and growing as the students get older, with many standards ultimately becoming double stream. Table A illustrates how a school was expected to grow in terms of number of classes and standards for the first three years.

Table A School growth

# Classes	Year 1	Year 2	Year 3
Pre-Unit	2	2	2
Std 1	1	2	2
Std 2	1	2	2
Std 3	1	2	2
Std 4		1	2
Std 5			1
Std 6			
Std 7			
Std 8			
Total	**5**	**9**	**11**

Source: Company documents.

After year three, the school would continue to add one standard each year so as to support the existing students. By year six, the school was expected to pre-unit through standard eight.

After year three, the exact number of classes added each year depended on the specifics of the community and the size of the plot on which the school was based. For example, some schools might add one new class of pre-unit and other two in a given year.

Exhibit 9 Overview of centralized operations

Central Support Service and Development

In addition to Support Personnel, Headquarters also provides a variety of centralized services that are what allows an individual Bridge International Academy to be successful:

- The acquisition of land in a prime location in the community
- The construction of high-quality, low-cost school buildings and facilities for all of our schools.
- The development and provision of specialized and customized instructional materials (Scripted Lesson Plans, Teacher Guides, Reading Books, Examinations, and all other instructional materials)
- World-Class specialized Teacher Training Program to ensure your teachers are adequately prepared
- Comprehensive School Manager Training Program
- Management, processing and accounting of:
    - All payments from parents (made by M-PESA or bank deposit) so schools do not have to collect any money at the school site
    - Centralized Payroll for all teachers and school managers
    - Processing of major expenses paid through HQ by M-PESA, and the refilling and management of small petty cash at the school
- Monitoring and Auditing of School Performance
    - Rigorous Testing Program to be able to measure student performance and compare across BIA schools in the network, and non-BIA schools in Nairobi, and internationally (like the US)
    - Monitoring and management of financial performance, expense budgets, profitability
    - School enrollment growth
- Development and provision of Marketing and Recruiting Materials
- Development of Management, Operational, and Support tools, forms, processes and systems to enable School Managers to effectively manage their entire school.

Source: Company documents.

Exhibit 10 The land acquisition process

Identify Plots and Pricing After identifying a community within which it would like to work, Bridge International would hire several local individuals, on a commission basis. These individuals would identify plots of land available for sale and they would map the plots using handheld GPS devices provided by Bridge International. Mapping the plots included standing on the four corners of the plot, and writing down the GPS coordinates. These coordinates would then be sent, via text-message to Bridge International's central office where there was an interactive satellite map, Bridge International would then plot the GPS points on the map and immediately know the exact location, and the exact size of the plot.

Bridge International was also provided with leads to available plots through the local communities and governments. These plots were mapped in the same manner as described above.

Negotiate with Owners Bridge International would negotiate directly with the owners of the plots of land. Owners were either individuals or the community itself. Negotiation over price were based on bridge International's knowledge of market pricing, as well as its knowledge of alternative plots for a given area.

Speak with community elders/leaders Because Bridge International generally are purchased untitled plots of land, it would talk with community elders and leaders to check that there weren't other individuals or groups that laid claim to a particular plot of land. If so, Bridge International would either directly communicate with those individuals or drop the plot from consideration. In addition, in some areas where it was feasible Bridge International would hold community meetings prior to the purchase of the land.

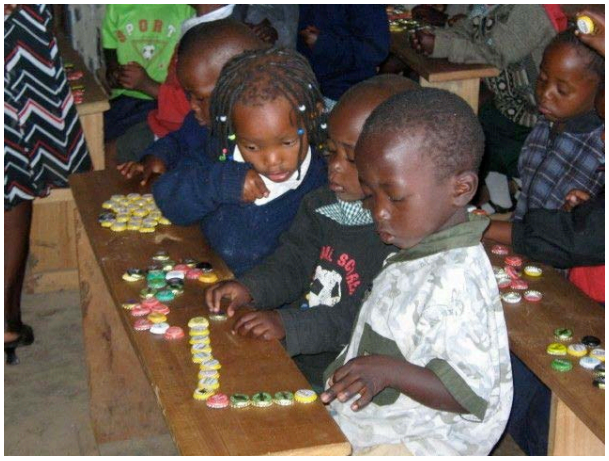
Speak with local government administration In addition to checking with the local community elders/ leaders, Bridge International would also speak directly with the local government representative. In a slum, this representative was called the Chief (and is part of a hierarchical administration that runs directly up to the Office of the President). In many communities, the Chief would act as an unofficial or adhoc titling office. Bridge International would check with the Chief to see if there were issues or other claims on the piece of property it was considering buying.

Reverse Title Check Where possible, Bridge International would send in individuals (who were familiar with these processes) to the local land titling office, and pull the title maps of the area in which the plot Bridge International was negotiating for was located. The company could then check if the plot had an underlying title or not, and if so, if such title was recently issued, etc. This allowed Bridge International to verify more of the provenance of a piece of land.

Contract negotiation and execution Bridge International would then negotiate the final price and terms, and with lawyers draft a contract for the purchase of the land. This contract was then signed and executed between the parties. Where possible, Bridge International would then file this executed contract with the local government administration.

Source: Company documents

Exhibit 11 A completed school and operational classrooms



Source: Company documents.