



Sustaining and Scaling School Water, Sanitation, and Hygiene Plus Community Impact



## Outreach Paper No. 1

# The Life Cycle Costs of School Water, Sanitation and Hygiene Programmes in Kenyan primary schools

### Executive Summary

Though recent vote head increases within the Free Primary Education (FPE) funds have made up to 225 Ksh per child available for the provision of school WASH services, these funds are not solely dedicated to WASH and are therefore insufficient to sustain WASH services over the long term. Furthermore, to-date, schools, government and donors have lacked sufficient data regarding the life cycle costs of school WASH services and therefore how to apportion resources so that repairs and maintenance as well as initial infrastructure are covered. A Life Cycle Cost study conducted by the SWASH+ Project across 89 primary schools in Kenya revealed that NGOs made the large majority of expenditures on Water (65%), Sanitation (36%) and Hygiene (77%) compared to the FPE share of 14%, 32% and 15% respectively. The study demonstrates that it would cost Ksh 228 per child to maintain WASH services within an older school with infrastructure in place, and Ksh 798 per child to build and sustain a WASH program in a new school. In keeping with the recommendation set by the Task Force on re-alignment of the Education Sector to the Constitution of Kenya to increase the capitation grant for PFE to Ksh 5,185, further increases are needed to achieve a school WASH budget of Ksh 228 dedicated solely for WASH (798 per child in new schools). In addition, a separate and adequate “WASH” budget line should be established for safe water, clean sanitation and hygiene promotion. This will help ensure that schools adequately budget for WASH, prevent confusion in allocating funds from different vote-heads for WASH, and understand the importance of WASH in ensuring that all primary school boys and girls have a fair chance to effectively learn in a clean, comfortable and healthy school environment.

### Why Life Cycle Costs?

This brief is intended to provide the Government of Kenya (GoK) with rigorous data on school WASH costs, based on a SWASH+ Project Life Cycle Cost study, along with recommendations on how the GoK can support WASH programmes that will positively impact the well-being and educational outcomes of primary schools students in Kenya. Previous studies have found that the presence of latrines at schools, without water and soap for handwashing, can actually increase the contamination on hands, increasing the risk of pupils spreading diarrheal disease.<sup>1</sup> Other studies report that students are less

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likely to use latrines (and instead use the bush) when latrines are dirty or have doors that do not properly close or lock.<sup>ii</sup> As SWASH+ has previously described, having latrines without latches or handwashing without soap is like having a car with no petrol. The investment has been made, but the benefits of that investment are not realized. Allocating funds to maintain infrastructure and support purchase of water treatment and hygiene supplies is essential for school WASH programmes. These programs benefit all students through increased comfort and concentration in school, decreased absenteeism and lower rates of illness.

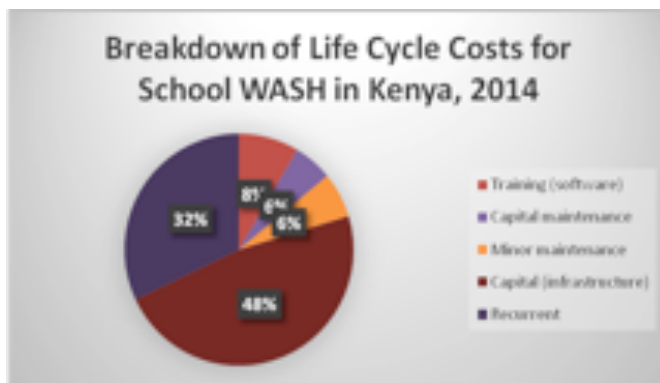
Schools, particularly in rural areas, fall far short of realizing these benefits because of the difficulties in consistently providing quality school WASH services over the long term. Though the reasons for this are numerous, this brief focuses in particular on the “Life Cycle Costs” (LCC) of implementing and maintaining school WASH programs. LCC is defined as “the aggregate costs of ensuring delivery of adequate, equitable and sustainable WASH services to a population in a specified area.”<sup>iii</sup>

## Methods

Our sample consisted of 89 schools from three counties in Kenya: 30 from Nyeri, 30 from Kisumu and 29 from Kilifi. The school survey tool included: capital hardware, capital software, operation and minor maintenance, capital maintenance, cost of capital (interest payments on loans), direct support (support of monitoring activities) and indirect support (costs associated with macro-level planning and policy making). In order to obtain a complete picture of costs from different perspectives, data was collected from schools, NGOs working in school WASH - typically funded by bilateral donors and foundations, Constituency Development Fund (CDF) offices and local hardware shops.

## Results

Data demonstrated that 70% of costs used for WASH, [from the school’s Free Primary Education (FPE) account two], is spent on water-related items; 29% is spent on sanitation and 1% is spent on hygiene. In terms of needed repairs, 34% (30) of schools reported needed repairs to their water facilities, such as cementing around boreholes, or replacing tubes, pipes or gutters. One hundred percent of schools needed at least some repairs to their latrine facilities, including resurfacing floors or walls, improving drainage, or replacing doors or vent pipes. Hygiene facilities, such as handwashing stations, were all either in need of an upgrade, (new container or new taps), or schools did not have any handwashing facilities at all. Similarly only 9% (8) of schools mentioned “soap for handwashing” as a cost that they incurred. This demonstrates a huge lack of prioritisation and funding for hygiene – often cited as the most important predictor of disease reduction.



**Table 1: Estimated breakdown of WASH costs from 89 primary schools in Kenya (2014)**

Source of funds*	Category of costs			General Use
	Water	Sanitation	Hygiene	
Donors	65%	36%	77%	Covered costs of water sources (tanks, boreholes), VIP latrines and handwashing containers.
FPE funds	14%	32%	15%	Used for repairs to infrastructure, cleaning supplies, water treatment, and soap.
PTA	20%	20%	5%	Water bills, salaries for watchmen, latrines, soap.
CDF	1%	12%	3%	Water tanks, latrines, and sanitary pads.

As shown in Table 1, external donors, typically NGOs, provide the vast majority of all school WASH expenditures. \*This total is not intended to conclude that all primary schools have 100% of their WASH programme costs covered; instead this table is intended to demonstrate the current breakdown of how money is spent on WASH.

**Table 2: Estimated breakdown of costs for minor maintenance and recurrent costs for an older school of 400 pupils (2014)**

Maintenance cost (minor repairs)	Estimated per school per year (KES)	Recurrent costs	Estimated per school per year (KES)
Taps, pipes or gutters	4,000	Water treatment	3,600
Storage tanks	4,000	Watchman*	18,000
Latrines (locks, hinges, pipes & doors)	5,400	Detergent	5,400
Structural repairs to latrines & urinals	3,200	Disinfectant	5,400
Buckets & brooms	1,800	Soap for handwashing	5,400
Handwashing taps	800	Sanitary pads	5,400
		Toilet paper**	28,800
<i>Subtotal</i>	<i>19,200</i>		<i>72,000</i>
Total KES			91,200
Total KES per student per year			<b>228</b>

The above scenario is for a school that has all of the WASH hardware in place, but facilities are not truly functioning and need an upgrade. These schools also need funds for soap and materials for latrine cleaning. This figure does not include the indirect costs of advocacy and policy making.

**Table 3. Estimated breakdown of total Life Cycle Costs (LCC) for a brand-new primary school of 400 pupils (2014)**

Capital costs	Estimated per school (KES)	Training costs	Estimated per school (KES)	Maintenance costs	Estimated per school (KES)	Recurrent costs	Estimated per school (KES)
Water source (either borehole or rainwater harvesting)	850,000	Sub-county level team training	2,500	General repairs to water hardware	10,800	Water supply and protection	32,400
Four-door Ventilated Improved Pit (VIP) latrine: 200,000KES each x 4 blocks (25 students per door)	800,000	School Management Committee training costs	15,000	General repairs to latrine hardware	10,400	Sanitation and hygiene supplies	50,400
Facilities for drinking and washing	29,000	Teacher training costs	7,200	General repairs to hygiene infrastructure	800		
Major maintenance of water hardware	15,000	Artisan training costs	4,800				
Latrine pit emptying	13,600						
<b>Total</b>	<b>1,707,600</b>		<b>29,500</b>		<b>22,000</b>		<b>82,800</b>
<b>Total cost per student per year</b>						<b>798 KES</b>	

The above scenario is for a brand new primary school with numerous facilities required to initiate a school WASH Programme. This figure does not include the indirect costs of advocacy and policy making.

## Conclusions

The vast majority of school WASH costs are covered by NGOs and government partners, such as bilateral donors, which limits the long-term sustainability of school WASH programmes in Kenya. Schools require an additional budget in order to sustain activities such as handwashing with soap, cleaning and repairing latrines and treating drinking water. The estimated annual cost of Ksh 228 per child may be enough for an older school that has all the WASH hardware in place with facilities in not

immediate need of repair, but many schools have infrastructure that needs rehabilitation. It will be necessary to allocate the full Life Cycle Cost (LCC) of Ksh 798 on the FPE capitation grant to new schools. The Kenyan National School Health Policy has increased awareness of the importance of school WASH programs; healthy behaviour in schools cannot be achieved without sufficient resources to support and encourage this change.

**Next steps & Recommendations**

1. **The FPE capitation grant should be adjusted progressively to reach the correct level set in 2012 by the Task Force on re-alignment of the Education Sector to the Constitution of Kenya (Ksh 5,185).** The recent increase adjusted the capitation grant from Ksh 1,020 to Ksh 1,356. The WASH-related budget lines went up by more than 60% (from Ksh 137 to Ksh 225) but fell short of meeting the target set by the task force report (Ksh 1,235) as shown in the table below.

<b>WASH vote heads in the General Purpose Account (GPA) of FPE capitation grant</b>	<b>FY 13-14 allocation</b>	<b>FY 14-15 allocation</b>	<b>Task Force report</b>
Renovation of classroom, building of toilets, repairs, maintenance and improvement (RMI) of physical facilities.	127	100	200
Electricity, Water and Conservancy (EWC)	10	60	200
Environment and Sanitation	0	50	250
Contingencies e.g. Sanitary Towels (Girls 10+)	0	15	585
<b>Estimate of WASH allocation</b>	<b>Ksh 137</b>	<b>Ksh 225</b>	<b>Ksh 1,235</b>

2. **A separate and adequate “WASH” budget line should be established for safe water, clean sanitation and hygiene promotion.** This will help ensure that schools adequately budget for WASH, prevent confusion in allocating funds from different vote-heads for WASH, and understand the importance of WASH in ensuring that all primary school boys and girls have a fair chance to effectively learn in a clean, comfortable and healthy school environment. Schools should be provided with short guidance notes highlighting the intended use of budget lines for various WASH service costs.<sup>iv</sup>
3. **The guidance notes should prioritize use of the recent FPE increase for minor maintenance and recurrent costs.** This would cover minor repairs to water systems, latrines and handwashing stations, along with basic latrine cleaning materials, water treatment and soap for handwashing, as well as more significant repairs to tanks, latrine structures, and the provision of sanitary pads and additional cleaning materials.
4. **The Government of Kenya will need to identify sources of funding for the total life cycle cost of 798 KES in new schools that have not benefitted from donor funding.** It is suggested that 570 KES for initial capital (infrastructure) be provided as a one-time investment in new schools, after which they continue to receive an annual capitation of 228 KES for the maintenance of the infrastructure, for a total of the full life cycle cost of 798 KES.

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## References

- <sup>i</sup>Greene et al., 2012. Impact of a School-Based Hygiene Promotion and Sanitation Intervention on Pupil Hand Contamination in Western Kenya: A Cluster Randomized Trial. *Am J Trop Med & Hyg.* 87(3). Ray et al., 2011. A study on prevalence of bacteria in the hands of children and their perception on hand washing in two schools of Bangalore and Kolkata. *Indian Journal of Public Health.* 55(4).
- <sup>ii</sup>Caruso et al., 2014 If you build it will they come? Factors influencing rural primary pupils' urination and defecation practices at school in western Kenya. *Water, Sanitation and Hygiene for Development.* Mason, et al., unpublished. Research from public primary schools, western Kenya.
- <sup>iii</sup> IRC, 2013. "Life cycle costing" online: <http://www.ircwash.org/news/life-cycle-costing>

