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Assessing the Financial Sustainability of a Primary School Water, Sanitation, and Hygiene Program in the Context of Kenya's Decentralized System of Financial Management

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An abstract of
a thesis submitted to the Faculty of the
Rollins School of Public Health of Emory University
in partial fulfillment of the requirements for the degree of
Master of Public Health in Global Health
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Abstract

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School water, sanitation, and hygiene (WASH) interventions are designed to improve the health of children in low-income countries with poor water and sanitation systems. School WASH interventions are often initially funded and implemented by third parties, with responsibility for maintaining WASH systems being passed to school administrators following the construction and installation of facilities. While the capital costs of school WASH implementations are well known, the recurrent costs for repair, maintenance, and upkeep are not well understood.

I conducted a study in mid-2010 to examine the recurrent costs and school-level financial management practices associated with maintaining a school WASH intervention known as Sustaining and Scaling School Water, Sanitation, and Hygiene Plus Community Impact (SWASH+). Surveys and financial records examinations were conducted with head teachers at twenty sample schools in Nyanza Province, Kenya that received the SWASH+ intervention.

Kenya's primary schools operate within a decentralized system of financial management in which school administrators hold primary responsibility for managing funds provided to support the Free Primary Education (FPE) system. Head teachers are responsible for budgeting recurrent expenses and accounting for expenditures. This thesis builds on the SWASH+ costing study and explores the impact of financial management capacity, funding sources, and other characteristics of Kenya's decentralized system of school financial management on the sustainability of school WASH interventions.

There is a lack of dedicated funding provided to all primary schools to support recurrent costs of WASH systems through the central government, and primary school administrators are faced with difficult decisions on how to allocate limited funds to cover WASH and non-WASH school expenses. Furthermore, inadequate financial management training for head teachers and a lack of shared responsibility and transparency in financial management at the school level further compromise the sustainability of school WASH systems.

Further study is needed to determine the true average cost of recurrent school WASH interventions, as definitive conclusions could not be drawn due to the variation in expenditures and budgeted amounts uncovered in this study. However, I conclude that primary schools in Kenya should receive a dedicated funding amount in the yearly FPE Capitation Grant in order to sustain school WASH interventions. Furthermore, head teachers require additional training in financial management skills in order to effectively perform their role in managing school budgets and expenses.

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Acknowledgments

I would like to extend my sincere gratitude to the SWASH+ team for their support of this project, especially Dr. Richard Rheingans, Mr. Robert Dreibelbis, Ms. Bethany Caruso, and Ms. Shadi Saboori. I would also like to thank Mr. Alex Mwaki and Mr. Ben Okech of CARE Kenya for lending their expertise to my research. Many thanks to the field staff who contributed to this project, especially Ms. Imelda Akinyi Ochari. Lastly, I would like to thank my advisor Dr. Deborah McFarland for her wisdom and guidance in the preparation of this thesis.

Kerry L. Gallo, April 2011

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Chapter 1: Introduction

Introduction and Rationale

The sustainability of school health programs relies in part on the availability and utilization of funds available to support them. In countries such as Kenya where primary school administrators hold responsibility for school financial management, financial management capacity at the school level may have a significant impact on school health programs in addition to issues of funding and resources.

Programs such as SWASH+ (Sustaining and Scaling School Water, Sanitation, and Hygiene Plus Community Impact) have attempted to improve the health of schoolchildren through the implementation of water, sanitation, and hygiene systems improvements at primary schools in Nyanza Province, Kenya. However, the long-term financial sustainability of programs such as SWASH+ is currently unknown. Sustainability and effectiveness of school water, sanitation, and hygiene (WASH) programs rely in part on funding resources and the ability to effectively manage available funds at the school level.

This study addresses the knowledge gap affecting many school WASH programs—first by attempting to determine the recurrent costs of maintaining WASH systems, and secondly by describing financial management capacity at the school level.

Problem Statement

Children in developing countries are at risk of contracting diarrheal and parasitic diseases as a result of unsafe, inadequate water supply and poor quality sanitation

systems. To address this problem, school water, sanitation, and hygiene (WASH) programs are designed to improve the health of children through the provision of safe water, adequate and appropriate sanitation systems, and promotion of hygiene behaviors such as hand washing at the school level (hereafter known as school WASH systems).

Sustaining and Scaling School Water, Sanitation, and Hygiene Plus Community Impact (SWASH+) is a five-year applied research program to identify, develop, and test innovative approaches to school WASH interventions in Nyanza Province, Kenya (swashplus.org). SWASH+ project partners including Emory University's Center for Global Safe Water, CARE Kenya, and water.org have assisted primary schools in Nyanza Province with the implementation of safe water systems, construction of child-friendly latrines, installation of hand washing stations, and development of hygiene promotion programs.

SWASH+ project partners were responsible for the capital costs of installing and establishing school WASH systems in 185 primary schools in Fall 2007. After system implementation, primary school administrators became responsible for costs of maintenance, repair, and operation of the systems. While the capital costs of implementing WASH systems are well understood, the recurrent costs for maintenance, repair, and operation of these systems are not. Furthermore, it is currently unknown if Kenyan primary schools receive sufficient funding to cover these recurrent costs. Without a thorough understanding of what recurrent costs are associated with maintaining school WASH systems, it is impossible to determine if funding gaps exist.

In countries such as Kenya where school financial management is decentralized to the school level, budgeting and spending practices by school administrators may have a

significant impact on school WASH systems. There is currently no official financial support earmarked by the government to support primary school WASH systems in Kenya. As a result, school administrators must make decisions at the school level on how to allocate school funds to support WASH, which may further affect the quality and sustainability of school WASH systems.

In order for school WASH systems to be sustainable and effective, they must be affordable to the primary schools that manage them. School WASH programs have been implemented in multiple countries as part of an effort to improve children's health and quality of education worldwide. The long-term success of these programs depends in part upon their financial sustainability. School WASH programs in developing countries might be more effectively designed, implemented, and supported if costs for repair, maintenance, and operation of WASH systems are known. Furthermore, WASH program implementers can address issues of funding and financial management training in addition to other program activities if financial management practices at the school level are clearly understood. While these costs and practices will vary across countries and regions, country-level data could feasibly be extrapolated to local districts for the purposes of program planning and evaluation.

There is a need to determine what recurrent expenditures are made at the primary school level in Kenya, and how existing or potentially available funds are allocated by school administrators to cover WASH costs. This information is currently unknown for primary schools that received WASH system implementations as part of the SWASH+ program in Nyanza Province.

Purpose Statement

The purpose of this study was to discover if funding gaps exist for the support of school WASH systems in SWASH+ program schools in Nyanza Province, Kenya. The following aims were intended to support the study purpose:

- Determine the costs of repair, maintenance, and operation of primary school WASH systems at SWASH+ schools in an academic year (March-November).
- Identify unmet WASH supply and service needs at the school level.
- Describe spending and budgeting practices carried out by primary school administrators for school WASH systems.
- Determine school administrators' use of funds provided by the Kenyan Ministry of Education and other sources for school WASH systems.

Research Questions

1. What funds are available to SWASH+ primary schools in Nyanza Province, Kenya sufficient to cover the annual costs of repair, maintenance, and operations of school WASH systems?

2. What are the annual costs of repair, maintenance, and operation of school WASH systems in SWASH+ primary schools?

3. What are the non-monetary and indirect costs of maintaining school WASH systems in an academic year?

4. What amounts of supplies for maintaining school WASH systems do SWASH+ primary schools purchase in an academic year?

5. What maintenance and repairs for school WASH systems are contracted out by SWASH+ schools in an academic year?

6. What are the school-level budgeting and spending practices for school WASH systems at SWASH+ schools?

7. How do SWASH+ school administrators allocate government funds and other funds for maintaining school WASH systems?

Significance

The Kenyan Government's goal of providing adequate and sustainable school WASH systems at the national level may be supported as a result of the knowledge gained from this study. This research may be used to increase the support of school WASH programs in Kenya by providing evidence to inform school financial support policies. SWASH+ program partners have hypothesized that the health of Kenyan schoolchildren can be significantly improved through the expansion of school WASH programs, resulting in greater gains in education and subsequent improvement of economic capacity of the country. Furthermore, community health may also benefit from the sharing of knowledge on WASH that could be carried by schoolchildren into their homes, leading to an overall increase in health across the nation (O'Reilly et al., 2008).

The results of this study may help SWASH+ program partners to develop a more accurate and complete budget for maintaining school WASH systems in Kenya. The importance of providing funds to cover recurrent costs for maintaining WASH systems in addition to providing capital and start-up costs may be supported by the evidence provided by this study, bolstering advocacy efforts for dedicated funding at the national level for school WASH. This knowledge can be used to inform policy recommendations to the Ministry of Education in their budget planning processes, as well as efforts at the local level to enlist community support of school WASH systems. A complete understanding of school WASH system costs will help guide decisions made by the Ministry of Education regarding fund allocation for the National School Water, Sanitation and Hygiene Promotion Strategy within the Free Primary Education Capitation Grant, the main source of funding for primary school operations and systems in Kenya.

This study's exploration of the financial management practices at the school level may uncover capacity development needs considered by SWASH+ partners to be crucial to program success, such as head teacher financial training or the need for accounting clerks to assist in managing school budgets. This is especially important in the context of decentralized school financial management in Kenya in which funds are managed entirely at the school level. This line of inquiry may also provide insight into the decision-making processes of school administrators, which may have implications for school-level commitment to and prioritization of WASH systems in conjunction with other school infrastructure and program needs. Understanding school-level financial management capacity and the placement of WASH systems within school management's

priorities may also inform national allocation of funding to be used for capacity development and school support.

School WASH programs in other countries may also benefit from the results of this study. Much evidence has been collected on the health effects of school WASH systems in developing countries, but less emphasis has been placed on their sustainability. By focusing on key measures of sustainability that have typically been overlooked—long-term affordability and financial management capacity at the school level—this study aims to provide new data that can be utilized by school WASH program implementers around the world. This knowledge might enable program implementers to make long-term plans and work with national and local officials to ensure the sustainability of school WASH systems.

The recurrent costs of maintaining school WASH systems are not well understood by SWASH+ program partners. While local costs are likely to vary from country to country, the data from this study can be used to make reasonable financial extrapolations to countries outside of Kenya based on other measures of need. The quantity of supplies needed per student and the frequency of services for repair and maintenance in Kenyan schools determined by this study can be used to make reasonable assumptions about funding needs for maintenance of WASH systems in schools with similar climates and socioeconomic settings.

Financial management practices at the school level are also likely to differ from country to country, but this study will provide an example of these practices in low-resource settings that are typical of schools in need of WASH systems support. Challenges faced by school administrators in Kenya may be used to make inferences

about capacity development needs of schools in other countries where school financial management has been decentralized to the school level.

Chapter 2: Comprehensive Review of the Literature

Introduction

School water, sanitation, and hygiene (WASH) programs in Kenya operate within the national system for primary school management which imposes certain restraints and opportunities for sustaining these programs. The following literature review provides background information on Kenya's primary school management structure needed to understand the context for this study. The literature outlined in this review places Kenya's Free Primary Education (FPE) program within the larger contexts of decentralized governance and efforts to achieve Universal Primary Education (UPE) in developing countries. This review also describes Kenyan school WASH needs and national standards, and examines the existing evidence on recurrent costs and the financial sustainability of school WASH programs.

Decentralization in Developing Countries

The shift from centralized governance in developing countries to widespread decentralization is discussed in Smoke (2001). Central governments frequently opposed decentralization as they attempted to build nations in ethnically fragmented societies struggling with fragile economies, and viewed local governments as competitors for resources. However, the popularity of centralized forms of governance has declined since the 1990s, and fiscal decentralization and local government reform have become two of the most widespread trends in development.

Hutchinson (2006) reviews the underlying expectations of decentralization's effects on provision of services. Societal welfare can be improved through the allocation of resources meeting the specific needs of a particular region, rather than the provision of a uniform set of resources allocated to all regions. More effective allocation of resources can be achieved through reducing the levels of management and increasing the speed and efficiency of decision-making at local levels.

Hutchinson (2006) also examines the effects of decentralization of health services in Uganda, and finds that in this case while "decentralization is doing exactly what it is intended to do—allowing local planners to respond to local preferences," patterns of utilization in a decentralized system "may not conform to the preferences of the central government." Furthermore, a major constraint to expansion of local services under decentralization is the lack of balance between revenue sources allowed to local governments and the increase in functions assigned to them. For these reasons national pro-poor and health improvement initiatives may face challenges at the decentralized level.

Crook (2003) argues that decentralization's impact on poverty is determined primarily by politics of local-central relations, particularly the commitment of central political authorities to poverty reduction. Decentralization should not be conflated with democratization—general regime context may determine the success or failure of decentralization in enhancing involvement at the community level. The motives of different governments are revealed in how a decentralized system is implemented and how it functions, including distribution of power and resources at different levels and territorial areas with different interests in their relationship to the ruling elite. The risk of

drawing down central resources to bolster local power struggles arises, especially in countries where ethno-regional conflict exists.

Crook (2003) describes Kenya as an example of a decentralized system devoted to sustaining power of the governing party at the local level. This paper describes a system in which local Members of Parliament (MPs) collaborate with Presidentially-appointed District Commissioners to make decisions on local development and source allocations based on political patronage. The poor are weakly represented, and overall popular participation is seen as an illusion.

Smoke (2001) similarly describes Kenya as a nation with a long history of local government weakened by the efforts of national authorities, resulting in deterioration of service delivery. However, Smoke (2001) states that political and economic pressures to reform have led to genuine attempts to strengthen local governments, culminating in the Kenya Local Government Reform Program. Despite criticisms of Kenya's decentralization system, decentralized governance is seen as the nation's primary means of reducing socio-economic disparities by its proponents.

Free Primary Education in Kenya

Kenya's system of decentralized governance for improved development is structured within seven operational funds that are aimed at improving service delivery to citizens. One of these funds, Free Primary Education (FPE), was established in January 2003 to address financing and quality challenges in primary schooling (unpan1.un.org). FPE operates under centralized administration with a decentralized financial management

structure. This arrangement poses unique challenges and opportunities for the nation's effort towards achieving Universal Primary Education (UPE).

The goal of achieving UPE is laid out in The Dakar Framework for Action 2000: Education for All. UPE would ensure access to free and compulsory primary education of good quality for all children, particularly girls and vulnerable and disadvantaged children. All countries are expected to reach this international development goal by 2015. UPE's long-term goals include the improvement of adult literacy, elimination of gender disparities in education, and improvement of all aspects of the quality of education, particularly in the attainment of essential life skills.

Uwakwe (2008) describes the impact of UPE implementation on the quality of education in sub-Saharan Africa. UPE programs have huge cost implications, including increased funding demands for teacher training and professional development, which have been difficult for governments in sub-Saharan African countries to address. The authors express the view that UPE efforts are bound to fail where socio-cultural, political, economic, and religious realities in African states are not considered. These realities include conditions related to poverty, health disparities, and gender-specific concerns that manifest as school-specific needs.

Funding of Kenya's FPE System

Kenya has a long history of trying to achieve UPE since independence in 1963. Sawamura (2008) outlines this history, culminating in Kenya's implementation of FPE in 2003. Under this policy, primary school fees were abolished, and the government prohibited the collection of levies from parents by schools. The nation's 18,000 primary

schools now receive financial support exclusively from the government in the form of capitation grants (known as the FPE fund). These funds are transferred directly from the Ministry of Education to each primary school into two bank accounts that receive these grant payments twice a year.

Sawamura (2008) describes Kenya's FPE funding structure in detail (see Table 1.) The School Instructional Materials Bank Account (SIMBA) covers direct teaching and learning materials; schools receive 650 Ksh per pupil per year. The General Purpose Account (GPA) is to be spent on various operational costs including staff support wages, repair, maintenance and improvements (RMI), water, electricity, and conservancy (EWC), quality assurance, and transport. The GPA account receives 370 Ksh per pupil per year. In total, schools receive 1,020 Ksh per pupil per year to support FPE. The guidelines for spending of these funds are explicitly outlined by the Ministry of Education, but the management of funds has been decentralized down to the school level.

Nungu (2010) describes how internal inefficiencies and deterioration in the quality of primary school education has resulted in part from Kenya's successes in the quest for attaining UPE and its attempt to democratize education governance through decentralized financial management. Nungu states that with little policy attention and inadequate support being given to these issues, the FPE policy risks failing at the goal of democratizing education for all Kenyans and becomes mere political grand-standing.

Table 1. Breakdown of Capitation Grant under Free Primary Education. Reproduced from Sawamura (2008). Data: Kenya Ministry of Education (2003).
(1 Kenyan Shilling (Ksh) = 0.012 US Dollars)

SIMBA Account I (650 Ksh per pupil per year)
• Textbooks: 360 Ksh • Exercise books: 210 Ksh • Supplementary readers and reference materials: 55 Ksh • Pencils: 15 Ksh • Dusters, chalk, register: 5 Ksh • Chart and wall maps: 5 Ksh
GPA Account II (370 Ksh per pupil per year)
• Support staff wages: 112 Ksh • Repairs, maintenance, and improvement: 127 Ksh • Activities: 43 Ksh • Quality assurance (school based evaluation, seminars/workshops for teachers, and examination materials): 29 Ksh • Electricity and water: 10 Ksh • Local travel and transport: 21 Ksh • Postage / rental box / telephone: 22 Ksh • Contingencies: 6 Ksh

Kenyan primary schools experienced an influx of pupils following the abolition of school fees, with enrollment rates increasing from 5.9 million in 2002 to 8 million in 2007 according to Nungu (2010). Dropout rates decreased and gross enrollment rates for boys and girls increased. While Kenya's achievements in increasing enrollment in primary education are impressive, Sawamura (2008) describes it as a shift away from the goal of providing quality education and towards a UPE policy with higher emphasis on nation-wide enrollment rates. Increased enrollment in primary schools following the implementation of FPE has led to congested classrooms, increased demands on deteriorating infrastructure, and overworked and underpaid teachers with less time to devote to slow learners. Furthermore, the mandatory allocation of decentralized funds to specific spending categories limits school from addressing their individual needs by independently budgeting available funds as they see fit.

Under FPE, Kenyan primary schools are not permitted to collect fees from parents, and are expected to rely solely on the FPE fund for school operations. Sawamura (2008) and Nungu (2010) describe the reality of "free" primary education, which contradicts the government's supposed total financial support of primary schooling. Parents are typically required to cover costs of uniforms, shoes, and extracurricular activities, and schools require payment of fees for required after-hours coaching for exams provided by teachers. In particular, extra evening and weekend coaching sessions are described as "optional," but cover new material necessary for children to pass the rigorous exams to get into secondary school. Other payments collected from schools are typically disguised in accounting records to prevent scrutiny from district education officers. According to Sawamura (2008), the extraction of funds and levies from parents may be viewed as a survival mechanism in response to the implementation of the FPE policy, under which schools now typically receive less funding than they did when tuition was charged.

Nishimura (2009) provides one of the few studies to focus on financial, administrative, and policy gaps through a comparative analysis of UPE policies in Kenya, Ghana, Malawi, and Uganda. Individual and focus group interviews were conducted with head teachers, district education officers, parents, and school management committee (SMC) members. The four countries experienced similar outcomes of overcrowded classrooms and low teacher motivation as a result of increased enrollment. Additionally, parents were described as becoming passive in school activities and decision making due to their perception that the national government had taken full responsibility for their

children's educations. In Kenya, mutual distrust and poor relationships were described between teachers and communities as a result.

Funding Challenges for FPE

Multiple studies have described how financial constraints affect performance and compliance with central policy for FPE fund management at the Kenyan primary school level. According to Nishimura (2008), Akech (2010) and Cheruto (2010), Kenyan schools reported a lack of funds despite the commitments of governments and donors. The amount of the FPE fund allotted per pupil was not informed by a baseline survey of school financial needs, but instead relied on amounts available in government coffers. These studies also state that Kenyan schools frequently experienced delays in the disbursement of the FPE fund, and fluctuation of the amounts received affected school activities and financial management. The Kenyan newspaper *The Daily Nation* reported on delays in disbursement of FPE funds in May 2010. Teachers reported not having received their salaries in months and many resigned in protest. Head teachers were described as paying out of their own pockets for school essentials, and increasing their reliance on donations from parents and teachers for learning materials and extracurricular activities.

Corruption and mismanagement of FPE funds at the central government level are frequently cited as major constraints on the success of FPE in Kenya. Parajuli (2001) described the Ministry of Education as heavily mismanaged, and states that frequent wastage from uncollected and unsurrendered funds are adversely affecting FPE funding. Furthermore, allegations of corruption within the Ministry of Education are common.

According to the Agence France-Presse (2010), 8.4 billion Ksh allocated for education were not properly accounted for from 2005 to 2009, and allegations of fraud have been made against the Kenyan Ministry of Education. The Ministry of Finance's Internal Audit Department found that 110 million Ksh were siphoned off the FPE fund in 2009 (www.ukinkenya.fco.gov.uk, 2010).

As a result of the discovery of this corruption, the United Kingdom and the United States withdrew funding for primary education in Kenya, and demanded the prosecution of Ministry of Education officials implicated in the investigation (www.bbc.co.uk, 2010; www.ukinkenya.fco.gov.uk, 2010). The amount of withdrawn funds totaled 230 million Ksh. This loss of support included the withdrawal of 5 million pounds scheduled to be disbursed from the United Kingdom Department of International Development (DFID) for the improvement of water and sanitation systems in Kenya's poorest schools.

Head Teacher Managerial Support under the FPE System

Financial management of FPE funds appears to be a significant challenge for head teachers in Kenya. Cheruto (2010) interviewed 260 head teachers, education officers, and other primary school affiliates; difficulty in financial management was frequently described as a major problem facing school-level management. Head teachers reported not receiving training on financial management after the introduction of FPE resulting in their lack of capacity and confidence for effective financial management despite the desire to be transparent and accountable on the use of school funds. Nishimura (2008) states that head teachers received ad hoc training opportunities on accounting and school

management, but reported that these trainings were not sufficient for effective school management. Mismanagement of funds at the school level was reported, and the lack of monitoring and accountability for financial management resulted in further mishandling. Furthermore, personnel support for accounting and book-keeping is inadequate. According to Akech (2010), account clerks were typically unavailable, leaving head teachers responsible for book-keeping and accounting.

Literature on existing government policies for financial management training of head teachers could not be found for this review, but study partners at CARE Kenya described the existing state of financial training for head teachers. Training modules have been developed by the Ministry of Education to strengthen financial management capacity of head teachers, but the government of Kenya no longer funds the completion of these modules. Head teachers therefore must seek out financial management training independently, leading to wide disparities in financial management capacity at primary schools (Mwaki and Okech, 2011).

Kenya has a history of collaborative programs between the Ministry of Education and development partners to strengthen the capacity of the primary school education system. The Primary School Management project (PRISM) aimed to improve the quality of primary education in Kenya through the training and support of head teachers in practical management skills (Mutahi, 2008). This project, a joint effort supported by the Ministry of Education and the UK Department for International Development (DFID), was carried out from 1996 to 2000. Close to five thousand head teachers accessed voluntary training on the effective management of community funds, and a cascaded system of training was utilized to train parents, SMC members, and other members of the

community in these skills. However, Mutahi (2008) described some head teachers as having limited financial skills despite these trainings, and the project ended prior to the implementation of FPE fund decentralization in 2003. The Strengthening Primary Education projects (SPRED) I and II were also supported by the Ministry of Education and DFID in the 1990s, and focused on addressing declining enrollment and broad education reform. SPRED III focused on budget management and support of the implementation of FPE through the School-based Teacher Development program, which included financial training for Ministry officers, head teachers, and other administrators (Mutahi, 2008).

Mutahi (2008) describes the lessons learned from the implementation of these collaborative support programs. The design and implementation of these projects enabled the development but did not ensure the sustainability of financial management capacity in primary schools. Varied and great needs for managerial knowledge and skills still exist in primary schools. Mutahi (2008) states that a credible political and financial commitment from the Ministry of Education is needed for a structured, nationwide training program to ensure the long-term development of financial management knowledge at the primary school level. Such a program should also emphasize financial training for SMC members and other school administrators.

A recent effort by the Ministry of Education to strengthen capacity in primary schools is the Kenya Education Sector Support Program (KESSP). KESSP was developed through a sector wide approach to program planning (SWAP), and is comprised of 23 investment programs targeting priority areas for FPE funding. Selected schools receive grants to perform a priori infrastructure improvements identified at the

school level, or one-off capitation grants to carry out improvements based on government-identified areas of need. KESSP was intended to serve as the basis upon which the government, individuals, communities, the private sector, NGOs and development partners will jointly support the education sector from 2005 through 2010 (Kenya Ministry of Education, Science, and Technology, 2005). However, KESSP funding was withdrawn by some development partners including the US and the UK following allegations of fraud within the Ministry of Education in 2009, leaving the future of the program uncertain (www.bbc.co.uk, 2010; www.ukinkenya.fco.gov.uk, 2010).

Primary School Water, Sanitation, and Hygiene Programs under the FPE System

Decentralized financial management and capacity at the school level directly influences school infrastructure and support programs. Kenyan primary schools are now faced with the challenge of maintaining programs intended to address school-specific needs within the limitations of funding for FPE provided by the central government.

The provision and maintenance of school water, sanitation, and hygiene (WASH) systems in primary schools are of particular importance in Kenya, where schools in drought-prone regions are affected by lack of clean water during the dry seasons, and schools in impoverished regions and communities frequently lack adequate infrastructure for sanitation systems (www.swashplus.org). According to Adams (2009), schoolchildren's health and ability to learn is directly affected by unsafe water and inadequate sanitation and hygiene. Female children and children with disabilities are affected by lack of appropriate and adequate sanitation systems, making them more likely

to withdraw from school; therefore, the provision of adequate amounts of safe water and the existence of effective sanitation and hygiene systems in primary schools directly contributes to Kenya's ability to achieve UPE while meeting the Millennium Development Goals of gender equality and reducing child mortality (Adams, 2009).

The influx of new students following the implementation of FPE has resulted in Kenyan primary schools facing challenges with providing sufficient quantities of safe water and the provision of adequate sanitation facilities such as latrines for all students. The Ministry of Education (2008) set forth national standards for school WASH to address these critical issues, emphasizing child-friendly technology and designs, a life-skills based approach to changing hygiene behaviors, knowledge, and attitudes, and the importance of building multi-stakeholder partnerships to improve school WASH. The national standards for school WASH are outlined in the second draft of the National School Water, Sanitation and Hygiene Promotion Strategy, 2008-2015 as follows:

- Provision of safe water in sufficient supply for drinking, hand washing, cooking and cleaning, in the amount of five liters per pupil per day in schools without water closets. At least one water point should be provided for every 50 students. School management shall ensure water is treated through filtration, chlorination and/or boiling, and stored in safe vessels to avoid contamination; drawing taps are required for all storage facilities. School management is responsible for the operation and maintenance of water facilities, and is expected to provide funds for repair and cleaning of infrastructure such as rainwater tanks and gutters.
- The Ministry of Education shall ensure that all learning institutions have access to adequate and appropriate sanitation facilities, with special consideration on age,

sex, culture, and special needs (Ministry of Education, 2008). Required ratios are one toilet for every 25 girls, and one toilet for every 30 boys. Access to sanitation facilities should be ensured for all ages and needs, and the Ministry will support the development of culture- and gender- specific sanitation facilities. School management will be responsible for the day to day operation and maintenance of sanitation facilities. Schools are responsible for meeting these minimum standards of sanitation.

- The Ministry of Education requires a minimum hygiene promotion approach that enables teachers, learners, and the community to identify hygiene problems and conditions, to establish causes, transmission routes, and prevention of hygiene related conditions, and to provide guidance on how to carry out effective and sustainable hygiene promotion. Minimum areas of hygiene promotion are hand washing with soap, hygiene and consistent latrine use at school, safe water storage and use. A subcommittee of the SMC should be established to ensure the school has the following: an adequate safe water supply; adequate, separate, child friendly toilets/ latrines; anal cleaning materials; sanitary towels; a hand washing facility with soap. The committee will also ensure that learners with special needs have appropriate and adequate water, sanitation, and hygiene facilities. Training of head teachers, teachers, parent-teacher associations, SMCs and other stakeholders in hygiene promotion and implementation should be carried out.

The National School Water, Sanitation and Hygiene Promotion Strategy states that school WASH projects should include financial policies that ensure operation and maintenance of systems including preventative maintenance. In order to support this, the

National Strategy includes the guarantee that the Ministry of Education will ensure funding for WASH policies and "avail annual budgetary allocation to support and ensure adequate level of operations and maintenance" of WASH systems. Approximately 8 million Ksh has been allocated for 2008 through 2015 as part of the School Water, Sanitation, and Hygiene Promotion Strategy Implementation Plan, to be delivered to schools through the KESSP grant system. The National Strategy document also states that the Ministry of Education will provide a specific budget line for water and sanitation in school funds, though it is unclear if this budget line will be included in the annual FPE Capitation Grant or elsewhere.

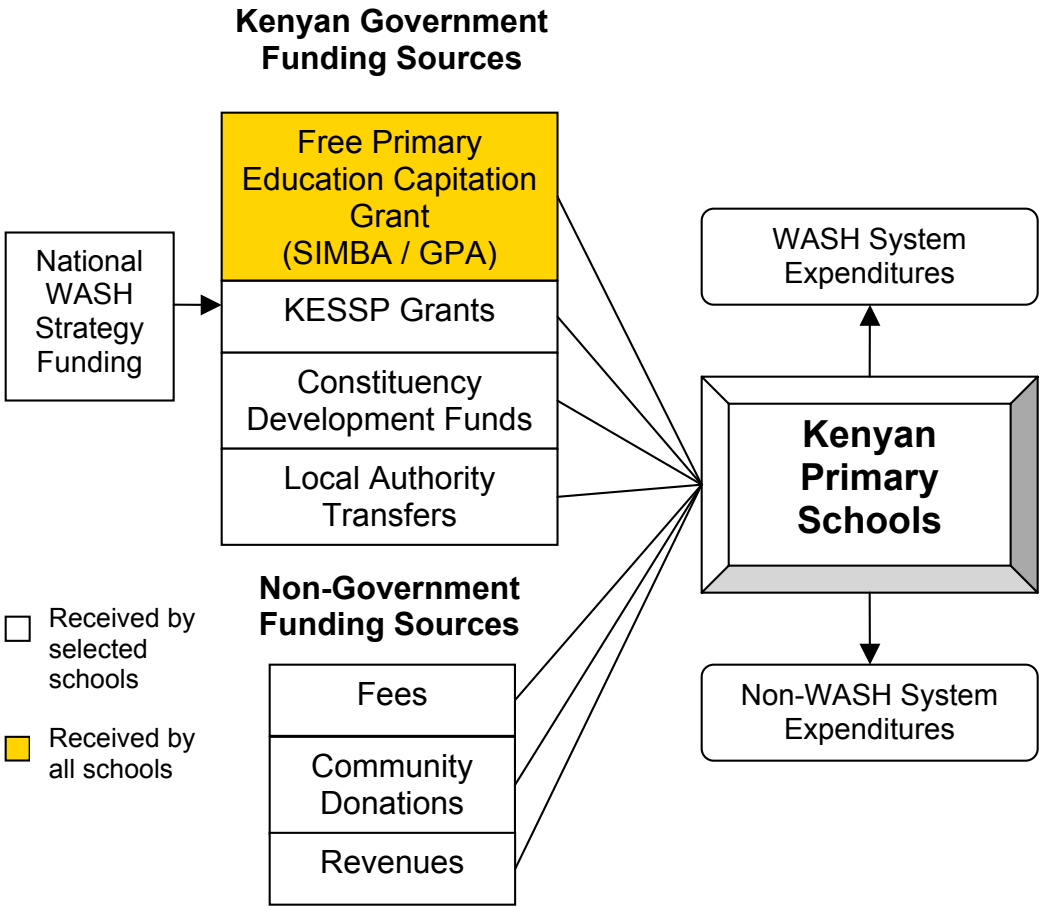
Consequences for schools that do not meet the minimum stated infrastructure requirements under the National Strategy are not known. We were unable to determine if oversight and monitoring systems are in place for the Kenyan Government's guarantee to provide funding to promote the Strategy.

The KESSP model has been tested as a funding mechanism for supporting schools in the improvement of WASH systems. Obure (2009) describes a collaborative effort between SWASH+ and KESSP to pilot test school WASH enhancements through the KESSP School Infrastructure Improvement Program (SIIP), which aims to assist Kenya's poorest schools and communities to improve primary school infrastructure. Through SIIP, primary schools are selected based on need and priority to receive an annual infrastructure grant each year for five years; particular schools with a severe shortage of infrastructure provision receive one-off grants to carry out more extensive infrastructural development or rehabilitation. SIIP funds are centrally disbursed and managed at the school level by a School Infrastructure Committee (SIC).

The study described by Obure (2009) examined quality of training, budgeting and funding for WASH, as well as other indicators of the sustainability of the KESSP-supported WASH model. While head teachers reported that training for management of KESSP funds was generally adequate, they also reported 'role overload', with increased demands on their time to manage FPE and KESSP funds in addition to their other duties. Obure (2009) echoes the suggestion from previous studies that account clerks should be employed to support school administration in financial management. Additional training on budget forecasting is needed to help head teachers accurately estimate annual repair, maintenance, and operations costs. Furthermore, recurrent costs for repairs and maintenance of systems should be budgeted to ensure sustainability; these funds are currently not included as part of KESSP budgets, and head teachers reported that FPE funds were not sufficient to cover these additional expenses.

Figure 1 displays the various funds that are provided to primary schools through government and non-government sources, and their application to WASH systems and non-WASH school needs. The FPE Capitation Grant is the only source of funding provided consistently by the government to all primary schools to cover operational costs, while multiple other sources of funding such as KESSP grants, local authority transfers, and constituency development funds are available on an ad hoc basis.

Figure 1. Flowchart of Kenyan Primary School Funding and Expenditure



Financial Sustainability of School WASH

The implementation of WASH systems in Kenyan primary schools has frequently been supported by international donors and NGOs, including the SWASH+ program partners. Implementers of WASH systems are typically responsible for managing budgets for capital expenditures, such as costs of infrastructure construction and initial supply purchases. The Ministry of Education has been advised on the costs of implementing school WASH by project implementers, but these figures are unreliable. According to SWASH+ program partners, WASH program cost estimates have typically been

comprised of capital expenditures and inconsistent guessed-at estimates of recurrent costs.

There is little information available on the recurrent costs for repair, maintenance, and operations of school WASH systems in Kenya and elsewhere, but there appears to be an increasing focus on understanding these costs. A project known as WASHCost is a five-year initiative led by country-level WASH-support organizations focused on understanding the true cost of sustaining WASH services and systems in Ghana, Burkina Faso, Mozambique, and India (www.washcost.info). While data on recurrent costs are not yet available from the project, a report on the use of cost data in countries where decentralized management of WASH systems are in place emphasizes the importance of collecting this information. According to Pezon (2010), planners at the state and national level and WASH project implementers are more aware of capital expenditure costs. This is confirmed by reports on the SWASH+ project that outline initial capital expenditures for the implementation of school WASH systems in Kenya (www.swashplus.org). Pezon (2010) describes how recurrent or 'life cycle' costs are poorly understood in WASHCost study countries. Similarly, the SWASH+ project lacks knowledge of life cycle costs of maintaining WASH systems in Kenyan primary schools, and the dearth of information on the subject indicates the need for research into these recurrent costs.

Conclusion

Numerous studies have focused on the effect of increased enrollment following the implementation of FPE in Kenya on quality of education, a system that operates within the larger context of decentralization and efforts to achieve UPE in sub-Saharan

Africa. The existence of challenges at the school level with FPE fund management, as well as corruption and fund mismanagement within the Ministry of Education, have been well documented. Several studies have focused on previous collaborations between the Ministry of Education and development partners to improve head teacher management skills, but few studies are available that assess the extent and quality of financial training given to head teachers at the national level. Furthermore, studies that quantify the financial, administrative, and policy gaps for the support of primary school programs such as WASH are very limited.

Numerous studies have discussed the significance of school WASH systems for improving child health and education quality. However, the sustainability of school WASH programs has not been well studied. In particular, little evidence is available to assess the financial sustainability of school WASH in Kenya. My study directly addresses this need by providing valuable information on the current state of financial management of WASH in Kenyan primary schools. Furthermore, the study characterizes budget and spending practices for sustaining school WASH that are currently not well understood. The results of the study will inform strategies for developing capacity at the school level for financial management, as well as advise central-level government of the financial requirements for maintaining systems promoted by national school WASH promotion strategies.

Chapter 3: Methods and Results

Introduction

The SWASH+ program has conducted limited research into spending and budgeting practices for WASH systems support at primary schools. This study is intended to fill this research gap. We will explore the recurrent costs for maintaining school WASH systems, as well as examine spending and budgeting practices for WASH systems repair, maintenance, and operations in greater detail.

Data collection was carried out at primary schools in Kenya that participate in SWASH+ program interventions due to the strong relationships between school head teachers and SWASH+ staff and the potential to collect extensive school-level information. Study instruments and methods were pilot tested at three SWASH+ primary schools in the Kisumu area. Results from the pilot tests were used to make changes to the instruments and methods, which were implemented prior to data collection at sample schools.

Research Design

The methods and materials used to collect data for this study were developed from January 2010 to May 2010. The research design was developed through collaboration with SWASH+ project partners at Emory University's Center for Global Safe Water and CARE Kenya. Preliminary information-gathering was conducted through literature reviews and discussions with SWASH+ partners.

Population and Sample

This study used a purposive sample of twenty participating schools in Nyanza Province that received water, sanitation, and/or hygiene interventions as part of the SWASH+ program's initial 185-school randomized trial designed to assess the health and educational impacts of school-based WASH interventions. Sample schools are located in Kabondo, Kadibo, East and West Karachuonyo, Miwani, and Muhoroni districts; schools in the district of Suba were excluded from eligibility due to geographic distance from the field operations base in Kisumu city. The sample pool was further reduced to 38 schools that had participated in a previous SWASH+ study on the quality of WASH systems upkeep, but were not currently participating in other research activities. A random sample of 20 schools out of the 38 remaining eligible schools was selected using random-number generation. Figure 2 displays the locations of sample schools in Nyanza Province.

Selected schools had all received one of three intervention packages in 2007:

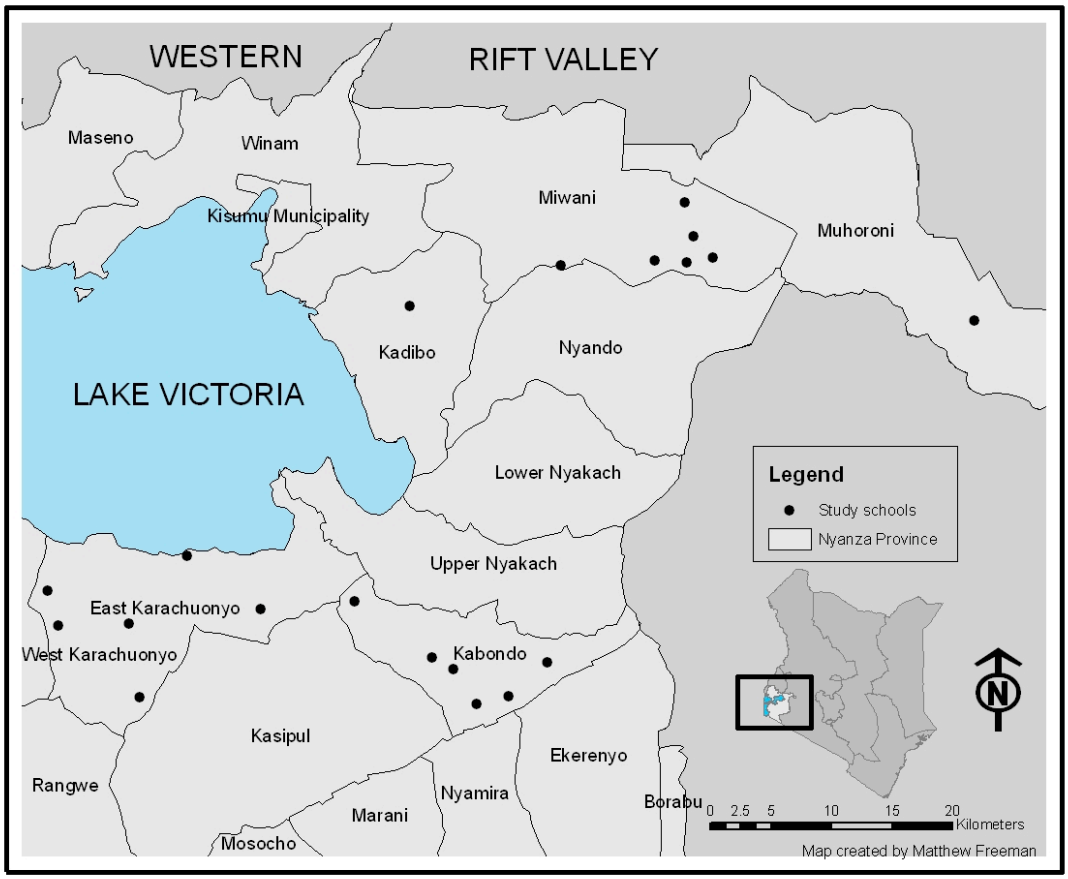
- Ten schools received the "base package," comprised of water treatment supplies (one case of WaterGuard[1]), safe storage containers (plastic buckets with taps and securely fastening lids), hand washing facilities (large plastic buckets with spigots for hand washing) and hygiene education.
- Six schools received the "base/sanitation package," including sanitation improvements in the form of new sanitation facilities and sanitation training and education.

[1] WaterGuard is 1.2% sodium hypochlorite solution manufactured by Population Services International (PSI) in Kenya. (*SWASH+ Baseline Report*)

- Four schools received the "water package," intended for schools without an improved water source. An improved water source (usually a borehole) was constructed with the intent of providing water to both the school and its associated communities.

Total enrollment at sample schools ranged from 125 to 674 pupils, with approximately 1:1 male to female pupil ratios.

Figure 2. Map of 20 Sample Schools in Kenya's Nyanza Province.



Procedures

Data collection at the sample schools consisted of two parts: 1. An examination of school financial records and 2. A head teacher survey. Budget record examinations were conducted at each school to collect data on expenses, budget planning, and funding sources, as well as to evaluate financial record-keeping practices. The head teacher survey was designed to collect data on recurrent costs for repair, maintenance, and operation of school WASH systems. This survey also collected data on budget and expense practices, such as funding allocation for school WASH support. The survey included questions about non-monetary costs for maintaining school WASH systems, such as travel time to purchase supplies and contract for services, and indirect costs such as time spent by school personnel on activities related to maintaining school WASH systems.

Head teachers at each school were contacted by mobile telephone in order to arrange a date and time to conduct the survey. Head teachers at all twenty sample schools possessed mobile phones and were successfully contacted. They were informed that the interview would collect data on expenditures and budgeting for school WASH systems upkeep. Head teachers were also asked to make available all budget and expense records for each account from which the school had utilized funding for school WASH support in the past school year on the day of the survey.

Head teacher surveys and budget record examinations were conducted by trained field staff fluent in English and Dholuo, the primary local language in the area of study. Field staff received training on study instruments and instruction on how to carry out surveys effectively. Field staff members were also instructed on how to create copies of

the budget and expense records. Copy machines were not expected to be available at schools, so field staff used digital cameras to photograph the data in these records. In some cases digital cameras were not available or able to be used in the field; in these cases, field staff copied by hand the data in the budget and expense records and took these copies with them.

In addition to the study activities at sample schools, field staff conducted a survey at local shops to determine the average cost and availability of supplies needed for WASH system repair, maintenance, and operation. A list of supplies was created for the shop survey by SWASH+ program partners based on their knowledge of WASH systems maintenance needs. The selection of shops surveyed was informed by the sample school head teachers, who were asked during the head teacher survey to indicate where supplies and materials for WASH systems were purchased for their school. Typically one to three shops were visited per school, for a total of approximately 45 shops surveyed. Shop workers were asked the cost of a list of items by the field workers, who recorded the stated price for each item that was available for sale in the shop.

Instruments

The head teacher survey was divided into nine sections as follows:

Part 1: Listing of stores where WASH supplies are purchased.

Part 2: Water collection systems

Part 3: Drinking water and hand washing systems

Part 4: Sanitation systems

Part 5: WASH education and school health clubs

Part 6: Donations of WASH supplies and services

Part 7: Transportation costs for acquiring WASH supplies and services

Part 8: Training and adult education on WASH

Part 9: Funding sources

Part 1 of the head teacher survey (Appendix 1) collected the names and locations of shops where WASH systems' supplies were purchased throughout the year, which in turn informed where the shop surveys would be conducted.

In Parts 2 through 5, head teachers were asked to answer questions about previously defined WASH supplies and services (e.g. hiring a repairman to fix broken latrine door) related to the repair, maintenance, and operation of each particular system. In order to capture the full range of WASH recurrent costs, descriptions of items and services that were not listed on the prepared list were solicited from the head teachers. This was accomplished by asking head teachers to list any supplies or services that had been purchased or needed by the school to support WASH systems in the past year that were not included on the prepared list. For both supplies and services on the prepared list and those described by head teachers, the survey asked if the item or service had been purchased in the past year, and if so, how much had been purchased and at what price. The survey also asked how much of the item or service had actually been needed in the past year, a question designed to determine if sufficient amounts of supplies and adequate service contracts had been available to the school.

Part 6 was designed to capture information on donated WASH supplies and services. The survey asked what, if any, supplies or services had been donated to the school for WASH systems support in the past year, and if those supplies and services

were already included in the school's yearly budget. The survey then asked how any budgeted funds were spent following the donation of the item or service for which the funds were originally intended.

Parts 7 and 8 gathered data on non-monetary and other expenses typically related to WASH systems support. This included questions to determine the time and money spent for transportation to purchase needed supplies and services for WASH systems. Questions were also asked about the time spent by school personnel in ongoing training and education sessions and management meetings related to school WASH.

Part 9 asked questions intended to determine what funding sources were used by schools to support school WASH systems. Specific questions related to the government's Free Primary Education funds were asked to determine how school administrators are incorporating recurrent school WASH system needs into their annual budgets. This section also collected data on other funding sources available to the schools for WASH systems support.

The shop survey (Appendix 2) was designed as a simple listing of WASH-related supplies commonly found in local shops. The shop survey tool included a place for the field staff to record the price and quantity of each item for supplies typically sold in multiple sizes, such as by the half liter or liter.

For both the head teacher and the shop surveys, field staff members were instructed to record the answers as given by the interviewee. In instances where the answers were unclear, field staff members were given instructions on how to probe interviewees to clarify or elaborate on their answers. In the head teacher survey, the field staff members were asked to verify with the interviewee that the stated annual total

amount spent on an item or service was consistent with the answers given for item or service price and amount purchased in a year. This was intended to ensure that errors in recall and calculation of total amount spent for WASH systems could be minimized.

Plans for Data Analysis

The amounts spent and quantities purchased for the respective supplies required to maintain school WASH systems will be totaled and used to determine the average expenditure and supply amount needed per pupil in an academic year. This will be done for the specific WASH systems (water collection, drinking water, hand washing, sanitation, and WASH education systems) to determine system-specific funding and supply needs. The same procedures will be used to analyze funding needs for services employed by the school per academic year for school WASH systems' repair, maintenance, and operations.

Frequency analyses will be carried out to assess the data collected in the transportation, education, and donations sections. These will be used to characterize school-level practices and their capacity for maintaining school WASH systems over time.

Budget and expense records will be reviewed both individually and against one another to characterize bookkeeping and accounting practices at the school level, and may be used to make inferences about the quality of these systems. We will compare budget and expense records to answers given in the head teacher survey in order to verify answers given by head teachers, and to identify any costs related to school WASH that may not have been captured in the head teacher survey.

Line items will be divided into WASH and non-WASH categories (e.g. textbooks), and the total amounts budgeted and spent in both categories will be determined and compared to assess how non-WASH expenses compete with school WASH systems for funding. Records will also be examined to determine what funding sources are used, and what percentage of each fund is used for WASH and non-WASH expenses.

The shop survey will be used to determine the average prices of commonly-used WASH supplies. These averages will be compared to the amounts spent in the head teacher surveys to determine if the amounts spent by schools are in line with average item costs.

Limitations

Limitations of the data collected in the head teacher survey include the possibility of recall bias, falsified answers, mistakes in calculation by head teachers, and researcher error. There is also a risk that observed budget and expense records may not represent original records, that they may be falsified or produced solely for the benefit of the researchers.

The relatively small sample size limits our ability to perform complex statistical analysis with a high level of confidence, but was necessary due to field office limitations.

Delimitations

The sample size of the study was geographically restricted to Kabondo, Kadibo, East and West Karachuonyo, Miwani, and Muhoroni districts. Suba district was included

in the initial SWASH+ research project, but due to its relative geographic isolation, SWASH+ schools in Suba were purposely excluded from this region during sample selection.

Pilot testing revealed that deputy head teachers and school WASH patrons were not typically aware of school expenditures and budget management processes. Therefore, it was decided following the pilot phase to conduct interviews with head teachers at all twenty sample schools in order to collect the most accurate information related to school financial management.

Definition of Terms

Drinking water systems: The provision at schools of adequate amounts of drinking water at treated with a disinfectant so as to ensure safety. These systems also encompass methods of drinking water dispensing, such as containers with taps.

Financial management practices: The methods, systems, and customs used at the school level for budgeting and spending of funds, and financial bookkeeping.

Free Primary Education (FPE): Kenya's system of providing a primary-level education to all citizens free of cost.

Hand washing systems: The SWASH+ hand washing system is composed of a container with a tap for dispensing clean water, and provision of soap in bar or liquid form.

Head teacher: The chief administrative officer at a primary school, responsible for school operations, financial management, compliance with national standards of education, and other responsibilities.

Hygiene promotion systems: The promotion of hygiene-supporting practices at schools through behavior education and provision of hygiene supplies, such as anal cleansing materials and sanitary napkins.

Non-monetary WASH expenses: School WASH support activities that require time expenditure rather than financial expenditures, such as time spent travelling to purchase WASH supplies.

Sanitation systems: The SWASH+ sanitation system design is comprised of child-friendly, gender-specific pit latrines surrounded by a superstructure of cement and wood with a functioning door and lock, with piping to reduce odor and flies.

School Management Committee (SMC): A committee providing support and oversight of primary school activities. The structure of SMC is as follows: Executive, secretary (the school head teacher serves as secretary), and chairman. Executives are responsible for financial management and appoint a committee for financial matters. Other members are parent representatives from each grade, who are involved in SMC elections and may serve on the financial management committee. District education officials may be involved in providing guidance and oversight.

School WASH supplies: Items purchased from a store to support school WASH activities (ex. soap for hand washing, WaterGuard for water treatment), to repair school WASH systems (ex. new taps for hand washing and drinking containers, equipment for repairing gutters) or to maintain school WASH systems (ex. brooms and buckets for cleaning latrines).

School WASH services: Repair, maintenance and operations-related activities for school WASH systems, typically performed by a paid outside contractor employed as needed by schools.

School WASH support: The ongoing repair, maintenance, and operations of school WASH systems following their implementation.

School WASH systems: Drinking water, hand washing, sanitation, and hygiene promotion systems.

Water collection systems: Devices designed to collect water for drinking, hand washing, and other school needs. These systems may include devices such as rainwater harvesting tanks, gutters, and boreholes, and may include the purchase of water from local vendors.

Results of Study

Study activities were carried out from May to June, 2010 in Nyanza Province, Kenya. Approval for the study was given by the IRBs of Emory University and Great Lakes University of Kenya (Appendix 3).

Determining School WASH Yearly Expenditures

Data on yearly WASH expenditures collected in the head teacher survey are presented in Table 2. Expenditures are divided into each WASH system by the total amount spent and amount spent per pupil in the past school year.

Table 2. Total expenditure (Ksh) in the most recent school year for WASH systems.

System	**N**	**Total Expenditures, Mean (Range)**	**Expenditures per Student, Mean (Range)**
All Water Collection **includes*	20	18,210 (0 – 70,590)	62 (0 – 184)
*Rainwater Harvesting	16	17,382 (1,550 – 68,190)	54 (2 – 136)
*Borehole	5	10,596 (3,500 – 19,460)	40 (17 – 70)
*Water Purchase	6	5,517 (1,800 – 10,800)	27 (4 – 86)
Drinking and Hand washing	20	4,936 (840 – 30,470)	14 (2 – 72)
Sanitation	20	9,935 (0 – 44,110)	24 (0 – 93)
Teacher/SMC Education and School Health Clubs	19	866 (0 – 2,850)	2 (0 – 8)
All WASH Systems	**20**	**33,903 (1,080 – 125,484)**	**103 (2 – 263)**

Sample schools displayed a wide range of spending on school WASH, ranging from a maximum of 263 Ksh per pupil to a minimum 2 Ksh per pupil. The category with highest mean expenditure per pupil was water collection, followed by sanitation, then drinking and hand washing systems. The category with lowest mean expenditure per pupil was for Teacher/SMC WASH Education and School Health Clubs.

Funding Sources

Nineteen of twenty schools surveyed utilized the FPE Grant to make purchases for school WASH in the past school year. The majority (n=17) of these schools took funds from the electricity, water, and conservancy (EWC) budget line of the FPE grant. The repair, maintenance, and improvement (RMI) (n=2) and contingency budget lines (n=2) were also utilized for WASH purchases. In this sample, an average of 28% (range 0-71%) of the annual FPE Grant per student allotment of 360 Ksh was spent on school WASH.

Two schools supplemented their WASH budgets by using school fees to purchase WASH services and supplies. Another two schools had received monetary contributions from NGOs, churches, women's groups or charities that were used for WASH. Two schools stated that WASH funding came from harambee (community donations), or from parents, individuals, SMC contributions, and teacher contributions. One school listed using revenue from water sales from the school borehole for WASH needs.

Supply Needs Analysis

In addition to quantifying expenditures on WASH, the head teacher survey provided data on unmet WASH needs. Head teachers provided estimates of the amount of WASH supplies needed in a school year to be sufficient for maintaining the program. Total funding amounts for schools to purchase sufficient supplies were calculated using these estimates multiplied by average supply costs collected in the shop survey.

Sanitation and hygiene required the highest annual funding amounts, followed by water collection, drinking water and hand washing. School health clubs and WASH education required the least amount of annual funding. Necessary funding amounts are described in table 3.

Table 3. Estimates of annual funding needed to purchase school WASH supplies by system based on reported need and average prices.

WASH System	Average Yearly Funding Need (Ksh)	Maximum Yearly Funding Need (Ksh)
Water Collection	71,874	256,136
Drinking Water and Hand washing	10,195	59,202
Sanitation and Hygiene	139,558	902,950
School Health Clubs and WASH Education	1,961	6,400

Reported Supply and Service Shortages

Shortages were widely reported for virtually all supplies. Toilet paper (n = 17), latrine cleaning supplies (n = 17), and writing materials for school health club activities (n = 16) were the most frequently mentioned shortages, followed by Waterguard, sanitary pads, drinking and hand washing containers. Schools commonly reported insufficient funds to obtain necessary latrine repair services, repair of drinking/hand washing containers, and latrine emptying services.

Supply and Service Needs Named by Head Teachers

Items and services most frequently mentioned by the head teacher during the head teacher survey which were not included in the prepared list were cups for drinking water;

padlocks for latrines, rainwater tanks, and borehole systems; and paint for latrine and rainwater tanks.

Observed Characteristics of Financial Planning in Schools

School officials interviewed during the pilot phase of the study were head teachers (the official in charge of school management), deputy head teachers (second in charge to the head teacher), and school WASH patrons (teachers given primary responsibility for the management and oversight of school WASH activities.) However, only the head teachers are consistently responsible for budget management and have knowledge of school budgeting and spending practices. Pilot interviews that attempted to gather information on expenditures from deputy head teachers or school WASH patrons were unsuccessful.

For the final data collection process, costing surveys were conducted only with head teachers. However, it was found that newly placed head teachers relied on the financial record-keeping of former head teachers. In some cases these records were incomplete or of poor quality and consistency which impacted the current head teacher's ability to answer questions.

The role of the School Management Committee (SMC) in the school budget planning process varied across the schools. In some schools, budget documents were part of minutes taken at SMC meetings. Notations indicated that votes were taken on budget planning measures, indicating a high level of involvement from the SMC with financial planning. Other school record examinations did not give any indication of the involvement or lack of involvement of SMCs in budget planning.

Characteristics of School Financial Documents

Schools provided a variety of documents for the study team to examine. The majority of records were from 2009 and 2010. Most documents were hand-written, with one school recording expenditures and budgets on a chalkboard. Some schools provided hand-copied or typewritten replications of records that were prepared in advance of the study team's arrival, which the study team was allowed to keep.

The majority of records provided did not clearly differentiate between actual expenditures and budgeted amounts. Some records appeared to reflect long-term school improvement plans or "wish lists," rather than working budget documents. Some schools provided only the FPE Grant allotment received or expected for the school year, without additional documentation of budget planning for the use of the fund.

A common issue found was the lack of differentiation between WASH and non-WASH expenses. School documents frequently grouped together budget items and expenses under a single category, such as repair and maintenance, without explanation of what is included in the category.

Non-Monetary Expenses of Maintaining a School WASH Program

Information on time spent by the respondent and other school personnel in education and review sessions for school WASH is reported in Table 4. Training and education sessions for WASH were defined as sessions spent learning about WASH management and techniques, and teaching other adults about WASH. Review sessions

were defined as staff meetings, assembly meetings, head teacher and patron meetings, and other regular meetings that focus on school WASH.

At a majority of schools, personnel spent 1 to 4 hours per month on both training and education sessions and review sessions for WASH. Head teachers and other teachers were the most frequently reported personnel to spend time in these sessions. SMC members and chairpersons were involved in trainings and/or review sessions at less than half of the school surveys.

Nineteen schools listed transportation fares as an expense, with a mean of 496 Ksh spent per month and a range of 100-1600 Ksh spent per month. The amount of time and distance travelled by school personnel each month is listed in Table 4.

Table 4. Characterizing travel and transportation responsibilities of school personnel for the purchase and transport of school WASH supplies and services.

Personnel Category	**Purchasing Responsibility at Schools** Sample n=20	**Monthly Travel Time in Hours** Mean (Range)	**Monthly Travel Distances in Kilometers** Mean (Range)
Head Teachers	n = 20	4 (1-24)	30 (1-120)
Deputy Head Teachers	n = 13	3 (0.2-12)	29 (1-120)
Senior Teacher	n = 6	3 (1-6)	26 (1-60)
Other Teachers	n = 6	1 (1-4)	18 (1-60)
School WASH Patrons	n = 6	3 (1-6)	16 (0.2-40)
SMC Members	n = 6	3 (1-5)	54 (10-160)

Five schools indicated they regularly send between 4 and 15 pupils to purchase or transport WASH supplies on a monthly basis. One school indicated that pupils were sent to perform these tasks during the school day, and four schools stated pupils were sent outside of class time. In these four schools, students spent between 30 minutes and four

hours outside of class time purchasing or transporting WASH supplies each month. One school mobilized the entire student population to transport construction supplies during the construction phase of a rainwater harvesting system. The monthly travel time given for pupils ranged from 20 minutes to 1 hour, and travel distance averaged 16 kilometers (range 0.2-60 kilometers.)

No schools reported parents being involved in the purchasing or transportation process of obtaining supplies and services for school WASH.

Donations

Eleven schools received donations of new drinking water and hand washing vessels in the past school year. Schools also reported receiving donations of sanitary towels (n=7), water treatment products (n=6), WASH education materials (n=3), construction of a rainwater harvesting system (n=2) and sand for construction (n=1).

Budgeting for these items prior to their donations varied across schools. No schools that received donations of sanitary towels, WASH education materials, or construction materials had previously budgeted for these items. Of all the schools that had received donations, only 2 of the 11 schools receiving new drinking water and hand washing vessels, 5 of the 6 receiving water treatment and one of the schools receiving a rainwater harvesting system had budgeted for the item prior to the donation.

The 8 schools that had previously budgeted for the items they subsequently received as donations reported that these budgeted funds were used to purchase more WASH supplies (n=5), or to purchase additional amounts of the items they had received as donations (n=3).

Budget record examinations of all schools showed no line items for in-kind contributions recorded by any school. However, head teachers were not specifically asked to show records related to donated items, so this absence may not be representative of school accounting for in-kind contributions.

Chapter 4: Discussion, Conclusions, and Recommendations

This study was intended to characterize the financial sustainability of school WASH programs in Kenya by examining expenditures and funding sources for school WASH systems maintenance and operation. Twenty schools that participated in the SWASH+ program in Nyanza Province were sampled. Surveys were conducted with head teachers to collect data on these topics, and school budget records were examined. As a result of this study a snapshot of school expenditures and the life-cycle costs for maintaining school WASH has been developed. While definitive conclusions about whether funding gaps exist for supporting school WASH in Kenya could not be drawn from this study, a greater understanding of how schools utilize decentralized funds such as the FPE Capitation Grant for supporting WASH systems has been achieved. The process and common practices of financial management at the primary school level have been described, as well as the nature of school WASH systems support within Kenya's system of decentralized school financial management.

Discussion of Findings

The success or failure of Kenya's decentralized system of school financial management depends in large part on the capacity of primary school administrators to manage limited resources with limited means. Issues of transparency and mismanagement, resource allocation, and financial management capacity may represent some of the most critical factors to the sustainability of school health interventions such as WASH programs.

The variation in school WASH systems expenditure and financial planning displayed in this study is not surprising when considering that one of the main purposes of decentralized financial management is to enable "on the ground" stakeholders to allocate resources to areas of priority that they identify. This autonomy in financial decision-making represents the kind of self-determination and local-level capacity that is often espoused by development partners, and should not be simplified as the failure of schools to maintain WASH systems and other health and education interventions. However, the underlying reasons for variation in financial management should be addressed in order to inform future interventions, and the results of this study provide valuable descriptive information to guide future inquiry.

While decentralization of FPE funds management is intended to allow for flexibility in allocation of funds for school-specific needs, lack of transparency and the potential for misuse of funds at the school level are major concerns. Motives for financial mismanagement are apparent given the challenges of overcrowding and poor resource allocation faced by schools following the implementation of FPE as described by Uwakwe (2008), Nungu (2010), and Sawamura (2008). Head teachers are especially under pressure to meet the expectations of parents, government, development partners, and others to live up to the standards set for academic achievement, student health, and school facilities.

The burden of responsibility for financial management coupled with inadequate support is likely a factor in financial mismanagement as head teachers struggle to allocate limited funds to multiple areas of priority. Furthermore, disinterest in financial management and/or the lack of time to fit these responsibilities into the already full

schedule of a head teacher may impact the quality of financial management. The lack of support services for accounting and book-keeping activities as described by Akech (2010) may further compromise the capacity of head teachers to effectively integrate financial management responsibilities into their workload.

Management of financial matters at the school level may be influenced by the degree of financial mismanagement perceived to exist at the central level, as described in reports of corruption within the Ministry of Education by Parajuli (2001), Crook (2003), and various news sources. A culture of corruption is pervasive in Kenya's institutions, and as noted by Crook (2003), decentralization efforts may be crippled by unequal resource distribution based on political ties. These challenges might influence the financial management of FPE funds at the school level and thereby impact the sustainability of school health interventions.

A lack of transparency in matters of financial management is apparent in some schools examined in this study. Head teachers hold primary responsibility for accounting, and the access of other school personnel to financial records appears limited. The inability of deputy head teachers to provide information on school expenditures uncovered in the pilot phase of the study indicates a lack of knowledge-sharing amongst school personnel in financial planning, even between the head teacher and their second-in-command.

SMC members at several schools appear to play a significant role in financial planning as evidenced in records of SMC meetings where budget and spending votes were taken. This level of involvement indicates more transparent financial management practices, with multiple stakeholders participating in the decision-making process.

However, the financial records of other schools do not indicate involvement of SMCs, and we can conclude that the level of involvement of parties other than the head teacher in financial management matters varies considerably across schools.

Efforts to encourage transparency in financial management were occasionally observed at the sample schools. One school appeared to make an active effort to ensure transparency in financial matters by displaying the current balances of its FPE funds on a chalkboard prominently displayed on an office wall. Other schools listed the initial amounts received each year from the FPE capitation grant on pieces of paper taped to walls, but did not openly display the current balances of the accounts.

Mismanagement of school funds, whether intentional or accidental, must be considered as a variable affecting the financial sustainability of WASH systems and other school-level interventions. Corruption may result in purposeful mishandling of funds allocated through the FPE Capitation Grant, but mismanagement may unintentionally occur as a result of poor capacity for financial management at schools. As described by Nishimura (2008) and CARE partners Mwaki and Okech (2011), the lack of readily available, high-quality opportunities for ongoing financial management training provided by the central government to school administrators may explain the variation in financial management practices described in this study.

School budgets do not appear to fit a standard template or model, resulting in vastly different recording systems across and within schools. There is a lack of a "gold standard" for school budget templates, which further contributes to variation. Errors in calculation, poor organization, and inconsistent methods of record-keeping indicate that

lack of experience with financial planning and recording on the part of head teachers may play a role in schools' financial situations.

Poor quality of records and inconsistent accounting practices may result in a lack of transparency and accountability for financial management. The ability to discipline or replace a head teacher who is negligent in financial management may be constrained by a lack of evidence provided by financial records. Turnover of head teachers results in reliance on previous head teachers' budget records, which can be problematic if records are poor or nonexistent. The ability of SMCs and deputy head teachers to contribute to financial planning may be limited by the poor foundations laid by former head teachers or current head teachers who engage in poor accounting practices.

The findings from this study suggest that capacity for financial planning and effective budgeting at the school level is critical to maintaining school WASH standards within a decentralized financial management system. The overall effectiveness of school-level financial management relies on the ability of head teachers to fulfill the role of accountants, budget planners, and purchasers in addition to carrying out their other roles at the school. Financial management training provided to head teachers lacks standardization and consistency, and this poses a significant barrier to the success of decentralized school financial management in Kenya.

All schools demonstrated constraints in their ability to financially sustain school WASH programs, though whether these constraints are due to insufficient funding, inadequate financial planning on the part of head teachers, or other reasons are unclear. Cost-saving measures such as purchasing less than the necessary amount of supplies, relying on donated supplies and services not in the yearly budget, and having students

perform tasks rather than hiring outside services were regularly utilized by schools. These measures may be problematic and lead to poor financial forecasting, undersupplying of school programs, and loss of learning time for students; however, these coping strategies make sense given the constraints faced by head teachers.

Reliance on donated items may result in a lack of financial planning, especially if schools regularly expect donated items and do not build costs into annual budgets. Schools in this sample showed varying levels of preparedness by budgeting for needed items independent of donations; however, it is not known if schools were aware of forthcoming donations when annual budgets were set or if the donated items had been considered necessary by schools during their budgeting process.

While national standards for school WASH have been set forth (Kenya Ministry of Education, 2008) financial support for school WASH is inconsistent across the country. Funding for recurrent costs of WASH systems has not been incorporated into the FPE capitation grant but instead is distributed via KESSP to selected schools. Due to this lack of a consistent funding source, head teachers appear to be fitting WASH expenses into the budget lines they feel most appropriate, namely the electricity, water and conservancy (EWC) and repair, maintenance, and improvement (RMI) budget lines of the FPE capitation grant. This raises the concern that funds allocated to these lines may not be sufficient to cover both WASH and non-WASH expenses.

While this study did not explore what areas of spending may be reduced or compromised in order to support increased school WASH expenditures, we can infer that difficult choices must be made on how limited FPE funds are spent. Decisions on how to utilize limited funds may further promote financial mismanagement when combined with

external pressure to achieve specific results. The temptation to cannibalize funds originally allocated by the school for WASH needs may arise when external forces prioritize other areas, such as increasing test scores or improving infrastructure.

The financial sustainability of school WASH interventions is intertwined with the overall issue of the sustainability of decentralized school financial management in Kenya. It is important to assess the role of school-level financial management practices and training needs in conjunction with the state of financial support provided through funds such as the FPE Capitation Grant and KESSP before conclusions are drawn regarding the sufficiency of funds provided for WASH systems upkeep.

Limitations of Assessment

Limitations of expenditure data include the possibility of recall bias, falsified answers, mistakes in calculation by head teachers, and researcher error. In order to verify the answers given in the head teacher survey, we attempted to compare answers to the budget records given by each school. However, this was not feasible due to inconsistent and poor quality budget records that could not easily be compared to stated expenditures.

Incorrect estimates of total supply needs may have resulted from heterogeneity of units of measurement given in survey answers. For example, answers about the amount of cement purchased in a year included “7 tonnes,” “1 lorry,” “1 truckload.” Researchers attempted to standardize answers during the data cleaning process, but the ambiguity of some respondent’s answers may have resulted in incorrect estimates.

A total estimate of necessary funding for WASH repair and maintenance services could not be determined without service pricing information, which was not collected in

this study. Since service costs make up a significant component of overall WASH recurrent costs, it will be necessary to determine annual funding needs to purchase needed services for WASH systems.

Conclusions

Variation in school WASH financial management may obscure issues of funding and resource capacity. Kenyan primary schools must operate with limited resources that are further constrained by their pre-determined allocations, but the ultimate decision for how funds are spent lies with the head teacher. It is not enough to determine if government-allocated funds are sufficient to cover the costs of sustaining school WASH systems; the decisions made by head teachers play a significant role in how far funds stretch and what they cover, and this decision-making process is therefore a significant factor influencing the financial sustainability of WASH programs.

Kenya's decentralized system of school financial management has significant implications for school health programming. Decisions made at the school level may not represent the priorities of program partners such as SWASH+ and the planners of Kenya's National School WASH Strategy. Insufficient financial support for WASH systems at the school level may occur despite the wishes of program partners to maintain a certain level of systems upkeep. This variation at the school level must be considered when programs are designed and implemented, and policies designed to account for this variation.

Lastly, sufficient funding must be delivered to Kenya's primary schools if school WASH systems are to be installed and maintained within national standards. While this

study has not determined if existing funds received by primary schools to support school WASH are sufficient, the issue of funding is a determining factor of the success of school WASH programming in Kenya. Mismanagement and corruption within the Kenyan Ministry of Education poses a challenge to the sustainability of school health programs and the Free Primary Education system as a whole. These issues must be investigated and addressed as part of a systems-wide reform to address the shortcomings of Kenya's FPE system.

Implications and Recommendations

The contexts within which individual schools operate must be considered as part of overall financial planning for school management of WASH systems, particularly when responsibility for management of WASH systems sponsored or installed by outside organizations is shifted to school personnel. Government and program partners seeking to improve WASH services at the school level need to possess a thorough understanding of individual school contexts and the decision-making process of head teachers and others with responsibility for financial management in order to design sustainable systems.

More information is needed on how head teachers are prioritizing WASH expenses within the FPE Capitation Grant's budget lines, and what non-WASH expenses are competing for these funds. This information may inform the understanding of how school WASH systems may fare in the Kenyan primary school environment with its existing financial management system and support structures.

Schools may be faced with short- and long-term challenges that shift focus away from school WASH, resulting in insufficient expenditure for maintaining WASH

systems. Head teachers may choose not to prioritize WASH when weighed against the school's other needs, or may prioritize aspects of WASH systems that partnering organizations might consider superfluous, e.g. nicely painted latrine exteriors.

All schools in this study reported purchasing less than the necessary amounts of supplies and services to maintain school WASH systems. Schools' lack of ability to make regular supply purchases and hire outside services to perform maintenance tasks may indicate that the construction of large-scale structures such as latrines and rainwater harvesting systems may not be practical for schools unable to sustain smaller-scale interventions such as drinking water treatment and hand washing systems.

Further research into the financial planning capabilities of school personnel would add depth to the information gathered in this study. Head teachers could be interviewed to obtain information about their training and backgrounds in budget planning and financial record-keeping. This information might allow WASH program planners to identify weaknesses in financial management that may need to be addressed before WASH program management is handed over to schools.

The information found in this study indicates that the lack of a standardized budgeting system within primary schools may be problematic for financial auditing and oversight of school financial management. I recommend that a standardized school budget document be utilized by all primary schools in Kenya, which would include line items for the FPE Capitation Grant. This document should be used by head teachers, deputy head teachers, and SMC members to plan and allocate budget amounts; involvement of multiple stakeholders in this process will increase transparency in the financial process and allocate responsibility for budgeting beyond the head teacher.

More information will be needed to determine if current funding received from the Kenyan government, primarily the FPE Grant, is sufficient for primary schools to sustain a successful school WASH program. While it is generally assumed by WASH program implementers that government funding for maintaining WASH systems is insufficient, additional research should be conducted to further assess the recurrent costs of school WASH before drawing this conclusion.

Closing

The adequacy of the FPE Capitation Grant and other funds available to primary schools to ensure infrastructure maintenance, repair, and operations could not be determined by this study, but the description of school-level WASH systems support practices provided by this study illustrates the realities of decentralized financial management in primary schools in Kenya. Furthermore, this study provides detailed information on the strategies head teachers are using to sustain school WASH systems utilizing decentralized FPE funds, and provides insight into possible limitations of school-level financial management capacity.

The results of this study can inform public health programmers and the Kenyan government of the current conditions of school WASH systems support in Kenyan primary schools. This evidence should be used to inform strategies and improve support for the Kenyan National WASH Strategy and other primary school health and education programs that operate within Kenya's FPE system.

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Appendix 1: Head Teacher Survey

SCHOOL CODE:_____

HEAD TEACHER NAME:_____

INTERVIEWER NAME:_____

DATE OF INTERVIEW:_____

The purpose of this interview is to learn about what it costs your school to maintain the Water, Sanitation, and Hygiene (WASH) program. In the first section, I will be asking you questions about what items and services your school purchases for school WASH. The second part of the interview will ask you to answer a few questions about items and services that have been donated to the school to support the WASH program. Then, I will ask you several questions about the transportation costs associated with the WASH program. The next part of the interview will be about the time that teachers and school management committee members spend each year in training and education sessions about school WASH. And the last part of the interview will ask you to tell us about the funding sources your school uses for school WASH, as well as how your school prioritizes the WASH program during annual budget planning.

If you have any questions, you can stop me at any time during this interview. If you do not wish to answer a question, we will skip it and move to the next question. Are you ready to begin?

Part 0. STORE LISTINGS

S.0. To begin, can you please tell me the names and locations of the shops and stores where your school purchases supplies for school WASH?

S.10. Store name:_____S.11 Location: _____

S.20. Store name:_____ S.12 Location: _____

S.30. Store name:_____ S.13 Location: _____

Part I. WATER COLLECTION

In this first section I'd like to ask you some questions about your school's expenses related to WATER COLLECTION.

RH0.1 **Does the school have a RAINWATER HARVESTING SYSTEM?**
(**Circle one**) **1. Yes 2. No →** *Q. 7.0*

First, I will ask you about the SUPPLIES AND EQUIPMENT your school uses for the RAINWATER HARVESTING SYSTEM. We don't need to know how much your school spent when the system was first installed. We only need to know how much your school continues to spend to maintain the rainwater harvesting system over time.

RH1.0 **Does the school purchase the following items for the RAINWATER HARVESTING SYSTEM?**

Item description	**1. Has the school purchased this item in the past school year?**	**2. How much of this item has the school purchased in the past school year?**	**3. What is the price of a single unit of this item at the shop?**	**4. How much money has the school spent to purchase this item at the shop in the past school year?**	**5. How much of this item has the school needed in the past school year?**
Soap for cleaning inside of tanks RH1.1	1. **Yes** RH1.11 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH1.12 1. _____units 999. **Don't know**	RH1.13 1. _____ ksh 999. **Don't know**	RH1.14 1. _____ ksh 999. **Don't know**	RH1.15 1. _____ units 999. **Don't know**
Disinfectant solution for cleaning inside of tanks RH1.2	1. **Yes** RH1.21 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH1.22 1. _____units 999. **Don't know**	RH1.23 1. _____ ksh 999. **Don't know**	RH1.24 1. _____ ksh 999. **Don't know**	RH1.25 1. _____ units 999. **Don't know**
Ladders for reaching gutters RH1.3	1. **Yes** RH1.31 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH1.32 1. _____units 999. **Don't know**	RH1.33 1. _____ ksh 999. **Don't know**	RH1.34 1. _____ ksh 999. **Don't know**	RH1.35 1. _____ units 999. **Don't know**
Brooms for sweeping gutters and tank RH1.4	1. **Yes** RH1.41 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH1.42 1. _____units 999. **Don't know**	RH1.43 1. _____ ksh 999. **Don't know**	RH1.44 1. _____ ksh 999. **Don't know**	RH1.45 1. _____ units 999. **Don't know**
Insect screens for tank repair RH1.5	1. **Yes** RH1.51 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH1.52 1. _____units 999. **Don't know**	RH1.53 1. _____ ksh 999. **Don't know**	RH1.54 1. _____ ksh 999. **Don't know**	RH1.55 1. _____ units 999. **Don't know**
Bitumen (Bondex) for rainwater pipe repair RH1.6	1. **Yes** RH1.61 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH1.62 1. _____units 999. **Don't know**	RH1.63 1. _____ ksh 999. **Don't know**	RH1.64 1. _____ ksh 999. **Don't know**	RH1.65 1. _____ units 999. **Don't know**
Taps for tank repair RH1.7	1. **Yes** RH1.71 2. **No** → Q.3, Q.5. 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH1.72 1. _____units 999. **Don't know**	RH1.73 1. _____ ksh 999. **Don't know**	RH1.74 1. _____ ksh 999. **Don't know**	RH1.75 1. _____ units 999. **Don't know**

Item description	**1. Has the school purchased this item in the past school year?**	**2. How much of this item has the school purchased in the past school year?**	**3. What is the price of a single unit of this item at the shop?**	**4. How much money has the school spent to purchase this item at the shop in the past school year?**	**5. How much of this item has the school needed in the past school year?**
Elbows for pipe repair RH1.8	1. **Yes** RH1.81 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH1.82 1. _____units 999. **Don't know**	RH1.83 1. _____ ksh 999. **Don't know**	RH1.84 1. _____ ksh 999. **Don't know**	RH1.85 1. _____ units 999. **Don't know**
Downpipes for repair RH1.9	1. **Yes** RH1.91 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH1.92 1. _____units 999. **Don't know**	RH1.93 1. _____ ksh 999. **Don't know**	RH1.94 1. _____ ksh 999. **Don't know**	RH1.95 1. _____ units 999. **Don't know**
Cement for tank repair RH1.10	1. **Yes** RH1.101 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH1.102 1. _____units 999. **Don't know**	RH1.103 1. _____ ksh 999. **Don't know**	RH1.104 _____ ksh 999. **Don't know**	RH1.105 1. _____ units 999. **Don't know**
Sand mortar for tank repair RH1.11	1. **Yes** RH1.111 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH1.112 1. _____units 999. **Don't know**	RH1.113 1. _____ ksh 999. **Don't know**	RH1.114 1. _____ ksh 999. **Don't know**	RH1.115 1. _____ units 999. **Don't know**
Manhole cover replacement for tank RH1.12	1. **Yes** RH1.121 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH1.122 1. _____units 999. **Don't know**	RH1.123 1. _____ ksh 999. **Don't know**	RH1.124 1. _____ ksh 999. **Don't know**	RH1.125 1. _____ units 999. **Don't know**
Gutters for repair RH1.13	1. **Yes** RH1.131 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH1.132 1. _____units 999. **Don't know**	RH1.133 1. _____ ksh 999. **Don't know**	RH1.134 1. _____ ksh 999. **Don't know**	RH1.135 1. _____ units 999. **Don't know**

RH2.0. Are there any additional supplies or equipment that the school needs for the rainwater harvesting system I have not mentioned?
*(**Circle one**)* **1. Yes** **2. No** → *RH3.0*

Item description	**1. Has the school purchased this item in the past school year?**	**2. How much of this item has the school purchased in the past school year?**	**3. What is the price of a single unit of this item at the shop?**	**4. How much money has the school spent to purchase this item at the shop in the past school year?**	**5. How much of this item has the school needed in the past school year?**
RH2.1 _____	1. **Yes** RH2.11 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH2.12 1. _____units 999. **Don't know**	RH2.13 1. _____ ksh 999. **Don't know**	RH2.14 1. _____ ksh 999. **Don't know**	RH2.15 1. _____ units 999. **Don't know**
RH2.2 _____	1. **Yes** RH2.21 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH2.22 1. _____units 999. **Don't know**	RH2.23 1. _____ ksh 999. **Don't know**	RH2.24 1. _____ ksh 999. **Don't know**	RH2.25 1. _____ units 999. **Don't know**

Item description	**1. Has the school purchased this item in the past school year?**	**2. How much of this item has the school purchased in the past school year?**	**3. What is the price of a single unit of this item at the shop?**	**4. How much money has the school spent to purchase this item at the shop in the past school year?**	**5. How much of this item has the school needed in the past school year?**
RH2.3 _____	1. **Yes** RH2.31 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH2.32 1. _____units 999. **Don't know**	RH2.33 1. _____ ksh 999. **Don't know**	RH2.34 1. _____ ksh 999. **Don't know**	RH2.35 1. _____ units 999. **Don't know**

Now I'd like to ask you some questions about the SERVICES your school purchases to maintain the RAINWATER HARVESTING SYSTEM.

RH3.0. Do you know how much the school pays for all repair and maintenance services to maintain the RAINWATER HARVESTING SYSTEM combined?
*(**Circle one**)* **1. Yes** **2. No →** *RH5.0*

RH4.0. How much does the school pay each year for all repair and maintenance services to maintain the RAINWATER HARVESTING SYSTEM?

1. _____ ksh **999. Don't know**

RH5.0. Does the school purchase the following services to maintain the RAINWATER HARVESTING SYSTEM?

Service description	**1. Has the school purchased this service in the past school year?**	**2. How many times has this service been purchased by the school in the past school year?**	**3. How much does it cost to pay the provider to perform this service one time?**	**4. How much money has the school spent to purchase this service from the provider in the past school year?**	**5. How many times has the school needed this service in the past school year?**
Repair of the gutters RH5.1	1. **Yes** RH5.11 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH5.12 1. _____times 999. **Don't know**	RH5.13 1. _____ ksh 999. **Don't know**	RH5.14 1. _____ ksh 999. **Don't know**	RH5.15 1. _____ times 999. **Don't know**
Replacement of tap for tank RH5.2	1. **Yes** RH5.21 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH5.22 1. _____ times 999. **Don't know**	RH5.23 1. _____ ksh 999. **Don't know**	RH5.24 1. _____ ksh 999. **Don't know**	RH5.25 1. _____ times 999. **Don't know**
Masonry of walls and floor of tank RH5.3	1. **Yes** RH5.31 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH5.32 1. _____ times 999. **Don't know**	RH5.33 1. _____ ksh 999. **Don't know**	RH5.34 1. _____ ksh 999. **Don't know**	RH5.35 1. _____times 999. **Don't know**

RH6.0. Are there any additional services that the school needs for the rainwater harvesting system I have not mentioned?
*(**Circle one**)* **1. Yes** **2. No →** Q. 7.0

Service description	**1. Has the school purchased this service in the past school year?**	**2. How many times has this service been purchased by the school in the past school year?**	**3. How much does it cost to pay the provider to perform this service one time?**	**4. How much money has the school spent to purchase this service from the provider in the past school year?**	**5. How many times has the school needed this service in the past school year?**
RH6.1 _____	1. **Yes** RH6.11 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH6.12 1. _____times 999. **Don't know**	RH6.13 1. _____ ksh 999. **Don't know**	RH6.14 1. _____ ksh 999. **Don't know**	RH6.15 1. _____ times 999. **Don't know**
RH6.2 _____	1. **Yes** RH6.21 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH6.22 1. _____times 999. **Don't know**	RH6.23 1. _____ ksh 999. **Don't know**	RH6.24 1. _____ ksh 999. **Don't know**	RH6.25 1. _____ times 999. **Don't know**
RH6.3 _____	1. **Yes** RH6.31 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH6.32 1. _____times 999. **Don't know**	RH6.33 1. _____ ksh 999. **Don't know**	RH6.34 1. _____ ksh 999. **Don't know**	RH6.35 1. _____ times 999. **Don't know**

RH7.0 Does the school use a BOREHOLE? *(**Circle one**)* **1. Yes** **2. No →** *Q. 12.0*

RH8.0 Is the BOREHOLE on the school's property? *(**Circle one**)* **1. Yes** **2. No**

RH9.0 Does the school pay for maintenance and repair of the BOREHOLE? *(**Circle one**)* **1. Yes** **2. No →** *Q. 12.0*

RH10.0 Please list any supplies or equipment the school purchases for maintenance of the BOREHOLE.

Item description	**1. Has the school purchased this item in the past school year?**	**2. How much of this item has the school purchased in the past school year?**	**3. What is the price of a single unit of this item at the shop?**	**4. How much money has the school spent to purchase this item at the shop in the past school year?**	**5. How much of this item has the school needed in the past school year?**
RH10.1 _____	1. **Yes** RH10.11 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH10.12 1. _____units 999. **Don't know**	RH10.13 1. _____ ksh 999. **Don't know**	RH10.14 1. _____ ksh 999. **Don't know**	RH10.15 1. _____ units 999. **Don't know**
RH10.2 _____	1. **Yes** RH10.21 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH10.22 1. _____units 999. **Don't know**	RH10.23 1. _____ ksh 999. **Don't know**	RH10.24 1. _____ ksh 999. **Don't know**	RH10.25 1. _____ units 999. **Don't know**
RH10.3 _____	1. **Yes** RH10.31 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH10.32 1. _____units 999. **Don't know**	RH10.33 1. _____ ksh 999. **Don't know**	RH10.34 1. _____ ksh 999. **Don't know**	RH10.35 1. _____ units 999. **Don't know**

RH11.0 Please list any services the school purchases to maintain and repair the BOREHOLE.

Service description	**1. Has the school purchased this service in the past school year?**	**2. How many times has this service been purchased by the school in the past school year?**	**3. How much does it cost to pay the provider to perform this service one time?**	**4. How much money has the school spent to purchase this service from the provider in the past school year?**	**5. How many times has the school needed this service in the past school year?**
RH11.1 _____	1. **Yes** RH11.11 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH11.12 1. _____times 999. **Don't know**	RH11.13 1. _____ ksh 999. **Don't know**	RH11.14 1. _____ ksh 999. **Don't know**	RH11.15 1. _____ times 999. **Don't know**
RH11.2 _____	1. **Yes** RH11.21 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH11.22 1. _____times 999. **Don't know**	RH11.23 1. _____ ksh 999. **Don't know**	RH11.24 1. _____ ksh 999. **Don't know**	RH11.25 1. _____ times 999. **Don't know**
RH11.3 _____	1. **Yes** RH11.31 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH11.32 1. _____times 999. **Don't know**	RH11.33 1. _____ ksh 999. **Don't know**	RH11.34 1. _____ ksh 999. **Don't know**	RH11.35 1. _____ times 999. **Don't know**
RH11.4 _____	1. **Yes** RH11.41 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH11.42 1. _____times 999. **Don't know**	RH11.43 1. _____ ksh 999. **Don't know**	RH11.44 1. _____ ksh 999. **Don't know**	RH11.45 1. _____ times 999. **Don't know**

RH12.0 Does the school BUY WATER?

*(**Circle one**)* **1. Yes** **2. No** → Part II. DRINKING WATER AND HANDWASHING SYSTEM

RH13.0 Please list the school's expenses related to BUYING WATER.

Item/service description	**1. Has the school purchased this item/service in the past school year?**	**2. How much of this item/service has the school purchased in the past school year?**	**3. What is the price of a unit of this item / the price of this service>**	**4. How much money has the school spent to purchase this item/service in the past school year?**	**5. How much of this item/service has the school needed in the past school year?**
RH13.1 _____	1. **Yes** RH13.11 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH13.12 1. _____units 999. **Don't know**	RH13.13 1. _____ ksh 999. **Don't know**	RH13.14 1. _____ ksh 999. **Don't know**	RH13.15 1. _____ units 999. **Don't know**
RH13.2 _____	1. **Yes** RH13.21 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH13.22 1. _____units 999. **Don't know**	RH13.23 1. _____ ksh 999. **Don't know**	RH13.24 1. _____ ksh 999. **Don't know**	RH13.25 1. _____ units 999. **Don't know**
RH13.3 _____	1. **Yes** RH13.31 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	RH13.32 1. _____units 999. **Don't know**	RH13.33 1. _____ ksh 999. **Don't know**	RH13.34 1. _____ ksh 999. **Don't know**	RH13.35 1. _____ units 999. **Don't know**

Part II. DRINKING WATER AND HANDWASHING SYSTEM

DW0.1 **Does the school have a DRINKING WATER SYSTEM FOR PUPILS?** (**Circle one**) **1. Yes 2. No**
DW0.2 **Does the school have a HANDWASHING SYSTEM FOR PUPILS?** (**Circle one**) **1. Yes 2. No**

*(**If NO, NO → Part III: SANITATION SYSTEM)*

Now I'd like to ask you some questions about supplies and services your school needs to maintain the DRINKING WATER AND HANDWASHING SYSTEMS FOR THE PUPILS. We don't need to know how much your school spent when the systems were implemented. We only need to know how much your school continues to spend to maintain these systems at the school over time.

DW1.0. First, I would like to ask you a few questions about WATER PURIFICATION ITEMS FOR PUPILS.

Item	**1. Has the school purchased this item the past school year?**	**2. How much of this item has the school purchased in the past school year?**	**3. What is the price of a single unit of this item at the shop?**	**4. How much money has the school spent to purchase this item at the shop in the past school year?**	**5. How much of this item has the school needed in the past school year?**
Aquatabs DW1.1	1. **Yes** DW1.11 2. **No** → Q.3, Q.5 999. **Don't know** → Q. 3, Q.5 *(** Circle one **)*	DW1.12 **1.**_____ units **999. Don't know**	DW1.13 1. _____ ksh **999. Don't know**	DW1.14 1._____ ksh **999. Don't know**	DW1.15 1._____ units **999. Don't know**
Chlorine for water purification DW1.2	1. **Yes** DW1.21 2. **No** → Q.3, Q.5 999. **Don't know** → Q. 3, Q.5 *(** Circle one **)*	DW1.22 **1.**_____ units **999. Don't know**	DW1.23 **1.**_____ ksh **999. Don't know**	DW1.24 **1.**_____ ksh **999. Don't know**	DW1.25 **1.**_____ units **999. Don't know**
Jik for water purification DW1.3	1. **Yes** DW1.31 2. **No** → Q.3, Q.5 999. **Don't know** → Q. 3, Q.5 *(** Circle one **)*	DW1.32 **1.**_____ units **999. Don't know**	DW1.33 1._____ ksh **999. Don't know**	DW1.34 1._____ ksh **999. Don't know**	DW1.35 1._____ units **999. Don't know**
AquaGuard / WaterGuard DW1.4	1. **Yes** DW1.41 2. **No** → Q.3, Q.5 999. **Don't know** → Q. 3, Q.5 *(** Circle one **)*	DW1.42 1._____ units **999. Don't know**	DW1.43 1._____ ksh **999. Don't know**	DW1.44 1._____ ksh **999. Don't know**	DW1.45 1._____ units **999. Don't know**
Alum sulphate DW1.5	1. **Yes** DW1.51 2. **No** → Q.3, Q.5 999. **Don't know** → Q. 3, Q.5 *(** Circle one **)*	DW1.52 1._____ units **999. Don't know**	DW1.53 1._____ ksh **999. Don't know**	DW1.54 1._____ ksh **999. Don't know**	DW1.55 1._____ units **999. Don't know**
Cloth filter DW1.6	1. **Yes** DW1.61 2. **No** → Q.3, Q.5 999. **Don't know** → Q. 3, Q.5 *(** Circle one **)*	DW1.62 1._____ units **999. Don't know**	DW1.63 1._____ ksh **999. Don't know**	DW1.64 1._____ ksh **999. Don't know**	DW1.65 1._____ units **999. Don't know**
Biosand filter DW1.7	1. **Yes** DW1.71 2. **No** → Q.3, Q.5 999. **Don't know** → Q. 3, Q.5 *(** Circle one **)*	DW1.72 1._____ units **999. Don't know**	DW1.73 1._____ ksh **999. Don't know**	DW1.74 1._____ ksh **999. Don't know**	DW1.75 1._____ units **999. Don't know**
PUR DW1.8	1. **Yes** DW1.81 2. **No** → Q.3, Q.5 999. **Don't know** → Q. 3, Q.5 *(** Circle one **)*	DW1.82 1._____ units **999. Don't know**	DW1.83 1._____ ksh **999. Don't know**	DW1.84 1._____ ksh **999. Don't know**	DW1.85 1._____ units **999. Don't know**

Item	**1. Has the school purchased this item the past school year?**	**2. How much of this item has the school purchased in the past school year?**	**3. What is the price of a single unit of this item at the shop?**	**4. How much money has the school spent to purchase this item at the shop in the past school year?**	**5. How much of this item has the school needed in the past school year?**
Other: _____ DW1.9	1. **Yes** DW1.91 2. **No** → Q.3, Q.5 999. **Don't know** → Q. 3, Q.5 *(** Circle one **)*	DW1.92 1._____ units **999. Don't know**	DW1.93 1._____ ksh **999. Don't know**	DW1.94 1._____ ksh **999. Don't know**	DW1.95 1._____ units **999. Don't know**

DW2.0. Does the school purchase the following items for the DRINKING WATER AND HANDWASHING SYSTEMS FOR PUPILS?

Item description	**1. Has the school purchased this item in the past school year?**	**2. How much of this item has the school purchased in the past school year?**	**3. What is the price of a single unit of this item at the shop?**	**4. How much money has the school spent to purchase this item at the shop in the past school year?**	**5. How much of this item has the school needed in the past school year?**
For PUR users only **Decanting stick** DW2.1	1. **Yes** DW2.11 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	DW2.12 1. _____units 999. **Don't know**	DW2.13 1. _____ ksh 999. **Don't know**	DW2.14 1. _____ ksh 999. **Don't know**	DW2.15 1. _____ units 999. **Don't know**
For PUR users only **Cloth for filtering** DW2.2	1. **Yes** DW2.21 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	DW2.22 1. _____units 999. **Don't know**	DW2.23 1. _____ ksh 999. **Don't know**	DW2.24 1. _____ ksh 999. **Don't know**	DW2.25 1. _____ units 999. **Don't know**
Drinking and handwashing water Containers DW2.3	1. **Yes** DW2.31 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	DW2.32 1. _____units 999. **Don't know**	DW2.33 1. _____ ksh 999. **Don't know**	DW2.34 1. _____ ksh 999. **Don't know**	DW2.35 1. _____ units 999. **Don't know**
Container taps DW2.4	1. **Yes** DW2.41 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	DW2.42 1. _____units 999. **Don't know**	DW2.43 1. _____ ksh 999. **Don't know**	DW2.44 1. _____ ksh 999. **Don't know**	DW2.45 1. _____ units 999. **Don't know**
Container stands DW2.5	1. **Yes** DW2.51 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	DW2.52 1. _____units 999. **Don't know**	DW2.53 1. _____ ksh 999. **Don't know**	DW2.54 1. _____ ksh 999. **Don't know**	DW2.55 1. _____ units 999. **Don't know**
Bar soap DW2.6	1. **Yes** DW2.61 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	DW2.62 1. _____ **cut pieces of bar soap** / **bar soap** *(**circle one**)* 999. **Don't know**	DW2.63 1. _____ ksh 999. **Don't know**	DW2.64 1. _____ ksh 999. **Don't know**	DW2.65 1. _____units 999. **Don't know**

Item description	**1. Has the school purchased this item in the past school year?**	**2. How much of this item has the school purchased in the past school year?**	**3. What is the price of a single unit of this item at the shop?**	**4. How much money has the school spent to purchase this item at the shop in the past school year?**	**5. How much of this item has the school needed in the past school year?**
Powdered soap / soapy water DW2.7	1. **Yes** DW2.71 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	DW2.72 1. _____units 999. **Don't know**	DW2.73 1. _____ ksh 999. **Don't know**	DW2.74 1. _____ ksh 999. **Don't know**	DW2.75 1. _____ units 999. **Don't know**
Bottles for soapy water DW2.8	1. **Yes** DW2.81 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	DW2.82 1. _____units 999. **Don't know**	DW2.83 1. _____ ksh 999. **Don't know**	DW2.84 1. _____ ksh 999. **Don't know**	DW2.85 1. _____ units 999. **Don't know**

DW3.0. Are there any additional items that the school needs for the DRINKING WATER AND HANDWASHING SYSTEMS FOR PUPILS that I have not mentioned?

Item description	**1. Has the school purchased this item in the past school year?**	**2. How much of this item has the school purchased in the past school year?**	**3. What is the price of a single unit of this item at the shop?**	**4. How much money has the school spent to purchase this item at the shop in the past school year?**	**5. How much of this item has the school needed in the past school year?**
DW3.1 _____	1. **Yes** DW3.11 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	DW3.12 1. _____units 999. **Don't know**	DW3.13 1. _____ ksh 999. **Don't know**	DW3.14 1. _____ ksh 999. **Don't know**	DW3.15 1. _____ units 999. **Don't know**
DW3.2 _____	1. **Yes** DW3.21 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	DW3.22 1. _____units 999. **Don't know**	DW3.23 1. _____ ksh 999. **Don't know**	DW3.24 1. _____ ksh 999. **Don't know**	DW3.25 1. _____ units 999. **Don't know**
DW3.3 _____	1. **Yes** DW3.31 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	DW3.32 1. _____units 999. **Don't know**	DW3.33 1. _____ ksh 999. **Don't know**	DW3.34 1. _____ ksh 999. **Don't know**	DW3.35 1. _____ units 999. **Don't know**

Now I'd like to ask you some questions about the SERVICES your school purchases to maintain the DRINKING WATER AND HANDWASHING SYSTEMS FOR PUPILS.

DW4.0. Do you know how much the school pays for all repair and maintenance services to maintain the DRINKING WATER AND HANDWASHING SYSTEMS FOR PUPILS combined?

*(**Circle one**)* **1. Yes** **2. No → DW6.0**

DW5.0. How much does the school pay each year for all repair and maintenance services to maintain the DRINKING WATER AND HANDWASHING SYSTEMS FOR PUPILS?

1. _____ ksh 999. Don't know

DW6.0. Does the school purchase the following SERVICES for the DRINKING WATER AND HANDWASHING SYSTEMS FOR PUPILS?

Service description	**1. Has the school purchased this service in the past school year?**	**2. How many times has this service been purchased by the school in the past school year?**	**3. How much does it cost to pay the provider to perform this service one time?**	**4. How much money has the school spent to purchase this service from the provider in the past school year?**	**5. How many times has the school needed this service in the past school year?**
Replacement of container taps DW6.1	1. **Yes** DW6.11 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	DW6.12 1. _____times 999. **Don't know**	DW6.13 1. _____ ksh 999. **Don't know**	DW6.14 1. _____ ksh 999. **Don't know**	DW6.15 1. _____ times 999. **Don't know**
Repair of containers DW6.2	1. **Yes** DW6.21 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	DW6.22 1. _____ times 999. **Don't know**	DW6.23 1. _____ ksh 999. **Don't know**	DW6.24 1. _____ ksh 999. **Don't know**	DW6.25 1. _____ times 999. **Don't know**
Repair of container stands DW6.3	1. **Yes** DW6.31 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	DW6.32 1. _____ times 999. **Don't know**	DW6.33 1. _____ ksh 999. **Don't know**	DW6.34 1. _____ ksh 999. **Don't know**	DW6.35 1. _____ times 999. **Don't know**

DW7.0. Are there any additional services the school needs for the DRINKING WATER AND HANDWASHING SYSTEMS FOR PUPILS I did not mention?

Service description	**1. Has the school purchased this service in the past school year?**	**2. How many times has this service been purchased by the school in the past school year?**	**3. How much does it cost to pay the provider to perform this service one time?**	**4. How much money has the school spent to purchase this service from the provider in the past school year?**	**5. How many times has the school needed this service in the past school year?**
DW7.1 _____	1. **Yes** DW7.11 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	DW7.12 1. _____times 999. **Don't know**	DW7.13 1. _____ ksh 999. **Don't know**	DW7.14 1. _____ ksh 999. **Don't know**	DW7.15 1. _____ times 999. **Don't know**
DW7.2 _____	1. **Yes** DW7.21 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	DW7.22 1. _____ times 999. **Don't know**	DW7.23 1. _____ ksh 999. **Don't know**	DW7.24 1. _____ ksh 999. **Don't know**	DW7.25 1. _____times 999. **Don't know**
DW7.3 _____	1. **Yes** DW7.31 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)S*	DW7.32 1. _____ times 999. **Don't know**	DW7.33 1. _____ ksh 999. **Don't know**	DW7.34 1. _____ ksh 999. **Don't know**	DW7.35 1. _____times 999. **Don't know**

Part III. SANITATION SYSTEM

SN0.1 **Does the school have a SANITATION PROGRAM FOR PUPILS?**
*(**Circle one**)* **1. Yes 2. No →** Part IV: WASH EDUCATION AND SCHOOL HEALTH CLUBS

I'd like to ask you some questions about what supplies and services your school needs to maintain the SANITATION SYSTEM FOR PUPILS. We don't need to know how much your school spent when the system was implemented. We only need to know how much your school continues to spend at the shop on the SANITATION SYSTEM FOR PUPILS at the school over time.

SN1.0**. Does the school purchase the following SUPPLIES AND EQUIPMENT for the SANITATION SYSTEM FOR PUPILS?**

Item description	**1. Has the school purchased this item in the past school year?**	**2. How much of this item has the school purchased in the past school year?**	**3. What is the price of a single unit of this item at the shop?**	**4. How much money has the school spent to purchase this item at the shop in the past school year?**	**5. How much of this item has the school needed in the past school year?**
Tissue paper for pupils SN1.1	1. **Yes** SN1.11 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN1.12 1. _____units 999. **Don't know**	SN1.13 1. _____ ksh 999. **Don't know**	SN1.14 1. _____ ksh 999. **Don't know**	SN1.15 1. _____ units 999. **Don't know**
Sanitary pads / towels for pupils SN1.2	1. **Yes** SN1.21 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN1.22 1. _____units 999. **Don't know**	SN1.23 1. _____ ksh 999. **Don't know**	SN1.24 1. _____ ksh 999. **Don't know**	SN1.25 1. _____ units 999. **Don't know**
Soap for pupils' latrine cleaning SN1.3	1. **Yes** SN1.31 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN1.32 1. _____units 999. **Don't know**	SN1.33 1. _____ ksh 999. **Don't know**	SN1.34 1. _____ ksh 999. **Don't know**	SN1.35 1. _____ units 999. **Don't know**
Disinfectant solution / Jik for pupils' latrine cleaning SN1.4	1. **Yes** SN1.41 2. **No** → Q.3, Q.5 999. **Don't know** → Q.5 *(** Circle one **)*	SN1.42 1. _____units 999. **Don't know**	SN1.43 1. _____ ksh 999. **Don't know**	SN1.44 1. _____ ksh 999. **Don't know**	SN1.45 1. _____ units 999. **Don't know**
Scrubbing brushes for pupils' latrine cleaning SN1.5	1. **Yes** SN1.51 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN1.52 1. _____units 999. **Don't know**	SN1.53 1. _____ ksh 999. **Don't know**	SN1.54 1. _____ ksh 999. **Don't know**	SN1.55 1. _____ units 999. **Don't know**
Buckets for pupils' latrine cleaning SN1.6	1. **Yes** SN1.61 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN1.62 1. _____units 999. **Don't know**	SN1.63 1. _____ ksh 999. **Don't know**	SN1.64 1. _____ ksh 999. **Don't know**	SN1.65 1. _____ units 999. **Don't know**
Door hinges for pupils' latrine repair SN1.7	1. **Yes** SN1.71 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN1.72 1. _____units 999. **Don't know**	SN1.73 1. _____ ksh 999. **Don't know**	SN1.74 1. _____ ksh 999. **Don't know**	SN1.75 1. _____ units 999. **Don't know**

Item description	**1. Has the school purchased this item in the past school year?**	**2. How much of this item has the school purchased in the past school year?**	**3. What is the price of a single unit of this item at the shop?**	**4. How much money has the school spent to purchase this item at the shop in the past school year?**	**5. How much of this item has the school needed in the past school year?**
Door latches for pupils' latrine repair SN1.8	1. **Yes** SN1.81 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN1.82 1. _____units 999. **Don't know**	SN1.83 1. _____ ksh 999. **Don't know**	SN1.84 1. _____ ksh 999. **Don't know**	SN1.85 1. _____ units 999. **Don't know**
Vent pipes for pupils' latrine repair SN1.9	1. **Yes** SN1.91 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN1.92 1. _____units 999. **Don't know**	SN1.93 1. _____ ksh 999. **Don't know**	SN1.94 1. _____ ksh 999. **Don't know**	SN1.95 1. _____ units 999. **Don't know**
Vent pipe screens for pupils' latrine repair SN1.10	1. **Yes** SN1.101 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN1.102 1. _____units 999. **Don't know**	SN1.103 1. _____ ksh 999. **Don't know**	SN1.104 1. _____ ksh 999. **Don't know**	SN1.105 1. _____ units 999. **Don't know**
Iron sheets for pupils' latrine repair SN1.11	1. **Yes** SN1.111 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN1.112 1. _____units 999. **Don't know**	SN1.113 1. _____ ksh 999. **Don't know**	SN1.114 1. _____ ksh 999. **Don't know**	SN1.115 1. _____ units 999. **Don't know**

SN2.0**. Are there any additional items that the school needs for the SANITATION SYSTEM FOR PUPILS that I have not mentioned?**

1. Item description	**1. Has the school purchased this item in the past school year?**	**2. How much of this item has the school purchased in the past school year?**	**3. What is the price of a single unit of this item at the shop?**	**4. How much money has the school spent to purchase this item at the shop in the past school year?**	**5. How much of this item has the school needed in the past school year?**
SN2.1 _____	1. **Yes** SN2.11 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN2.12 1. _____units 999. **Don't know**	SN2.13 1. _____ ksh 999. **Don't know**	SN2.14 1. _____ ksh 999. **Don't know**	SN2.15 1. _____ units 999. **Don't know**
SN2.2 _____	1. **Yes** SN2.21 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN2.22 1. _____units 999. **Don't know**	SN2.23 1. _____ ksh 999. **Don't know**	SN2.24 1. _____ ksh 999. **Don't know**	SN2.25 1. _____ units 999. **Don't know**
SN2.3 _____	1. **Yes** SN2.31 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN2.32 1. _____units 999. **Don't know**	SN2.33 1. _____ ksh 999. **Don't know**	SN2.34 1. _____ ksh 999. **Don't know**	SN2.35 1. _____ units 999. **Don't know**

Now I'd like to ask you some questions about the SERVICES your school purchases to maintain the SANITATION SYSTEM FOR PUPILS.

SN3.0. Do you know how much the school pays for all repair and maintenance services to maintain the SANITATION SYSTEM FOR PUPILS combined?
*(**Circle one**)* **1. Yes** **2. No →SN5.0**

SN4.0. How much does the school pay each year for all repair and maintenance services to maintain the SANITATION SYSTEM FOR PUPILS?

1. _____ ksh 999. Don't know

SN5.0. Does the school purchase the following SERVICES for maintaining the SANITATION SYSTEM FOR PUPILS?

Service description	**1. Has the school purchased this service in the past school year?**	**2. How many times has this service been purchased by the school in the past school year?**	**3. How much does it cost to pay the provider to perform this service one time?**	**4. How much money has the school spent to purchase this service from the provider in the past school year?**	**5. How many times has the school needed this service in the past school year?**
Pit emptying for pupils' latrines SN5.1	1. **Yes** SN5.11 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN5.12 1. _____times 999. **Don't know**	SN5.13 1. _____ ksh 999. **Don't know**	SN5.14 1. _____ ksh 999. **Don't know**	SN5.15 1. _____ times 999. **Don't know**
Door repair for pupils' latrines SN5.2	1. **Yes** SN5.21 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN5.22 1. _____ times 999. **Don't know**	SN5.23 1. _____ ksh 999. **Don't know**	SN5.24 1. _____ ksh 999. **Don't know**	SN5.25 1. _____ times 999. **Don't know**
Floor repair for pupils' latrines SN5.3	1. **Yes** SN5.31 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN5.32 1. _____ times 999. **Don't know**	SN5.33 1. _____ ksh 999. **Don't know**	SN5.34 1. _____ ksh 999. **Don't know**	SN5.35 1. _____ times 999. **Don't know**
Repair or replacement of Floor slab for pupils' latrines SN5.4	1. **Yes** SN5.41 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN5.42 1. _____times 999. **Don't know**	SN5.43 1. _____ ksh 999. **Don't know**	SN5.44 1. _____ ksh 999. **Don't know**	SN5.45 1. _____times 999. **Don't know**
Replacement of Trapezoidal blocks for pupils' latrines SN5.5	1. **Yes** SN5.51 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN5.52 1. _____ times 999. **Don't know**	SN5.53 1. _____ ksh 999. **Don't know**	SN5.54 1. _____ ksh 999. **Don't know**	SN5.55 1. _____ times 999. **Don't know**
For schools with Mobilets: **Metal frame repair for pupils' latrines** SN5.6	1. **Yes** SN5.61 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN5.62 1. _____ times 999. **Don't know**	SN5.63 1. _____ ksh 999. **Don't know**	SN5.64 1. _____ ksh 999. **Don't know**	SN5.65 1. _____ times 999. **Don't know**

SN6.0**. Are there additional services the school needs to maintain the SANITATION SYSTEM FOR PUPILS I did not mention?**

Service description	**1. Has the school purchased this service in the past school year?**	**2. How many times has this service been purchased by the school in the past school year?**	**3. How much does it cost to pay the provider to perform this service one time?**	**4. How much money has the school spent to purchase this service from the provider in the past school year?**	**5. How many times has the school needed this service in the past school year?**
SN6.1 _____	1. **Yes** SN6.11 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN6.12 1._____times 999. **Don't know**	SN6.13 1. _____ ksh 999. **Don't know**	SN6.14 1. _____ ksh 999. **Don't know**	SN6.15 1. _____ times 999. **Don't know**
SN6.2 _____	1. **Yes** SN6.21 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN6.22 1. _____ times 999. **Don't know**	SN6.23 1. _____ ksh 999. **Don't know**	SN6.24 1. _____ ksh 999. **Don't know**	SN6.25 1. _____ times 999. **Don't know**
SN6.3 _____	1. **Yes** SN6.31 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	SN6.32 1. _____ times 999. **Don't know**	SN6.33 1. _____ ksh 999. **Don't know**	SN6.34 1. _____ ksh 999. **Don't know**	SN6.35 1. _____ times 999. **Don't know**

Part IV. WASH EDUCATION AND SCHOOL HEALTH CLUBS

WE0.1 **Does the school conduct ONGOING EDUCATION ON WASH MANAGEMENT AND TECHNIQUES FOR TEACHERS AND SMC MEMBERS?** (**Circle one**) **1. Yes 2. No**

WE0.2 **Does the school have a SCHOOL HEALTH CLUB?** (**Circle one**) **1. Yes 2. No** *(**If NO, NO → Part V: Donations)*

I'd like to ask you some questions about what supplies your school needs to EDUCATE PUPILS, TEACHERS AND SCHOOL MANAGEMENT COMMITTEES ON SCHOOL WASH, and to MAINTAIN SCHOOL HEALTH CLUBS. We don't need to know how much your school spent when the WASH system was implemented. We only need to know how much your school continues to spend on these items over time.

WE1.0**. Does the school purchase the following SUPPLIES OR EQUIPMENT for WASH EDUCATION AND SCHOOL HEALTH CLUBS?**

Item description	**1. Has the school purchased this item in the past school year?**	**2. How much of this item has the school purchased in the past school year?**	**3. What is the price of a single unit of this item at the shop?**	**4. How much money has the school spent to purchase this item at the shop in the past school year?**	**5. How much of this item has the school needed in the past school year?**
Manila paper / newsprint WE1.1	1. **Yes** WE1.11 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	WE1.12 1. _____units 999. **Don't know**	WE1.13 1. _____ ksh 999. **Don't know**	WE1.14 1. _____ ksh 999. **Don't know**	WE1.15 1. _____ units 999. **Don't know**
Felt pens / markers WE1.2	1. **Yes** WE1.21 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	WE1.22 1. _____units 999. **Don't know**	WE1.23 1. _____ ksh 999. **Don't know**	WE1.24 1. _____ ksh 999. **Don't know**	WE1.25 1. _____ units 999. **Don't know**

Item description	**1. Has the school purchased this item in the past school year?**	**2. How much of this item has the school purchased in the past school year?**	**3. What is the price of a single unit of this item at the shop?**	**4. How much money has the school spent to purchase this item at the shop in the past school year?**	**5. How much of this item has the school needed in the past school year?**
Notebooks / fulscaps WE1.3	1. **Yes** WE1.31 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	WE1.32 1. _____units 999. **Don't know**	WE1.33 1. _____ ksh 999. **Don't know**	WE1.34 1. _____ ksh 999. **Don't know**	WE1.35 1. _____ units 999. **Don't know**

WE2.0. Are there any ADDITIONAL supplies or equipment the school needs for WASH EDUCATION AND SCHOOL HEALTH CLUBS that I did not mention?

Item description	**1. Has the school purchased this item in the past school year?**	**2. How much of this item has the school purchased in the past school year?**	**3. What is the price of a single unit of this item at the shop?**	**4. How much money has the school spent to purchase this item at the shop in the past school year?**	**5. How much of this item has the school needed in the past school year?**
WE2.1 _____	1. **Yes** WE2.11 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	WE2.12 1. _____units 999. **Don't know**	WE2.13 1. _____ ksh 999. **Don't know**	WE2.14 1. _____ ksh 999. **Don't know**	WE2.15 1. _____ units 999. **Don't know**
WE2.2 _____	1. **Yes** WE2.21 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	WE2.22 1. _____units 999. **Don't know**	WE2.23 1. _____ ksh 999. **Don't know**	WE2.24 1. _____ ksh 999. **Don't know**	WE2.25 1. _____ units 999. **Don't know**
WE2.3 _____	1. **Yes** WE2.31 2. **No** → Q.3, Q.5 999. **Don't know** → Q.3, Q.5 *(** Circle one **)*	WE2.32 1. _____units 999. **Don't know**	WE2.33 1. _____ ksh 999. **Don't know**	WE2.34 1. _____ ksh 999. **Don't know**	WE2.35 1. _____ units 999. **Don't know**

Part V. DONATIONS

Now I would like to ask you some questions about whether your school has received donations of supplies, equipment, or services for the school WASH program in the past year.

DO1.0. Can you please list all items or services that have been donated to the school in the past year for the school WASH program? Please only list items that were donated directly to the school or services that were provided directly to the school by a donor. Do not list any items that were purchased by the school with monetary contributions given directly to the school by a donor.

Item description	**2. What group, organization, or individual gave this item to the school?**	**3. How much of this item was given to the school in the past school year?**	**4. Had the school budgeted for this item in the past school year?**	**5. How much did the school budget for this item?**	**6. What did the school use the budget money for after receiving the donated item / service?**
Sanitary pads / towels **1. Has the school received a donation of these items in the past school year?** **1. Yes** **2. No** → next row **999. Don't know** → next row *(**Circle one**)* DO1.1	DO1.11	1. _____units 999. **Don't know** DO1.12	1. **Yes** 2. **No** → Next row 999. **Don't know** →Next row *(**Circle one**)* DO1.13	1. _____ksh 999. **Don't know** DO1.14	1. **Purchasing more of the same item** DO1.151 2. **Paying for remaining cost of item / service** DO1.152 3**. Other school WASH expenses** DO1.153 4. **Non-school WASH expenses** DO1.154 88**. Other:** _____DO1.155 999. **Don't know** DO1.156 *(** Multiple answers possible **)*
Water treatment products **1. Has the school received a donation of these items in the past school year?** **1. Yes** **2. No** → next row **999. Don't know** → next row *(**Circle one**)* DO1.2	DO1.21	1. _____units 999. **Don't know** DO1.22	1. **Yes** 2. **No** → Next row 999. **Don't know** →Next row *(**Circle one**)* DO1.23	1. _____ksh 999. **Don't know** DO1.24	1. **Purchasing more of the same item** DO1.251 2. **Paying for remaining cost of item / service** DO1.252 3**. Other school WASH expenses** DO1.253 4. **Non-school WASH expenses** DO1.254 88**. Other:** _____DO1.255 999. **Don't know** DO1.256 *(** Multiple answers possible **)*

Item description	**2. What group, organization, or individual gave this item to the school?**	**3. How much of this item was given to the school in the past school year?**	**4. Had the school budgeted for this item in the past school year?**	**5. How much did the school budget for this item?**	**6. What did the school use the budget money for after receiving the donated item / service?**
WASH education materials **1. Has the school received a donation of these items in the past school year?** **1. Yes** **2. No** → next row **999. Don't know** → next row *(**Circle one**)* DO1.3	DO1.31	1. _____units 999. **Don't know** DO1.32	1. **Yes** 2. **No** → Next row 999. **Don't know** →Next row *(**Circle one**)* DO1.33	1. _____ksh 999. **Don't know** DO1.34	1. **Purchasing more of the same item** DO1.351 2. **Paying for remaining cost of item / service** DO1.352 3**. Other school WASH expenses** DO1.353 4. **Non-school WASH expenses** DO1.354 88**. Other:** _____DO1.355 999. **Don't know** DO1.356 *(** Multiple answers possible **)*
Drinking water / handwashing water vessels **1. Has the school received a donation of these items in the past school year?** **1. Yes** **2. No** → next row **999. Don't know** → next row *(**Circle one**)* DO1.4	DO1.41	1. _____units 999. **Don't know** DO1.42	1. **Yes** 2. **No** → Next row 999. **Don't know** →Next row *(**Circle one**)* DO1.43	1. _____ksh 999. **Don't know** DO1.44	1. **Purchasing more of the same item** DO1.451 2. **Paying for remaining cost of item / service** DO1.452 3**. Other school WASH expenses** DO1.453 4. **Non-school WASH expenses** DO1.454 88**. Other:** _____DO1.455 999. **Don't know** DO1.456 *(** Multiple answers possible **)*
Latrine construction **1. Has the school received a donation of this service in the past school year?** **1. Yes** **2. No** → next row **999. Don't know** → next row *(**Circle one**)* DO1.5	DO1.51	1. _____units 999. **Don't know** DO1.52	1. **Yes** 2. **No** → Next row 999. **Don't know** →Next row *(**Circle one**)* DO1.53	1. _____ksh 999. **Don't know** DO1.54	1. **Purchasing more of the same item** DO1.551 2. **Paying for remaining cost of item / service** DO1.552 3**. Other school WASH expenses** DO1.553 4. **Non-school WASH expenses** DO1.554 88**. Other:** _____DO1.555 999. **Don't know** DO1.556 *(** Multiple answers possible **)*

Item description	**2. What group, organization, or individual gave this item to the school?**	**3. How much of this item was given to the school in the past school year?**	**4. Had the school budgeted for this item in the past school year?**	**5. How much did the school budget for this item?**	**6. What did the school use the budget money for after receiving the donated item / service?**
Rainwater harvesting system construction **1. Has the school received a donation of this service in the past school year?** **1. Yes** **2. No** → next row **999. Don't know** → next row *(**Circle one**)* DO1.6	DO1.61	1. _____units 999. **Don't know** DO1.62	1. **Yes** 2. **No** → Next row 999. **Don't know** →Next row *(**Circle one**)* DO1.63	1. _____ksh 999. **Don't know** DO1.64	1. **Purchasing more of the same item** DO1.651 2. **Paying for remaining cost of item / service** DO1.652 3**. Other school WASH expenses** DO1.653 4. **Non-school WASH expenses** DO1.654 88**. Other:** _____DO1.655 999. **Don't know** DO1.656 *(** Multiple answers possible **)*
Borehole installation **1. Has the school received a donation of this service in the past school year?** **1. Yes** **2. No** → next row **999. Don't know** → next row *(**Circle one**)* DO1.7	DO1.71	1. _____units 999. **Don't know** DO1.72	1. **Yes** 2. **No** → Next row 999. **Don't know** →Next row *(**Circle one**)* DO1.73	1. _____ksh 999. **Don't know** DO1.74	1. **Purchasing more of the same item** DO1.751 2. **Paying for remaining cost of item / service** DO1.752 3**. Other school WASH expenses** DO1.753 4. **Non-school WASH expenses** DO1.754 88**. Other:** _____DO1.755 999. **Don't know** DO1.756 *(** Multiple answers possible **)*

DO2.0. Has the school received any donations of supplies or services in the past year that I did not mention?

Item description	**2. What group, organization, or individual gave this item to the school?**	**3. How much of this item was given to the school in the past school year?**	**4. Had the school budgeted for this item in the past school year?**	**5. How much did the school budget for this item?**	**6. What did the school use the budget money for after receiving the donated item / service?**
_____ DO2.1	DO2.11	1. _____units 999. **Don't know** DO2.12	1. **Yes** 2. **No** → Next row 999. **Don't know** → Next row *(**Circle one**)* DO2.13	1. _____ksh 999. **Don't know** DO2.14	1. **Purchasing more of the same item** DO2.151 2. **Paying for remaining cost of item / service** DO2.152 3**. Other school WASH expenses** DO2.153 4. **Non-school WASH expenses** DO2.154 88**. Other:** _____DO2.155 999. **Don't know** DO2.156 *(** Multiple answers possible **)*
_____ DO2.2	DO2.21	1. _____units 999. **Don't know** DO2.22	1. **Yes** 2. **No** → Next row 999. **Don't know** → Next row *(**Circle one**)* DO2.23	1. _____ksh 999. **Don't know** DO2.24	1. **Purchasing more of the same item** DO2.251 2. **Paying for remaining cost of item / service** DO2.252 3**. Other school WASH expenses** DO2.253 4. **Non-school WASH expenses** DO2.254 88**. Other:** _____DO2.255 999. **Don't know** DO2.256 *(** Multiple answers possible **)*
_____ DO2.3	DO2.31	1. _____units 999. **Don't know** DO2.32	1. **Yes** 2. **No** → Next row 999. **Don't know** → Next row *(**Circle one**)* DO2.33	1. _____ksh 999. **Don't know** DO2.34	1. **Purchasing more of the same item** DO2.351 2. **Paying for remaining cost of item / service** DO2.352 3**. Other school WASH expenses** DO2.353 4. **Non-school WASH expenses** DO2.354 88**. Other:** _____DO2.355 999. **Don't know** DO2.356 *(** Multiple answers possible **)*

PART VI. TRANSPORTATION COSTS

Now I would like to ask you several questions about the TRANSPORTATION COSTS for the school to maintain the school WASH program. These are transportation costs for trips to purchase supplies, equipment, and/or services for school WASH.

TC1.0

	Does this person purchase supplies/ equipment/ services for school WASH?	How much time does this person spend in hours per month travelling to make purchases for school WASH?	How many kilometers does this person travel roundtrip per month to make purchases for school WASH?
Head teacher TC1.1	**1. Yes** TC1.11 **2. No** → Next row **999. Don't know**	TC1.12 _____ hours per month	TC1.13 _____ km per month
Deputy head teacher TC1.2	**1. Yes** TC1.21 **2. No** → Next row **999. Don't know**	TC1.22 _____ hours per month	TC1.23 _____ km per month
Senior teacher TC1.3	**1. Yes** TC1.31 **2. No** → Next row **999. Don't know**	TC1.32 _____ hours per month	TC1.33 _____ km per month
Other teachers TC1.4	**1. Yes** TC1.41 **2. No** → Next row **999. Don't know**	TC1.42 _____ hours per month	TC1.43 _____ km per month
School WASH patrons TC1.5	**1. Yes** TC1.51 **2. No** → Next row **999. Don't know**	TC1.52 _____ hours per month	TC1.53 _____ km per month
School management committee member(s) TC1.6	**1. Yes** TC1.61 **2. No** → Next row **999. Don't know**	TC1.62 _____ hours per month	TC1.63 _____ km per month
Pupil(s) TC1.7	**1. Yes** TC1.71 **2. No** → Next row **999. Don't know**	TC1.72 _____ hours per month	TC1.73 _____ km per month
Parent(s) TC1.8	**1. Yes** TC1.81 **2. No** → TC2.0 **999. Don't know**	TC1.82 _____ hours per month	TC1.83 _____ km per month

TC2.0	**Are pupils sent to pick up or transport supplies for school WASH that someone else has purchased?** *(**Circle one**)*	1. Yes 2. No → **TC6.0** 999. Don't know
TC3.0	**How many pupils are sent per month to pick up or transport supplies for school WASH that someone else has purchased?** *(**Circle one**)*	1. One pupil 2. Two pupils 3. Three pupils 4. Four pupils 5. Five pupils 88. Other number of pupils:_____ 999. Don't know

TC4.0	**How much time per month do pupils spend outside of classtime picking up or transporting supplies for school WASH that someone else has purchased?** *(**Circle one**)*	1. 1 to 4 hours 2. 5 to 8 hours 3. 9 to 12 hours 4. 13 to 16 hours 88. Other: _____ 999. Don't know
TC5.0	**How much time per month do pupils spend during classtime picking up or transporting supplies for school WASH that someone else has purchased?** *(**Circle one**)*	1. 1 to 4 hours (half a school day) 2. 5 to 8 hours (a full school day) 3. 9 to 12 hours (a school day and a half) 4. 13 to 16 hours (two full school days) 88. Other: _____ 999. Don't know
TC6.0	**How many people per month make the trip to purchase supplies, equipment, and/or services for school WASH?** *(**Circle one**)*	1. One person 2. Two people 3. Three people 4. Four people 5. Five people 88. Other number of persons:_____ 999. Don't know
TC7.0	**What transport costs per month are associated with roundtrip travel to purchase supplies, equipment, and/or services for school WASH?** *(**Multiple responses possible, circle all that apply**)*	**1. Fares** _____ **ksh** TC7.11 TC7.12 **2. Petrol** _____ **ksh** TC7.21 TC7.22 **3. Vehicle rental** _____ **ksh** TC7.31 TC7.32 **4. Hiring driver:** _____ **ksh** TC7.41 TC7.42 **5. Per diems:** _____ **ksh** TC7.51 TC7.52 **6. Parking fees:** _____ **ksh** TC7.61 TC7.62 **88. Other cost(s): *(specify)*** _____ , _____**ksh** TC7.71 TC7.72 **999. Don't know → *Part VII*** TC7.81

PART VII. TRAINING AND ADULT EDUCATION COSTS

Now I would like to ask you about the TRAINING AND ADULT EDUCATION COSTS for the school for the school to maintain the WASH program. First, I will ask about how much time teachers and school management committee members spend in training and education sessions. This would include sessions spent learning about WASH management and techniques, and teaching other adults about WASH.

ED1.0	**How much time does the HEAD TEACHER spend each TERM in training or education sessions for the school WASH program?** *(**Circle one**)*	1. 1 to 4 hours (half a school day) 2. 5 to 8 hours (a full school day) 3. 9 to 12 hours (a school day and a half) 4. 13 to 16 hours (two full school days) 88. Other: _____ 999. Don't know
ED2.0	**How much time does the DEPUTY HEAD TEACHER spend each TERM in training or education sessions for the school WASH program?** *(**Circle one**)*	1. 1 to 4 hours (half a school day) 2. 5 to 8 hours (a full school day) 3. 9 to 12 hours (a school day and a half) 4. 13 to 16 hours (two full school days) 88. Other: _____ 999. Don't know
ED3.0	**How much time does the SENIOR TEACHER spend each TERM in training or education sessions for the school WASH program?** *(**Circle one**)*	1. 1 to 4 hours (half a school day) 2. 5 to 8 hours (a full school day) 3. 9 to 12 hours (a school day and a half) 4. 13 to 16 hours (two full school days) 88. Other: _____ 999. Don't know
ED4.0	**How many OTHER TEACHERS each TERM participate in training or education sessions?:** *(**Circle one**)*	1. One teacher 2. Two teachers 3. Three teachers 4. Four teachers 5. Five teachers 88. Other number of teachers:_____ 999. Don't know
ED5.0	**How much time does EACH OTHER TEACHER spend each TERM in training or education sessions for the school WASH program?** *(**Circle one**)*	1. 1 to 4 hours (half a school day) 2. 5 to 8 hours (a full school day) 3. 9 to 12 hours (a school day and a half) 4. 13 to 16 hours (two full school days) 88. Other: _____ 999. Don't know
ED6.0	**How much time does the SCHOOL MANAGEMENT COMMITTEE CHAIRPERSON spend each TERM in training or education sessions for the school WASH program?** *(**Circle one**)*	1. 1 to 4 hours (half a work day) 2. 5 to 8 hours (a full work day) 3. 9 to 12 hours (a work day and a half) 4. 13 to 16 hours (two full work days) 88. Other: _____ 999. Don't know

ED7.0	**How many OTHER SCHOOL MANAGEMENT COMMITTEE (SMC) MEMBERS each TERM participate in training or education sessions?** *(**Circle one**)*	1. One SMC member 2. Two SMC members 3. Three SMC members 4. Four SMC members 5. Five SMC members 88. Other number of SMC members:_____ 999. Don't know
ED8.0	**How much time does EACH OTHER SCHOOL MANAGEMENT COMMITTEE MEMBER spend each TERM in training or education sessions for the school WASH program?** *(**Circle one**)*	1. 1 to 4 hours (half a work day) 2. 5 to 8 hours (a full work day) 3. 9 to 12 hours (a work day and a half) 4. 13 to 16 hours (two full work days) 88. Other: _____ 999. Don't know
Now I will ask about how much time teachers and school management committee members spend in review sessions about school WASH. These include staff meetings, assembly meetings, head teacher and patron meetings, and other regular meetings that focus on school WASH.		
ED9.0	**How much time does the HEAD TEACHER spend each TERM in review sessions for the school WASH program?** *(**Circle one**)*	1. 1 to 4 hours (half a school day) 2. 5 to 8 hours (a full school day) 3. 9 to 12 hours (a school day and a half) 4. 13 to 16 hours (two full school days) 88. Other: _____ 999. Don't know
ED10.0	**How much time does the DEPUTY HEAD TEACHER spend each TERM in review sessions for the school WASH program?** *(**Circle one**)*	1. 1 to 4 hours (half a school day) 2. 5 to 8 hours (a full school day) 3. 9 to 12 hours (a school day and a half) 4. 13 to 16 hours (two full school days) 88. Other: _____ 999. Don't know
ED11.0	**How much time does the SENIOR TEACHER spend each TERM in review sessions for the school WASH program?** *(**Circle one**)*	1. 1 to 4 hours (half a school day) 2. 5 to 8 hours (a full school day) 3. 9 to 12 hours (a school day and a half) 4. 13 to 16 hours (two full school days) 88. Other: _____ 999. Don't know
ED12.0	**How many OTHER TEACHERS per TERM attend review sessions for the school WASH program?** *(**Circle one**)*	1. One teacher 2. Two teachers 3. Three teachers 4. Four teachers 5. Five teachers 88. Other number of teachers:_____ 999. Don't know

ED13.0	**How much time does EACH OTHER TEACHER spend each TERM in review sessions for the school WASH program?** *(**Circle one**)*	1. 1 to 4 hours (half a school day) 2. 5 to 8 hours (a full school day) 3. 9 to 12 hours (a school day and a half) 4. 13 to 16 hours (two full school days) 88. Other: _____ 999. Don't know
ED14.0	**How much time does the SCHOOL MANAGEMENT COMMITTEE CHAIRPERSON spend each TERM in review sessions for the school WASH program?** *(**Circle one**)*	1. 1 to 4 hours (half a work day) 2. 5 to 8 hours (a full work day) 3. 9 to 12 hours (a work day and a half) 4. 13 to 16 hours (two full work days) 88. Other: _____ 999. Don't know
ED15.0	**How many OTHER SCHOOL MANAGEMENT COMMITTEE MEMBERS each TERM attend review sessions for the school WASH program?** *(**Circle one**)*	1. One SMC member 2. Two SMC members 3. Three SMC members 4. Four SMC members 5. Five SMC members 88. Other number of SMC members:_____ 999. Don't know
ED16.0	**How much time does EACH OTHER SCHOOL MANAGEMENT COMMITTEE MEMBER spend each TERM in review sessions for the school WASH program?** *(**Circle one**)*	1. 1 to 4 hours (half a work day) 2. 5 to 8 hours (a full work day) 3. 9 to 12 hours (a work day and a half) 4. 13 to 16 hours (two full work days) 88. Other: _____ 999. Don't know

VIII. FUNDING SOURCES

In the last section of this survey, I would like to ask you questions about the funding sources your school uses to budget and purchase supplies and services for the school WASH program.

FS1.0	**What funding sources does the school use for school WASH supplies and services?** *(Multiple responses possible. Circle all that apply.)*	**1. Free Primary Education Capitation Grant (FPE grant)** FS1.1 **2. Local Authority Transfer Fund** FS1.2 **3. KESSP funds** FS1.3 **4. Constituency Development Fund (CD**F) FS1.4 **5. School fees** FS1.5 **6. Harambee (community donations)** FS1.6 **7. Monetary contributions from NGOs, churches, women's groups, charities, etc. given directly to the school** FS1.7 **8. Early Childhood Development grant (ECD grant)** FS1.8 **88. Other source(s) (specify):_____** FS1.9 **0. None of these sources** FS1.10 **999. Don't know** FS1.11
FS2.0	*(**If school uses FPE Capitation Grant, ask the following question. If no, →11c.**)* **What budget line(s) of the FPE Capitation Grant does the school use to pay for school WASH expenses?** *(Multiple responses possible. Circle all that apply.)*	**1. Support Wages** FS2.1 **2. Repairs, Maintenance and Improvements** FS2.2 **3. Activity** FS2.3 **4. Quality Assurance** FS2.4 **5. Local transport and travelling** FS2.5 **6. Electricity, water and conservancy** FS2.6 **7. Telephone/PO Box rental/Postage** FS2.7 **8. Contingency** FS2.8 **999. Don't know** FS2.9

Part IX. BUDGET AND EXPENSE RECORDS EXAMINATION

With your permission, now I would like to take photographs of a portion of your school's budget and expense records. This will be used in our study to form a complete understanding of what expenses your school has in addition to WASH expenses, and how your school allocates funding for WASH and other school expenses.

Could you please show me records from the past school year of the school's budget planning and expenditures?
*(**Photograph all records from the past year of budget planning and expenditures from each funding source.**)*

_____

We have reached the end of this survey. Thank you very much for your time. Do you have any questions for me?

Appendix 2: Shop Survey

SHOP SURVEY

Reference school code: _____ Date: _____

Observer: _____

Item name	**Unit price observed**	**Quantity in stock observed**	**Store name**
WaterGuard / AquaGuard			
Aquatabs			
Jik / Chlorine (____liters per bottle)			
Biosand filter / Sand filter			
PUR			
Powdered soap (_____ kgs per bag)			
Bar soap (_____grams per bar)			
Sanitary towels			
Tissue paper			
Manila paper / newsprint			
Notebook / folscap (____ pages)			
Felt pen / marker			
Door latch			
Door hinge			
Iron sheeting (____ meters by ____ meters)			
Vent pipe			
Vent screen			
Containers (60 liters, with lid)			
Tap			
Container stand			
Decanting stick			

Item name	**Unit price observed**	**Quantity in stock observed**	**Store name**
Filtering cloth			
Brush scrubber with handle			
Stiff-bristle broom			
Rake			
Ladder (____ meters)			
Bucket with lid (___ liters)			
Bondex (Bitumen)			
Elbow pipe			
Downpipe			
Cement (___ kg per bag)			
Sand mortar (____ kg per bag)			

EMORY UNIVERSITY

Amendment Workspace

Approved

View Amendment

Printer-Friendly Version

View Study

View Study History

Print-Friendly Study

My Activities

Log Comment To Study Team

Amendment:Amendment 12 for IRB Study #IRB00000904

(AM12_IRB00000904)

Amendment Title:	-Adding Kerry Gallo as Emory Study Staff -Adding Leslie Greene as an Emory Study Coordinator -Taking Sarah Porter off as "Emory Study Staff" and adding her as an "Emory Study Coordinator" -Uploading Leslie Greene's, Kerry Gallo's, Sarah Porter's, and Matthew Freeman's CITI refreshers		
Principal Investigator:	Christine Moe Global Health	**Study Coordinator:**	Sarah Porter Kelly Alexander Bethany Caruso Shadab Saboori Leslie Greene Matthew Freeman Robert Dreibelbis
Amendment Requested:	Changes to Study Team members	**Request Details:**	
Target No. of Subjects:		**Original Study ID:**	IRB00000904
Committee:	IRB Committee C - SHB	**Meeting:**	8/6/2010

History Change Log

Activity	Author	Activity Date
CM Study : *Approved*	Donna Dent	8/4/2010 5:39 PM EDT
View Correspondence Letter		
SS Submit Changes	Richard Rheingans	7/27/2010 12:31 AM EDT
IRBA Request Changes by IRB Staff	Donna Dent	7/15/2010 5:49 PM EDT
It appears Adam Biran from London School of Hygiene and Tropical Medicine is listed as a Co-Investigator and there is no IRB approval letter from his institution included in your study documents. Each person that is engaged in human subjects research n...		
PI Submit	Richard Rheingans	7/13/2010 7:38 PM EDT
Created Amendment	Shadab Saboori	6/24/2010 10:54 AM EDT