Final Technical Report of the SPLASH Project in Zambia

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Ministry of Education
Science, Vocational Training
and Early Education

SPLASH
Schools Promoting Learning Achievement
through Sanitation and Hygiene

WASHplus project supports healthy households and communities by creating and delivering interventions that lead to improvements in WASH and household air pollution (HAP). This multi-year project (2010-2016), funded through USAID's Bureau for Global Health and led by FHI 360 in partnership with CARE and Winrock International, uses at-scale programming approaches to reduce diarrheal diseases and acute respiratory infections, the two top killers of children under age 5 globally.

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Acronyms

APM	Area Pump Menders
CLTS	Community-Led Total Sanitation
COP	Communities of Practice
CPD	Continuous Professional Development
DDCC	District Development Coordinating Committee
DEBS	District Education Board Secretary
DHID	Department of Housing and Infrastructure Development
DRCC	District Resource Center Coordinator
D-WASHE	District Water Sanitation & Hygiene Education
EMMP	Environmental Monitoring & Mitigation Plan
EMMR	Environmental Monitoring and Mitigation Report
GRZ	Government of the Republic of Zambia
INSET	In-Service Education Training
M&E	Monitoring and Evaluation
MCDMCH	Ministry of Community Development Mother and Child Health
MESVTEE	Ministry of Education, Science, Vocational Training and Early Education
MGE	Ministry of General Education
MHD	Menstrual Hygiene Day
MHM	Menstrual Hygiene Management
MLGH	Ministry of Local Government and Housing
MOH	Ministry of Health
MOU	Memorandum of Understanding
NGO	Nongovernmental Organization
NWTWG	National WASH Technical Working Group
O&M	Operations and Maintenance
ODF	Open Defecation Free
PEO	Provincial Education Officer
PST	Provincial Support Team
PTA	Parent–Teacher Association
RWSSP	Rural Water Supply and Sanitation Program
SHN	School Health and Nutrition
SLTS	School-Led Total Sanitation
SO	Strategic Objective
SPLASH	Schools Promoting Learning Achievement through Sanitation and Hygiene
SPRINT	School Program for In-Service for the Term
USAID	United States Agency for International Development
USG	United States Government
VIP	Ventilated Improved Pit Latrine
WASH	Water, Sanitation, and Hygiene
WASHE	Water, Sanitation and Hygiene Education
WFS	WASH-Friendly School

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1. Introduction

This is a final technical report for SPLASH (Schools Promoting Learning Achievement through Sanitation and Hygiene), a four-year school water, sanitation, and hygiene (WASH) program funded by USAID/Zambia utilizing Water Act monies channeled through the Mission's education sector. It presents an overview of and reflections on the design, organization, implementation, outputs, outcomes, lessons learned, and best practices of SPLASH. SPLASH ran from October 1, 2011 to September 30, 2015, and was implemented in four districts of Zambia's Eastern Province: Chipata, Mambwe, Lundazi, and Chadiza.

SPLASH was implemented through the WASHplus project, a cooperative agreement funded through USAID's Bureau for Global Health and headquartered in Washington, DC. This multi-year project (2010-2016) is managed by FHI 360 with CARE and Winrock International as core partners. In Zambia, FHI 360 and CARE were implementing partners on SPLASH, working within and through the Ministry of General Education, MGE, (formerly Ministry of Education, Science, Vocational Training and Early Education–MESVTEE) and linking with other key line ministries such as the Ministry of Local Government and Housing (MLGH), Ministry of Health (MOH), Ministry of Community Development Mother and Child Health (MCDMCH).

SPLASH's overall objective was to improve learning outcomes among students in the 495 schools reached by the program[1]. However, since funding came from the "Paul Simon Water for The Poor Act" earmark, SPLASH was also expected to respond to the key goals of the earmark namely to improve access to water and sanitation and promote improved hygiene practices. Thus, the SPLASH objective was stated as:

> "To sustainably improve access to safe water, adequate sanitation, hygiene information & health practices to improve learning environments & educational performance in Zambian primary schools."

The SPLASH project was organized into five task areas that addressed the key components required for sustainability: access to hardware, software, and an enabling environment

1. Install and rehabilitate improved drinking water supply, sanitation, and hygiene infrastructure in schools, using a service delivery framework
2. Improve the hygiene behaviors and health of learners and teachers—and subsequently their communities—through the use of innovative and participatory approaches

[1] Schools were provided with water point rehabs and new water points, improved toilets, permanent hand washing stations, washrooms for girls for MHM, training in O&M, WASH education materials for learners and teachers. Not all program inputs were provided in each school; these depended on existing needs and gaps identified through a systematic assessment process by SPLASH and the District Education Board Secretary offices.

3. Strengthen local governance and coordination of WASH in Schools through the involvement of multiple stakeholders

4. Engage those who set policies at the national, provincial, and district levels to support WASH in Schools through more effective and efficient policies and practices

5. Strengthen the capacity of small-scale service providers and the private sector to deliver WASH goods and services to both schools and communities on a sustainable basis.

SPLASH also addressed these cross-cutting issues:

1. Gender equity and inclusion (see 2.7.1)
2. Strategic partnering (see 2.7.2)
3. Monitoring and evaluation (M&E)
4. Knowledge management (KM)
5. Environmental sustainability
6. Private sector engagement

SPLASH staff hired by both FHI 360 and CARE was embedded in the MGE structure with four district coordination offices in Chipata, Mambwe, Lundazi and Chadiza, with SPLASH staff working alongside MGE, district education board secretary (DEBS) Planning Units. The project also had offices in Chipata and Lusaka for coordination and management. Financial management and administration was conducted in both offices. Technical, financial, and administrative support was provided as needed by WASHplus/HQ at FHI 360 and CARE/USA.

1.1 Organization of the Report

This final SPLASH report presents the institutional and technical context within which SPLASH was conceived and executed, and reviews the implementation of each task area, including achievements and lessons learned. It also discusses and assesses the cross-cutting areas that supported the main interventions. The report examines the assumptions that guided the work planning and how those assumptions held up or not as implementation and learning progressed. The report critically considers challenges encountered during implementation and includes reflections on the overall success and implications of SPLASH for the future of school WASH in Zambia and perhaps globally. SPLASH's mandate was to feed experiences and lessons to the global community engaged in similar efforts to advocate for WASH as a critical element of quality education, a human right, and an important key to keeping girls in school.

2. Background and Overview

2.1 WASH in Schools in Zambia: Situational Analysis

Zambia's vision for the water supply and sanitation sector as enshrined in the Sixth National Development Plan is "a Zambia where all users have access to water and sanitation and utilize them in an efficient and sustainable manner for wealth creation and improved livelihood by 2030." This vision is to be realized through the implementation of a number of policies and regulations that provide the basis for improving access to water supply, sanitation, and hygiene.

They include: the Public Health Act (drainage and latrine regulation), the National Rural Water Supply and Sanitation Program (NRWSSP), Ministry of Education infrastructure operation and implementation plans, School Health and Nutrition (SHN) program policies and implementation guidelines, among others.

Evidence shows that pupil academic performance depends on many factors, including a safe, clean, and hygienic environment, access to adequate safe drinking water and clean, accessible, child-friendly toilets. WASH also leads to healthier learners by reducing the incidence of diarrheal diseases, helminth infections, and other illnesses. Further, WASH serves as a platform to teach improved hygiene behaviors. The SPLASH School Outcome Study further indicates that provision of WASH facilities in schools dramatically reduces absenteeism thus strengthening the case that WASH contributes to an enabling learning environment for children.

However, at the moment, providing WASH to all school children is a challenge for the MGE. The current level of WASH facilities in schools is below MGE standards of 40 male pupils per toilet and 25 female pupils per toilet. National sanitation ratios showed that 96 students in primary schools share one permanent sanitation facility (MOE 2010 ED*ASSIST data). There is no readily available data on handwashing practices for both schools and communities. From 2011 to 2015, USAID supported the Zambian government efforts to provide safe water, adequate sanitation, and hygiene education through SPLASH. SPLASH reached 495 of 616 schools in four districts in Eastern Province, namely: Chadiza, Mambwe, Chipata, and Lundazi with a comprehensive WASH facility improvement and hygiene education program. The project reached 259,253 people that include school children, their teachers and the surrounding communities in the four districts. The program was not "one size fits all" but depended on existing gaps. It included water point rehabilitation and new water points, constructed improved toilets, permanent handwashing stations, washrooms for menstrual hygiene management (MHM), schools implementing school-led total sanitation (SLTS) and WASH education materials for learners and teachers. Interventions were tailored to the school's needs. The project has been heralded as a great success by the stakeholders.

2.2 SPLASH Contribution to USAID/Zambia Development Objective and SO6 (Education)

SPLASH contributed to the USAID Zambia Development Objective and Strategic Objective (SO) 6 (Education) as articulated in the Mission's 2011 Education Strategy. USAID/Zambia's SO 3 spells out education and health objectives/intermediate results to be attained by September 2015. Among these are several with direct relevance to school WASH: Ministry of Education Systems Strengthened, Public and Community School Performance Improved, Equitable Access to Education Increased, and Community Health Practices Improved. Even though SPLASH was designed to contribute to the sub-intermediate result on "equitable access to education increased" in the USAID Zambia Education results framework, it also contributed to all four intermediate results. Overall, SPLASH ensured that children were learning in healthy, secure environments and had access to adequate safe drinking water and sanitation facilities.

2.3 Design Process and Implementation History

USAID/Zambia bought into WASHplus, a USAID/Washington field support mechanism managed by FHI 360 with CARE and Winrock International, to implement their School WASH project description. In September 2011, WASHplus provided two specialists (one from FHI 360, one from CARE) who joined forces with two Zambian experts, one in Education, one in WASH, to carry out a three-week scoping and design mission. Using the base document as a guide, this mission produced a five-year strategy, implementation plan, and budget that were approved by USAID/Zambia. Implementation began almost immediately with setting up offices, hiring staff, conducting a baseline survey, and launching initial construction of latrines to try to meet Year 1 construction targets preset by USAID/Zambia.

SPLASH was designed with a four-year intense infrastructure and systems development program, with a final fifth year "light touch" approach to finalize construction, capacity building, and to test operations and maintenance (O&M) systems to achieve sustained and self-managed school WASH programs. Regrettably, the "light touch" phase was not fully implemented because the project duration was cut by one year.

Initially the plan was to work in three districts of Eastern Province—Chipata, Mambwe, Lundazi—and in Year 2, include one district of Northwestern Province. After a year of implementation, Northwestern Province was dropped and instead a new Eastern Province district was added: Chadiza.

2.4 Organizing Principles (Framework for Sustainability)

The theoretical framework for SPLASH was the School Hygiene Improvement Framework for sustainability, an adaptation of the Hygiene Improvement Framework that was developed by USAID under the Environmental Health Project. Central to the framework is behavior change and education/health impact achieved by joining the provision of facilities, products, and consumables (hardware) with hygiene related education, training, capacity building, and O&M skills (software), and creating an enabling environment by working through and enhancing the MGE and line ministries' policies and systems responsible for school WASH at national scale (see Figure 1 for the School Sustainability Framework).

Figure 1 Framework for Sustainable School WASH

2.5 Implementation Strategy

SPLASH's overarching strategy was to work within and strengthen the existing system at scale using a systems approach that creates or strengthens relationships among partners and stakeholders to increase reach and impact. The system included established national Government of the Republic of Zambia (GRZ) structures, district and school/community level systems. In August of 2012, SPLASH hosted a Whole System in a Room multi-stakeholder meeting in Chipata, Eastern Province of Zambia dubbed "WASH in Schools INDABA."[2] The purpose of the INDABA was to gather all key stakeholders in a space and work toward a common action plan to achieve WASH targets in Eastern Province schools and enhance cross-sector collaboration. Follow-up mini INDABAs were held in each of the four districts. In both the provincial and district INDABAs a common ground for collaboration in school WASH was established. This common ground informed the project implementation process and generated partnerships.

[2] The term, from a Ngoni word meaning "business" or "matter," has found widespread use throughout southern Africa and simply means *gathering* or *meeting*.

The SPLASH strategy focused on four key approaches described below:

Scale

SPLASH started at scale in Eastern Province by working in districts not covered by other school WASH stakeholders such as UNICEF, with multiple partners, at multiple levels, through coordinated action to achieve at least 60 percent coverage of school WASH needs. The project reached 616 primary schools in the four districts with general WASH messaging, but worked in 496 schools to enhance attendance, pupil-teacher contact time, and learning achievements. 496 schools were ignited via the SLTS process, and these schools also had functioning pupil WASH clubs, PTAs, and WASH committees trained by SPLASH in governance skills.

Sustainability

SPLASH district teams were housed in district education offices and were part of the DEBS staff. Activities were aimed at long term sustainability within the institutions. SPLASH attempted to explicitly address the existing gap in the national water supply O&M program (SOMAP) that did not include school water and sanitation systems. SPLASH helped to link schools to the SOMAP shops and Area Pump Menders to create a school-based O&M system. Sustainability strategies included ensuring proper O&M of infrastructure, hygiene education for habit formation, and shoring up the systems needed to operate and maintain school WASH over the long term.

Small Doable Actions

All investments and changes needed for a school to become truly "WASH-friendly" can seem costly, daunting, and out of reach. SPLASH successfully adopted the small doable action (SDA) approach that encourages people to take action toward an ideal practice instead of waiting for big projects or funding. For example, if soap is not yet available, wood ash can be used to cleanse hands. Almost every school without a proper handwashing facility constructed tippy taps and many made and used locally made pads for menstrual hygiene management. Engaging in small, doable but effective actions empowered the teachers, learners, families, and community members.

WASH Education

SPLASH successfully integrated WASH themes in the national curriculum and strengthened teachers' capacity to integrate WASH in their classroom teaching. SPLASH collaborated with the MGE directorates of Education and Specialized Services, Standards and Curriculum, Planning and Information, SHN committees, school-based staff, and other stakeholders to:

- Activate dormant or nascent policies and structures such as School Program of In-Service for the Term (SPRINT) and teacher resource centers at province, district, and zone levels. SPRINT became a vehicle for WASH-themed teacher continuous professional development (CPD). WASH teaching and learning pedagogies were shared and disseminated through the provincial, district, and zonal resource centers.

- Feed curriculum work at district and provincial level into the integration of WASH themes and ideas in the national school curriculum.
- Work with teachers in the intervention schools to analyze effective approaches to integrate WASH into the teaching and learning processes. In-service and resource center coordinators, standards officers, and Chipata College of Education had regular access to CPD on more effective methods for supporting WASH in schools and teaching.
- Produce context-specific WASH educational support materials such as the *WASH-Friendly School Training Guide*; *Teacher's Guide to Integrating WASH in School*; *Menstrual Hygiene Management Toolkit,* and *WASH from the Mind of a Child* in collaboration with the provincial Teacher Education Department with the support of the Curriculum Development Centre.

2.5.1 Implementers and Partners

The figure below illustrates the SPLASH implementers and partners at different levels. These were the GRZ partners at national, provincial, district, and zonal level; the SPLASH country team at the national, provincial, and district levels; and the WASHplus team. The WASHplus team provided technical and administrative backstopping to the SPLASH country team.

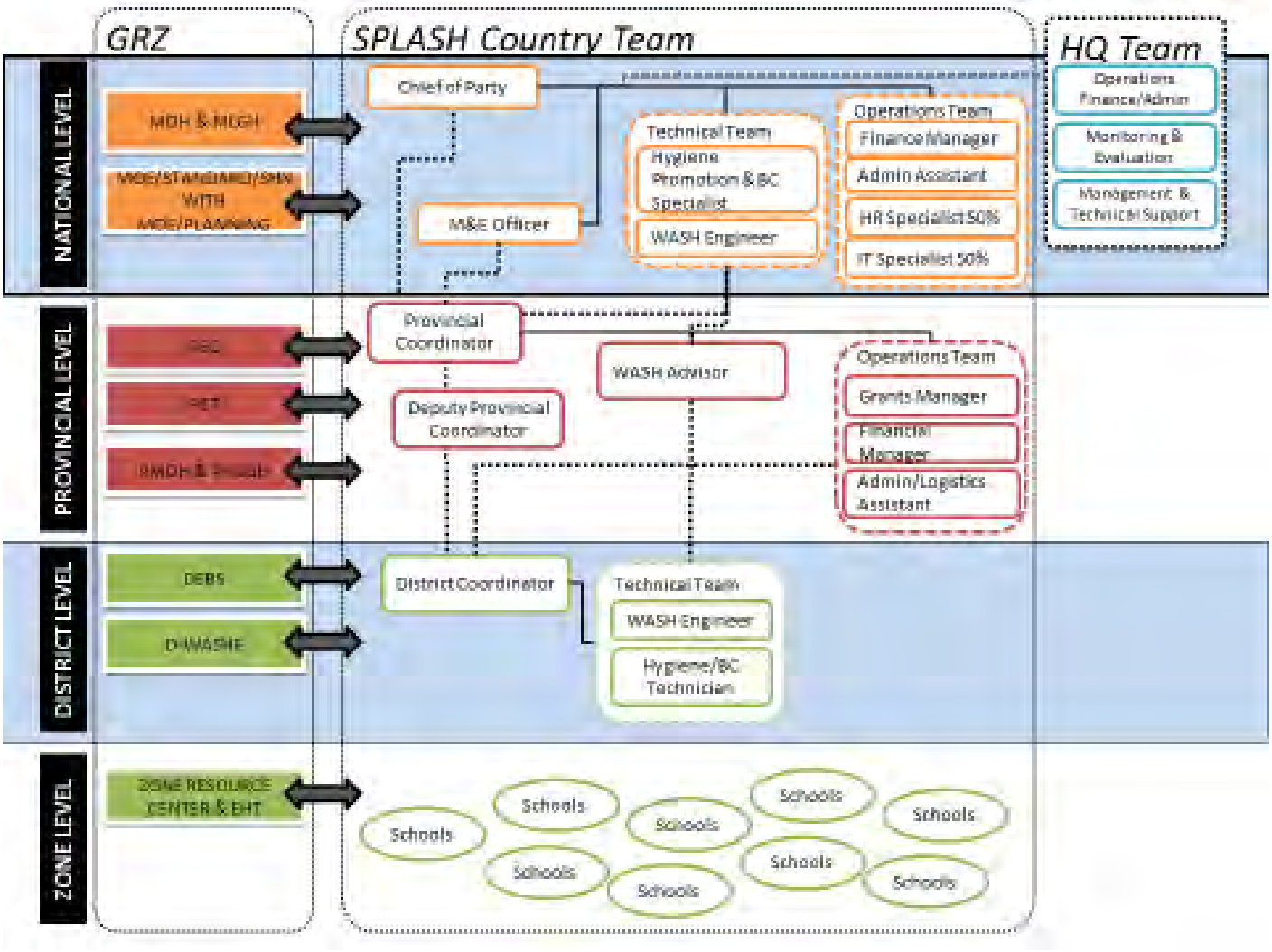


Figure 2: Organogram of SPLASH Implementers and Partners

SPLASH worked mainly with the MGE, and with other line ministries such as MLGH, MCDMCH, MOH, and others at national, provincial, and district levels. Each of the partners had its defined roles and responsibilities as mandated by the GRZ. The table below illustrates some of the roles and responsibilities of selected GRZ partners with respect to the construction and rehabilitation of water and sanitation facilities:

Government Partner	Roles and Responsibilities
MGE Infrastructure Development Unit under the Directorate of Information and Planning	Provided oversight on the WASH facilities constructions in schools. Supervised the resident engineer and approved school latrine standard designs.
MLGH (support team at provincial level [PST] and	Water supply: • Supervision of water point rehabilitation and construction

RWSS focal point persons at district level)	• Establishment of O&M system linked to schools with provincial education office and DEBS
DEBS Buildings Officer	Infrastructure provision and construction quality control at district level; supervision of construction works for water and sanitation facilities. Worked with SPLASH district coordinator to support school/community supervision of contractors
D-WASHE Committee	Decisions about what and where to build (site selection) & tendering process. The D-WASHE committees also shared the work of SPLASH with government through the District Development Coordinating Committee.
District Tender Committee	Reviewed all tenders over K 5000. The district tender committee participated in the selection of drilling contractors
Schools	Jointly planned, constructed, managed, and maintained water supply and sanitation facilities with community through the school WASH committees.
Community	Jointly planned, constructed, managed, and maintained new water points and latrines with schools. Provided funds to maintain and repair water and sanitation facilities, and contributed required upfront construction materials.
MCDMCH	Water quality monitoring for all water points linked to the SPLASH project. The environmental health technologists also supported the SPLASH hygiene education component.

2.6 Organization and Management

2.6.1 Staffing and Location of Offices

SPLASH staff at district level included district coordinators, district engineers and hygiene behavior change technicians (HBCTs). At province level SPLASH had a provincial coordinator and a deputy coordinator, a WASH specialist, and an operations team (see Figure 2). At national level the project was managed and overseen by the Chief of Party, assisted by the national WASH Advisor, Knowledge Management & Communication Advisor and M&E Advisor, as well as an Operations team. Drivers and vehicles were assigned to teams at all levels.

SPLASH had a stand-alone provincial office in Chipata. In Lusaka, SPLASH was housed in the FHI 360 building. At district level, SPLASH staff sat in the DEBS offices and integrated with DEBS staff.

2.6.2 Support from WASHplus

The WASHplus team of experts from FHI 360 and CARE/USA provided technical support to the SPLASH team in the following areas: behavior change, school WASH and menstrual hygiene management (MHM), M&E, KM, and O&M/sustainability, via short and longer term TDYs, sharing of critical documents, and maintaining contact via phone and email. WASHplus also provided financial management and operations oversight to the SPLASH team.

2.7 Special Initiatives

Over the course of its lifetime SPLASH engaged in a number of special initiatives designed to enhance the program. These included:

2.7.1 Inclusive School WASH

SPLASH engaged WaterAid/Zambia, specialists in inclusive WASH design, to conduct an assessment, provide design recommendations, and train SPLASH and partners in becoming more inclusive. The result of this initiative was the addition of ramps to all latrine buildings and raised sitting pans installed in about one-fourth of the latrines, to enable access by children with mobility challenges.

2.7.2 Partnerships Development

SPLASH engaged BPD (Building Partnerships for Development), a consulting organization specializing in building private sector partnerships for school WASH, to conduct an assessment and assist SPLASH in mapping out potential private sector partners. SPLASH utilized BPD's tools and approaches to help set up partnerships with UNICEF and YASH Pharmaceutical Company. Private sector involvement was also especially strong during SPLASH-sponsored events celebrating international days such as Global Handwashing Day, World Toilet Day, Menstrual Hygiene Day, providing support to SPLASH's hygiene promotion efforts.

2.7.3 Innovative Technologies

SPLASH used Samsung tablets for the baseline survey and the school outcome survey. The data were fed into to the web-based Water Mapping Tool and SPLASH (School WASH) database. SPLASH also utilized force lift pumps attached to boreholes that pumped water into overhead tanks without use of electricity. This allowed water to be channeled from the tanks to hand washing facilities such as sinks in ablution blocks and group hand washing facilities on school grounds. These water distribution networks also allowed water to be supplied to washrooms for girls for MHM.

2.7.4 Operations Research

SPLASH engaged Emory University (in Atlanta, Georgia) to conduct research on outstanding questions of interest to school WASH practitioners: Are children really effective transmitters of improved hygiene practices to their families and communities? And, does hydration status affect learning and concentration? Both reports are available on the WASHplus website (www.washplus.org). Both studies used Zambian researchers and students who then were engaged in future research activities (MHM formative research).

3. Summary Table of Indicators, Life of Project Targets, and Results

Intermediate Results	Target	Achievement											
	LOP	LOP as of March 15		LOP as of June 15		April to June 2015			LOP as of Sept 15		July to September 2015		
Indicators	Planned	Actual		Actual		Planned	Actual		Actual		Planned	Actual	
Task Area 1: Improved access to water supply and sanitation facility		N	%	N	%		N	%	N	%		N	%
IR1.1: # of new water points constructed / rehabilitated	443	400	90.29	410	92.55	10	10	100.00	423	95.49		13	
IR1.2: # of latrines constructed to national standards	2942	2948	100.20	3044	103.47	96	96	100.00	3059	103.98		15	
IR1.3 (a): # of school with hand washing facilities	370	444	120.00	499	134.86	30	55	183.33	499	134.86		0	
IR1.3 (b): # of hand washing facilities	507	559	110.26	614	121.10	30	55	183.33	662	130.57		48	
IR1.4: % of schools where teachers and learners are using water treatment and safe storage	60% (222)	302	136.04	312	140.54	10	10	100.00	496	223.42		184	
IR1.5 (a): # of schools with facilities to support menstrual hygiene management	207	159	76.81	194	93.72	35	35	100.00	231	111.59		37	
IR1.5 (b): # of facilities to support menstrual hygiene management	148	268	181.08	313	211.49	45	45	100.00	386	260.81		73	
IR1.6: # of people in target areas with access to improved drinking water supply as a result of USG	250,000	236793	94.72	247089	98.84	8000	10296	128.70	259253	103.70		12164	
IR1.7: # of people in target areas with access to improved sanitation facilities as a result of USG	147,000	144980	98.63	155321	105.66	9000	10341	114.90	161143	109.62		5822	
IR1.8: % of targeted schools incorporated into existing national O&M institutional framework for water	90% (333)								411	123.42		411	
IR1.9: % of latrines constructed/ rehabilitated by SPLASH operational	90% (2753)								3059	111.12		3059	
IR1.10: % of schools where hand washing facilities constructed by SPLASH are operational	85% (595)								499	83.87		499	
IR1.11: % of SPLASH constructed/re-habilitated water points meet operational sustainability criteria	90% (380)								423	111.32		423	
IR1.12: # of improved toilets in institutional settings	2942	2948	100.20	3044	103.47	96	96	100.00	3059	103.98		15	
Task Area 2: Improve the hygiene behaviours and health of learners and teachers – and subsequently their communities – through the use of innovative and participatory methodologies												0	
IR2.1: # of ignited Schools implementing SLTS	335	335	100.00	335	100.00				496	148.06		161	
IR2.2: # of teachers who successfully completed in-service WASH training per school with USG	1014	814	80.28	955	94.18	200	141	70.50	1320	130.18		365	
IR2.3: # Administrators and officials successfully trained with USG support	30	214	713.33	214	713.33				214	713.33		0	
IR2.4: # of schools with established WASH clubs and trained peer educators	370	340	91.89	370	100.00	30	30	100.00	496	134.05		126	
IR2.5: # of schools in target areas with access to teacher and pupil WASH educational packages	370	370	100.00	370	100.00				370	100.00		0	
IR2.6: % of trained teachers implementing WASH lessons and activities supported by SPLASH	60% (792)	573	100.00	749	100.00	141	141	100.00	1320	166.67		571	
IR2.7: % of schools attaining WASH-friendly status subsequent to implementation of SLTS	40% (148)	20	13.51	133	89.86	128	113	88.28	133	89.86		0	
Task Area 3: Strengthen local governance and coordination of WASH in schools through the involvement of multiple stakeholders												0	
IR3.1: # of D-WASHE committees with district school WASH action plans, developed with stakeholder	4	4	100.00	4	100.00				4	100.00		0	
IR3.2: # of D-WASHE committees trained in planning, integrating and coordinating district school	4	4	100.00	4	100.00				4	100.00		0	
IR3.3: # of PTAs or similar school governance structures supported	370	362	97.84	496	135.14	138	138	100	496	134.05		0	
IR3.4: # of Schools with adequate and sustained stream of revenue to operate and maintain WASH	370	105	28.38	105	28.38				259	70.00		154	
IR3.5: # of D-WASHE committees that are functional	4	4	100.00	4	100.00				4	100.00		0	
Task Area 4: Engage those who set policies at the national, provincial, and district levels to support WASH in Schools												0	
implemented that promote access to improved water supply and sanitation (investing in people		6		6					6			0	
IR4.2: # of schools with work plan incorporating WASH activities	83% (307)	308	100.33	308					496			188	
Task Area 5: Strengthen the capacity of small-scale service providers and the private sector to deliver WASH goods and services to both schools and communities on a sustainable basis												0	
IR5.1: Producer organizations, Trade and Business Associations and CBOs supported by SPLASH		11		11					11			0	
IR5.2: Small-scale providers (Artisans) oriented/trained in product and service provision and associated	1319	1405	106.52	1405	106.52				1463	110.92		58	
IR5.3 # of certified service providers by gender									124			124	

4. Task Areas: Activities, Achievements, Lessons Learned

4.1 TASK AREA ONE: IMPROVED ACCESS TO WASH FACILITIES

4.1.1 Water Supply (borehole drilling, hand pumps, rehabilitation, force lift to tanks, drinking water facilities, water quality testing)

To improve access to water supply, SPLASH used approaches that would ensure ownership and sustainability after the project by involving multiple district-level stakeholders in selecting schools that needed improvements in water supply. The project trained local artisans to rehabilitate existing water points (area pump menders and masons) and trained borehole drilling supervisors from the community and the school. For new boreholes, the selection of the drilling contractors was done by the district tender committees; supervision and certification of the work was done by members of the D-WASHE (e.g., Department of Water Affairs, Rural Water Supply Coordinator, or the DEBS Buildings Officers) with SPLASH providing technical support. An innovation trialed by SPLASH was the use of force lift pumps and water tanks that allowed water to be channeled into washrooms and ablution blocks. To ensure future access to safe water, the project retrained EHTs from MCDMCH in water quality testing and provided portable lab water testing kits and motor bikes to all four districts as logistical support. Drinking water stations were installed in schools where the water source was not close to the classrooms to facilitate access to water.

Achievements

- Overall: 259,253 people in target areas gained access to improved drinking water supply as a result of U.S. government (USG) assistance through SPLASH
- Drilled and equipped 120 new boreholes with India Mark II Force Lift pumps with elevated 2,500 liter tanks
- Rehabilitated 303 water points to meet MLGH standards
- Installed 284 drinking water stations near classrooms in 312 schools
- Provision of water in schools has triggered the ability to make bricks for other new constructions such as new classroom blocks, teachers' houses, health posts.
- According to teacher reports, access to drinking water facilities near classrooms has reduced time spent by learners looking for drinking water during class, improving pupil teacher contact time.

4.1.2 Sanitation (latrine design, latrine construction and community contributions, washrooms design and construction)

Most schools lacked appropriate sanitation facilities for pupils and teachers. SPLASH, working with MGE, utilized the existing MGE-approved double VIP school latrine design even though the design is relatively costly. However, it is very robust as well as attractive. SPLASH adapted the design to build "inclusive" latrines with wider doors, a ramp and in some cases a pedestal seat to

allow easier access by learners who are physically challenged. The project trained artisans who were contracted to construct all the sanitation infrastructure. In line with the GRZ education policy of 1996 "Educating Our Future" communities were required to contribute up to 25 percent of the cost of the latrines through locally available materials and unskilled labor as a way of creating ownership of school infrastructure. For SPLASH, community contributions were over 30 percent. To reduce absenteeism among girls during menstruation, SPLASH designed and built washrooms that provide privacy, clean water and a means of disposing of used menstrual consumables. All latrines were gender-segregated, including teachers' latrines.

Achievements

- Overall: 161,463 people in target areas gained access to improved sanitation facilities as a result of USG assistance.
- 3,059 latrine compartments constructed to national standards.
- 386 washroom facilities constructed to support MHM in 279 schools.
- Teachers and community members are replicating the designs for sanitation and hygiene structures. Other structures such as health posts are also replicating them, resulting in increased access to improved sanitation.
- Over 9,000 household latrines have been built as a spillover effect of SPLASH activities.
- Provision of 386 girls' washrooms has enhanced MHM and is attracting more girls to school.
- SPLASH and UNICEF created a successful school sanitation partnership in Chadiza District: UNICEF provided latrines, and SPLASH provided water, technical support, and girls' washrooms in 25 schools.

4.1.3 Handwashing Facilities (tippy taps, permanent facilities)

Statistics show that handwashing with soap can reduce diarrheal diseases up to 50 percent. In schools, this can translate into a reduction in pupil absenteeism due to illness. SPLASH began handwashing promotion via tippy taps as small doable actions and evolved this strategy to build permanent handwashing facilities in or near toilets. SPLASH also constructed group handwashing facilities to foster handwashing habit formation through daily mandatory group handwashing. In the end, handwashing after toilet and before eating became the norm in SPLASH-supported schools.

Achievements

- 662 handwashing facilities constructed at 499 schools

Lessons Learned (water, sanitation, handwashing facilities)

- Management of school WASH infrastructure through participation and inclusive decision making leads to community ownership and willingness to contribute/pay for WASH supplies and services.
- Inconsistencies in reporting on completed sanitation can be avoided by defining at the outset what must be reported. In the case of SPLASH, some confusion between

completed infrastructure vs. dropholes required clarifying requirements between SPLASH staff and USAID.

- Knowledge and skill transfer to local communities ensures functionality of infrastructure and enhances willingness to pay for water, thus attaining long-term sustainability.
- WASH in Schools can strengthen community and school relationships and can lead to other development actions in and out of school, e.g., construction of classroom blocks, teachers' houses, health posts, libraries, etc., following the installation of water points.
- Leading with SLTS effectively mobilizes communities for up-front contributions and continued involvement.
- District project implementation teams must be well staffed as the bulk of the work falls to these teams. This work includes supervision of borehole drilling and carrying out environmental mitigation requirements which were not factored in at the project outset.
- According to many head teachers, access to safe drinking water and handwashing has helped to reduce absenteeism due to illness in pupils. The SPLASH Outcome Study supports this observation by showing a dramatic reduction in absenteeism when WASH is present.

4.2 TASK AREA TWO: ADOPTION OF BETTER HYGIENE PRACTICES

4.2.1 School-Led Total Sanitation/WASH-Friendly Schools

SPLASH "triggered" 335 schools via SLTS, joining forces with trained community-led total sanitation (CLTS) champions and the EHTs to stop open defecation and adopt improved hygiene. This approach was effective and low cost. It should be noted that SPLASH's SLTS approach led to creation of WASH friendly schools where ending open defecation was one element, whereas CLTS aims only at achieving community ODF status. The triggering process grouped pupils, teachers, the PTA, and influential community members, using tools such as drawing of school sanitation maps, walk of shame, feces calculation, illness expense calculation, focus group discussions, and development of School WASH action plans. Implementing school action plans led to schools becoming "WASH Friendly", that is, attaining a fixed set of WASH improvements agreed on by the DEBS and local authorities, and assessed by their representatives. The results of this approach are the following:

- SLTS contributed to the establishment of school WASH clubs to promote improved hygiene practices; as a result, schools have constructed many tippy taps and pupils habitually wash their hands with soap/ash at critical times.
- The children have proved to be effective agents of change—carrying hygiene education from the school to the community. [*http://www.washplus.org/sites/default/files/zambia-change_agents2014.pdf]*
- Parents have increased their support toward WASH activities, including providing WASH consumables such as tissues, MHM materials, and soap, which was not the case prior to triggering.

- Schools working with the PTAs and WASH committees have established sustainable ways of providing WASH consumables (soap, menstrual pads, and toilet tissue) to pupils, such as coming up with fundraising ventures, e.g., gardening, bee keeping, small scale enterprises.
- Reported and observed improvement of hygiene practices among the pupils such as washing hands and food before eating.
- SLTS contributed to 133 schools attaining WASH-Friendly status as of the end of August, 2015.
- SLTS activities have contributed to creating demand for WASH, increased support for WASH by the PTA/teachers and community members, and influenced behavior change.
- As part of its cost share obligation, SPLASH inventoried over 9,000 household latrines that have been attributed by communities and schools to the spillover effect of the inclusive SLTS process.

Lessons Learned

- SLTS triggering with multiple sectors involved increases coverage, saves money, and enhances behavior change.
- Combining SLTS with classroom learning increases the adoption of hygiene behavior by the pupils.
- SLTS activities are effective when combined with the provision of physical infrastructure (latrines, handwashing stations, drinking water points) to support behavior change.
- Children are effective agents of change for hygiene behavior both at school and at home and hence they should always be involved in SLTS triggering activities (see Emory/SPLASH report on Children as Effective Agents of Change at www.washplus.org/zambia).
- Application of participatory approaches during triggering empowers and builds confidence in the community-level stakeholders and beneficiaries to find solutions to school and household WASH challenges.
- SLTS activities are critical for creating demand for school WASH facilities, services, and products. SLTS activities should, therefore, launch WASH in Schools programs and then send a signal for hardware to follow up.

4.2.2 Integrating WASH in the School Curriculum

SPLASH worked within MGE structures and programs to integrate WASH into the school curriculum and extracurricular activities. One program that the project worked with is the SPRINT (School Programme of In-Service for the Term). The SPRINT system is a school-based vehicle through which all MGE teacher In-Service Education and Training (INSET) and continuous professional development initiatives are conveyed. SPLASH engaged teachers by aligning WASH in Schools activities within the SPRINT system. By working through the SPRINT system, teachers at the zonal and school level were able to incorporate WASH messages into their lesson plans. A number of locally made teaching and learning aids were developed. The WASH in School teachers' guide, the WASH-Friendly school manual, and the Menstrual Hygiene Management

Toolkit, among other publications, helped to resource the SPRINT/CPD activities at zonal and school levels.

SPLASH's work with the teacher education department at the province and district levels through the resource centers culminated with the integration of WASH themes into the national curriculum. The project provided training to all curriculum development specialists at the MGE headquarters on WASH teaching. School text books produced under the new curriculum carry WASH themes and ideas. This is a sure way of sustaining WASH in Schools teaching and learning pedagogies outside the SPLASH or USAID sphere of influence.

As teachers who participated in WASH in School focused CPD activities started to realize that the school was the center for curriculum development. In the past, teachers taught the 'received curriculum' from the Curriculum Development Centre in Lusaka. Working within the SPRINT system helped the teachers to produce learning support materials instead of waiting for the MGE to procure these. SPRINT helped in overcoming myths and taboos around MHM. Pupils, teachers and the communities openly discussed menstruation and its effect on school attendance, producing a cultural change among men and women. Integrating MHM in lesson plans and in teaching helped to demystify the topic as it was seen as part of the curriculum.

4.2.3 School WASH Clubs

Out of class, WASH activities are key and complementary to in-class WASH activities. WASH clubs provide the structure and platform for pupil-run activities that typically include fairs, quizzes, debates, poetry, songs, and other practical activities aimed at educating their peers on improved hygiene practices. Approximately 496 active pupil-run WASH clubs were established. SPLASH helped with establishing these clubs through the SPRINT zonal structure, training of the initial peer educators as well as SHN, guidance, and counseling teachers who are club patrons/matrons. WASH guides were provided as resources to 370 schools. Teachers that participated hygiene education curriculum integration learned that children were change agents who carried hygiene education messages from the school to the community. This resulted into handwashing becoming prominent a habit.

Lessons Learned

- The formation of WASH clubs in the schools provides more opportunities for participation than traditional classroom learning. The WASH clubs have turned out to be more fun for children as they are involved in games and competitions on hygiene-related issues. Being in clubs also helps children develop leadership skills and determine their own priorities for health and hygiene activities.
- Promoting use of locally made learning and teaching aids is a useful tool in supporting both in-class and out-of-class WASH activities.
- The children can and have become powerful advocates for change among their peers, family members, and the wider community. In most of the WASH-related events carried out under the SPLASH project, these social change agents have taken part in public awareness

campaigns, motivation in the home, and teaching and helping younger siblings practice healthy hygiene and sanitation behaviors (including MHM).

- In some schools, club members work with groups of children to keep the schoolyard clean and to clean water points and toilets. This has been particularly helpful because many schools cannot afford to pay a janitor to clean the facilities each day.
- WASH clubs offer many opportunities for children and teachers to experiment outside classroom constraints and the fixed curriculum. For example, the WASH clubs have made it easier to take community walks, observe conditions, conduct small experiments, or develop songs or dances on health and hygiene themes. In some districts, school WASH club members gave talks to women attending antenatal or under-fives clinics.
- Sustainability of school WASH clubs: The DEBS in all four SPLASH supported districts gave directives to all schools under this task area to establish the WASH clubs, and gave guidance on how these clubs were to be managed.
- Integration of hygiene education in school curriculum i.e. lesson plans, schemes of work, co-curricular activities such as WASH Clubs improves the quality of pedagogical processes of teaching and learning. Lessons are more holistic and rich.

4.3 TASK AREA THREE: STRENGTHENING WASH IN SCHOOLS GOVERNANCE SYSTEMS

4.3.1 School Level – PTAs, School WASHE Committees

SPLASH established and trained WASHE/SHN committees in 362 schools and supported PTAs to manage WASH at school. The project provided capacity building and technical support that included the following: training in community-based O&M of WASH facilities, WASH-Friendly school approach to behavior change, school-based project and subgrant management, and record keeping and monitoring related to WASH activities. The key players included the PTA, school WASH committees, EHTs, area pump menders (APMs), SLTS/CLTS champions, teachers, pupils, and the community members.

With the capacity building and technical support provided, the PTAs and WASHE committees influenced schools to include WASH in the annual action plans and budgets and engaged community members to contribute funds or in-kind resources towards the O&M of the school WASH facilities.

The project has trained the 190 APMs to carry out routine maintenance to ensure functionality of WASH facilities. Further, through the APMs, schools are able to easily access the spare parts for boreholes from the suppliers and the Local Authority.

These school-level structures hold quarterly review and planning meetings to ensure coordination and synergy.

Lessons Learned

- Involvement of multiple stakeholders at the community/school level during the early stage of project implementation enhances coordination and improves coverage and impact. The locally available physical and human resources are fully utilized at a minimal cost. Local innovations, initiatives, and knowledge can provide context-relevant interventions, increase ownership and sustainability of WASH facilities.
- Improved governance, coordination, and collaboration among stakeholders increases efficiency, effectiveness, and provides holistic support to school WASH programming. For example, the effective involvement of PTAs, WASHE committees, APMs, EHTs, WASH clubs, and community members provided holistic support to WASH in schools programming.
- The SHN program, SOMAP, and other policies especially "Educating our Future" of 1996 formed an efficient entry point and structural support to WASH implementation.
- School administrators and the PTA as well as DEBS showed weak financial management capabilities for construction works. An intensified financial management skill building program can be built into a school WASH program from the start.
- PTA/School WASH committees are able to supervise construction works if they are assisted and supported by trained project technical staff.
- Some schools took a long time to mobilize community contributions for the latrine construction work. Usually this was due poor relations between school management and communities. Changing school leadership resulted in better community mobilization, and the project had a facilitating role to improve communications.

4.3.2 School WASH Governance at Provincial/District Level – P/D-WASHE and DEBS, Auditors

i. P-WASHE Committee for the Eastern Province

To address a gap in formal provincial-level WASH governance and coordination, SPLASH supported the MLGH through the Department of Housing and Infrastructure Development (DHID) to establish a multi-stakeholder Provincial Water, Sanitation and Hygiene Education (P-WASHE) Committee for Eastern Province. SPLASH and DHID conducted stakeholder consultative meetings and developed the terms of reference and composition for the P-WASHE Committee. Approval for the formation of the P-WASHE Committee was obtained from the cabinet office through the Provincial Permanent Secretary. The P-WASHE Committee for Eastern Province was established in April 2013 and was officially launched by the Provincial Permanent Secretary at a ceremony where SPLASH was recognized as one of its main champions. As a result of the oversight role that the P-WASHE Committee plays, D-WASHE Committees in Eastern Province are strengthened. Now MGE is an active participant in the D-WASHE meetings, improving support to school WASH.

ii. D-WASHE Committees

The D-WASHE Committee acts as an overall supportive inter-sectoral multi-stakeholder WASH technical platform (subcommittee) under the Local Authorities' District Development Coordinating Committee. All government departments at district level are members. The Local

Authorities (District Councils or municipalities) chair the D-WASHE committee meetings and host the secretariat. In partnership with MLGH/DHID, SPLASH facilitated the engagement process and capacity building to ensure that D-WASHE members in all four districts have the required skills and systems to manage school WASH. A 2011 PST assessment of the capacity and functionality of all the D-WASHE Committees in Eastern Province found weaknesses in planning and coordination, M&E, and resource mobilization. SPLASH worked with DHID and PST in D-WASHE trainings, coaching/mentoring, and exchange visits, using training modules covering planning and coordination, M&E, resource mobilization, community-based O&M, CLTS and SLTS, among others.

Experiences from the four SPLASH districts show that the capacity building interventions provided by the project have translated into tremendous improvements in the capacity and functionally of the D-WASHE Committees, especially in Chadiza, Mambwe, and Lundazi. The committees are now fully functional, meet regularly, and some of the key stakeholders in the WASH sector such as MGE, Ministry of Works and Supply, and the private sector are now active members of the D-WASHE Committee.

Further, the D-WASHE Committees have been able to develop district WASH Total Sanitation Strategic Plans (three year rolling plans) that include school WASH and provide technical support to zonal and other subdistrict structures, including training in planning and budgeting for school WASH, O&M, and school WASH action plans and budgets for inclusion in the district Total Sanitation Action Plans.

iii. Subgranting to DEBS and MGE Auditors

The infrastructure component of the SPLASH project was largely funded through a subgranting mechanism to MGE through the DEBS. SPLASH issued subawards to DEBS offices in FY13. Funding for the 108 FY13 and FY14 schools in Chipata, Lundazi, and Mambwe was disbursed to the DEBS, which in turn disbursed the funds for construction of WASH facilities to targeted schools. The schools made all the payments for labor, transport, and administrative expenses based on agreed budgets and approvals from the DEBS office. The expenses were tracked/monitored by officers from the DEBS and the SPLASH team.

SPLASH conducted regular monitoring and compliance reviews. At district level, SPLASH District Engineers and DEBS Buildings Officers conducted monthly site visits to monitor and supervise construction works, including usage of materials and stores records. At provincial and national level, project staff also conducted periodic monitoring visits to the DEBS and beneficiary schools to review and verify records on storage, handling, and usage of project materials and funds.

This system had benefits such as enhancing the capacity of the DEBS and beneficiary schools and much greater school and PTA involvement, encouraging school and community ownership of the infrastructure. In spite of rigorous compliance and monitoring, SPLASH encountered issues of limited capacity by DEBS in financial management, weak internal controls, lack of competent audit staff, and poor stores management in schools. Cases of misappropriation of

funds were uncovered and handled with involvement of the province and MGE auditors, who were included in the monitoring exercise for capacity building as well.

Capacity limitations were also observed at school level where in some cases, there was no segregation of duties due to inadequate staffing, leading to material shortages and poor record keeping.

Achievements

- The project trained 17 MGE officials at provincial and district level in project planning and budgeting, financial management, and compliance. The main purpose of this training was to equip MGE staff at provincial and district level with knowledge and skills in financial management, donor regulations, and reporting requirements as well as orient them on the key provisions of the DEBS subawards.
- 20 MGE staff at provincial and district level were trained in USAID rules and regulations and financial management, including internal controls, procurement, and compliance. This training was also aimed at addressing some of the risks/capacity gaps identified in the DEBS during the pre-award assessment.
- The project also supported the DEBS teams to train school management teams, PTAs, and Works Committees in 108 schools that were targeted for WASH facilities construction through the DEBS grants. This training covered key aspects related to the roles and responsibilities of the school management teams, PTAs, School WASHE and Works Committees, project planning, budgeting, and implementation. Further support was provided to both DEBS staff and schools through onsite mentoring and coaching on various aspects relating to management of grants such as planning and budgeting, financial management, accounting, and reporting.

4.3.3 Operations & Maintenance – Systems and Sustainability

At the start of SPLASH, the gaps to sustainable O&M for school WASH infrastructure were:

- Nonfunctional WASH infrastructure (toilets and water points)
- No budget line for WASH O&M in schools' budgets
- Lack of willingness to pay for WASH services by parents and community users of water points
- Donor dependency syndrome
- Weak linkages to national level O&M framework, e.g., SOMAP
- Weak local technical know-how (building artisans, existing area pump menders).

SPLASH provided WASH infrastructure through a service delivery model aimed at creating demand for WASH services by user communities and schools, building capacity at zonal and district levels to respond to the demand, and strengthening institutions and policies at district and provincial levels to ensure sustainability of O&M. Offering innovative solutions to commonly encountered technical and organizational problems and linking school efforts to community development and ownership supported sustainability.

To achieve the above SPLASH undertook the following:

- Trained 190 APMs who were certified by the Local Authorities and DEBS office and equipped them with 80 toolkits.
- Encouraged local businesses to stock WASH consumables like toilet tissue, soap, menstrual hygiene pads, creating a win-win situation for the businesses and schools.
- Included O&M indicators in the provincial institutional standards monitoring tool for use by standards officers to ensure enforcement of WASH standards in schools.
- Advocated for inclusion of WASH budget lines in school budgets to support O&M (both for repairs and WASH consumables).
- Supported PTAs and local communities to come up with self-sustaining funding of O&M and WASH services. Different funding ventures include pupils making or repairing tippy taps, digging rubbish pits, and slashing grass in the community, and charging for services. Schools also grow and sell produce from school gardens—such as beans, pumpkin leaves, and tomatoes, and beekeeping for honey.
- Rolled out O&M to all schools through zonal structures in all intervention districts. The project also developed operation and maintenance guidelines for managing WASH facilities in schools.
- Developed local private sector dealers of spare parts for pumps in districts where spare parts shops were not set up by the district councils.

Achievements

- The majority of SPLASH schools have an O&M budget line.
- Almost all schools stock WASH consumables.
- 100 percent of SPLASH-constructed toilets and handwashing facilities were operational in the last year of the project.
- 80 percent of SPLASH new or rehabilitated water points met operational sustainability criteria in the last year of the project.
- 80 percent of intervention schools had adequate and sustained streams of revenue to operate and maintain WASH facilities.
- All schools are incorporated into the existing national O&M framework.
- Trained service providers will be certified once the training is completed and the providers meet established standards.
- Local shops stocked spare parts after work with project.

Lessons Learned

- Inclusion of community participation in planning and implementation of O&M interventions creates willingness to contribute to O&M costs and ownership by users.
- Joint planning between project and beneficiaries reduces donor dependency.
- Knowledge transfer to local entities ensures locally driven O&M.
- Use of existing government support structures and NGO counterparts to implement a uniform policy on water and sanitation in schools including O&M of WASH facilities allows for implementing at scale.
- There is a need to strengthen the capacity of local authorities for maintaining spare parts mechanisms to ensure sustainable spare part supply chains.

- Storage of toolkits at centrally located places such as health centers or schools is cost effective and allows for kits to be used by several APMs at different locations.
- APMs operate efficiently when they are able to easily access spares and toolkits and need to cover many water points for the service to make economic sense for them.

4.4 TASK AREA FOUR: IMPROVING WASH IN SCHOOLS POLICIES

4.4.1 National – Curriculum, SHN Policy Revisions, TWGs

As discussed in 4.2.2 curriculum activities at school and zonal level culminated with the integration of WASH themes and activities into the national school curriculum. SPLASH worked with another USAID/Zambia funded project (Read to Succeed) to support the MGE and partners to review and develop the SHN policy. When this was submitted to the cabinet office through the MGE, the ministry was asked to incorporate the draft into existing policies. The Zambia National Commission for UNESCO was tasked to spearhead further development of the policy and integrate it into other existing MGE policies. This matter was ongoing at the close of SPLASH.

4.4.2 Provincial – School Monitoring Tool with WASH/MHM Sections

At the request of the Eastern Province PEO, SPLASH organized a weeklong workshop in 2013 for all Standards Officers from Eastern Province to revise the existing school monitoring tool to include WASH. This revised instrument has been adopted by the entire province (not just SPLASH districts) as the official tool to assess schools, and includes indicators on water supply, sanitation, O&M, handwashing, and MHM.

4.4.3 District – Strategic Plans and Budgets

SPLASH provided technical assistance to the DEBS teams and D-WASHE Committees on planning and budgeting for school WASH, i.e., selecting schools for WASH infrastructure improvement and developing and consolidating school WASH infrastructure improvement plans into district strategic plans and budgets.

SPLASH enhanced the capacity of the DEBS to manage all processes for school WASH improvement such as formulation of strategic plans and budgets, tendering/procurement, construction, and supervision including financial management and accounting. As a result, schools and districts are now able to include WASH activities in their strategic plans and budgets.

Lessons Learned

- Involvement of the D-WASHE Committees in the school selection, planning, and budgeting processes is necessary to ensure that school WASH plans and budgets are incorporated into the overall district WASH strategic plans and budgets.
- Despite the significance of school WASH in contributing to learner performance, school WASH activities are usually not an MGE priority during the development of strategic

plans and budgets. There is still much work to be done to generate more evidence in support of advocacy for school WASH.

- Although the subgranting mechanism has benefits such as enhancing the capacity of the DEBS and beneficiary schools, providing for greater school and PTA involvement, and encouraging school and community ownership of the infrastructure, this approach has its own inherent risks especially with government institutions that have weak capacity. It is therefore necessary to always carry out a comprehensive risk assessment of the implementing partner before issuing subawards to come up with a viable risk mitigation and capacity improvement plan.
- Due to the high rate of staff turnover in most government institutions, capacity development initiatives should be an ongoing process focusing more on systems strengthening rather than individual capacity building. Capacity development activities should also focus on changing attitudes toward donor support and development work.

4.5 TASK AREA FIVE: STRENGTHENING CAPACITY OF LOCAL SERVICE PROVIDERS

For WASH in Schools and surrounding communities to thrive, a cadre of small-scale providers of goods and services is needed to run economically sustainable ventures that ensure availability of goods and services that develop WASH infrastructure and support viable O&M systems. During its four years, SPLASH worked with a cadre of small-scale service providers and artisans that included APMs, local artisans/bricklayers or latrine builders, caretakers, and technical or building supervisors. The project conducted activities aimed at strengthening the capacities of the various cadres of small-scale service providers. At the same time, SPLASH worked with schools to establish a funding stream to be able to procure available WASH goods and services. At the end of SPLASH, the DEBS together with project staff conducted surveys to establish the availability of tools and materials for proper operations and maintenance of services, the availability of WASH consumables, and school work plans, budgets and sources of revenue for purchasing goods and services.

4.5.1 Area Pump Menders – Training and Support

A large component of SPLASH's sustainability plan was to train APMs to rehabilitate, maintain, and repair water points that have been installed at schools and provide them with the necessary tools to conduct repairs and maintenance.

Achievements

- 190 APMs (150 males and 40 females) were trained and certified in four districts. SPLASH partnered with MLGH to develop a six-month apprenticeship and mentoring program for APMs to hone their skills and learn business skills to become self-sufficient WASH service providers. More experienced APMs were paired with new trainees as mentors and supervisors.
- SPLASH procured and distributed 80 APM toolkits to equip trained APMs.
- SPLASH with Local Authorities established 65 toolkit centers in all four SPLASH districts, which are mainly GRZ institutions, i.e., schools and clinics. The toolkits have been distributed to these centers where APMs can access them for a small fee. This

mechanism is in line with the National Rural Water Supply and Sanitation Program 2007–2014 strategy document and the MLGH Sustainable O&M Approach (SOMAP) implementation manual for rural water supply infrastructure.
- The creation of APM catchment areas and toolkit centers has ensured that all water points, even those that previously had no APMs to conduct maintenance and repair work, are covered. This has reduced the water point down time (the period between hand pump breakdown and repair) and improved reporting and monitoring of the functionality of water points in the districts.
- SPLASH also produced "School WASH Operations and Maintenance Guidelines," which have been distributed by DEBS to all schools in the four districts.

4.5.2 Local Artisans and Vendors – Training, Support, and Economic Empowerment

SPLASH adopted the community contracting model for the construction of sanitation facilities. Under this model, each school worked with PTAs and other community members to advertise the labor based contracts and select local artisans (bricklayers, plumbers, painters, and carpenters) and procure building materials.

Achievements

- All 3,044 latrines, 662 handwashing facilities, 386 washrooms for girls, etc. were constructed using local artisans with the DEBS Buildings Officer and SPLASH engineers supervising and certifying the work.
- To strengthen the capacity of the local artisans and ensure that their work is of good quality and in accordance with the required construction standards, the project trained and certified 1,463 artisans, i.e., bricklayers, plumbers, carpenters, painters, and technical supervisors in basic construction standards. Training was done through workshops; on the job training; and onsite mentoring, coaching, and short-term apprenticeship programs.
- All 1,463 trained artisans have been given certificates of apprenticeship through DEBS for artisans and the Local Authorities for APMs. To enhance the certification process, SPLASH worked with MGE to develop district registers for artisans and service providers for use by the DEBS and D-WASHE to access the artisans and service providers active in school WASH. The artisans are now able to find new jobs with other organizations including established construction companies.
- The artisans have also been economically empowered through labor contracts supported by SPLASH. The project spent USD $3,775,000 on school WASH infrastructure development (excluding the drilling and equipping of new boreholes) and about 25 percent (USD $944,000) was used to pay artisans. This considerable amount of money was injected into and contributed to the growth of the local economy. This has resulted in improved living standards of the artisans and their families: they mostly used their earnings for basic necessities such as food, school fees, and medical costs, or to invest in agricultural productivity or purchase of livestock. Others have invested in small business development.

Lessons Learned

- Hiring local vendors/artisans leaves skilled person power in communities where SPLASH worked. This will ensure long-term sustainability of project interventions as the local artisans will be available to carry out repairs and maintenance of WASH facilities both in the schools and surrounding communities.
- School WASH O&M can and has become a driver for economic empowerment of small-scale service providers.
- Availability of well trained and experienced local pump menders and artisans is critical for an effective O&M system. This provides a link to the SOMAP system of RWSS under the MLGH in that all schools now know their APMs and where to get spare parts for their water points.
- SPLASH generated several other unanticipated benefits to local communities such as skills training and economic empowerment for local artisans and APMs. The lesson is that comprehensive WASH in Schools can lift up and benefit entire communities.

"Besides being in gainful employment, the life skills I gained from being trained as an APM have enabled me to raise additional income to feed my family, whilst at the same time provide a lifesaving service to my community." — Mathews Daka, APM Chadiza Central Ward

"I dropped out of school for lack of school fees and was confronted with a grim job outlook. When the USAID/Zambia SPLASH project began building school latrines near my village, I went to see what was going on and kept observing the construction, offered my services, and helped out here and there. After two weeks, I was hired as a helper to carry materials for the artisans constructing the latrines; all the while I continued to observe what the workers were doing during the construction. Not long after, the project sent out engineers to teach skills in basic construction. I signed up and was trained. Now, I have building skills, and have made enough money to go back to school where I want to study engineering and supervise artisans. I am so grateful to SPLASH and USAID for bringing a flicker of light in my dark tunnel." —21-year-old Masauso Zimba of Fyofyo village in Lundazi District

5. MONITORING and EVALUATION

5.1 Monitoring Approach/Plan

SPLASH developed custom indicators in addition to three USAID core indicators and a plan for collecting monitoring data that are described in the Project Monitoring and Evaluation Plan. SPLASH's key challenge was that it was designed to respond to two sets of outcome indicators, one from the education sector (improved reading outcomes by 2017) and one from the USAID Water Strategy (increased access to water supply and improved sanitation). Normally WASH programs don't respond to Education indicators so the challenge was for SPLASH and MGE to arrive at proxy indicators for educational achievements that can be measured by the SPLASH program that did not have the mandate or skill base for measuring test results, for example.

Monthly monitoring activities collected gender disaggregated data on the key water/sanitation access indicators and on indicators reflecting desired results from each Task Area. These were generated in each district and collated at the provincial level into a single report. The development of the SPLASH database greatly enhanced the monitoring process and will continue to serve the DEBS standards officers post-SPLASH. Educational outcomes were assessed via a School Outcome Study in the final project year (see 6.1 below) that measured proxy indicators for learning improvement.

5.2 Development, Use, Sustainability of SPLASH Database/Water Point Mapper

The project developed an online database and water point mapper as a project management tool. This was eventually handed over to the provincial and the four district education offices in Mambwe, Chipata, Chadiza, and Lundazi. The database and water point mapper made WASH in Schools data more reliable for evidence-based school WASH improvement decision making at the school and district level. As of the close of the project, absorption of the M&E system by MGE via the database was an issue whose outcome was still pending. Both the database and mapper are web-based systems, with GPS and photographic evidence of the state of the infrastructure (in the case of the mapper) that can be used to monitor progress toward WASH improvement goals. The project is aware of the challenges of sustained Internet access at the provincial and district offices, but it is encouraging that 96 percent of Zambian internet users access the Internet by mobile phones according to Internet World Statistics. This provides an opportunity for government employees in charge of data management to access this service using their phones.

5.3 Evaluation: Baseline and Endline (Key Results)

SPLASH conducted a Baseline Facility Assessment in 2012, designed to assess the status of WASH facilities in schools in the four SPLASH intervention districts. Using a quantitative research approach coupled with qualitative data collection methods involving field observations, the following were the key findings of the baseline:

The baseline surveyed a total of 633 schools with the largest number of schools being government (64 percent), followed by community schools (33 percent), and lastly grant-aided schools (3 percent). Seventy-one percent of schools had water supply, but up to half of these required repairs. The majority of schools had some form of toilet, but only 29 percent were an improved variety. Access to handwashing facilities was low (31 percent) and only 6 percent of schools had any soap available. Baseline results were used to plan school WASH facility improvement activities.

6. Research Studies

6.1 School WASH Outcome Study – Key Results and Link to Report

To address the key question of whether school WASH has an effect on learning outcomes, SPLASH conducted the longitudinal School Outcome Study over a 10-month period covering

three school terms. It was a cluster design including 62 intervention and 62 control schools matched on contextual variables where absenteeism was tracked in odd number grades (1, 3, 5, 7, and 9) to explore impact of WASH, especially among girls. Two measures of student absenteeism were taken: roll call conducted by program field staff once a quarter during two school terms, and reported absenteeism among learners during the two weeks prior to the school visit. Follow-up visits to parents were made to explore reasons for absenteeism. The study clearly establishes that improved WASH conditions and education in school had a positive effect on pupil and teacher absenteeism and teacher-pupil contact time. Schools with WASH had a 36% lower absenteeism rate for 2 week recall compared to schools without WASH, controlling for five confounding factors. Both boys and girls benefitted equally from WASH in school. See the full study report at www.washplus.org/zambia.

6.2 MHM Study – Key Findings, Conclusions, Recommendations, and Link

SPLASH conducted a qualitative research study in Eastern Province on menstrual hygiene management, with the following objectives:

- To determine the prevailing knowledge, attitudes, perceptions, norms, barriers, and practices related to MHM primarily among adolescent schoolgirls and other target groups in selected rural and urban basic schools in Eastern Province; and
- To identify facilitators to improve MHM from the perspectives of primarily adolescent schoolgirls and other target groups, including suggestions and strategies.

The research included 16 focus group discussions (FGDs) with adolescent girls 12-15 years old who have begun menstruation and who are in grades 6-8; eight FGDs with adolescent boys 12-15 years old who are in grades 6-8. The research confirmed conditions and attitudes on menstruation encountered by SPLASH, and illustrated via direct quotes from girls and boys how seriously lack of MHM possibilities impacts girls' educational potential. Recommendations from the research are aimed at MGE decision-makers to roll out MHM in schools via girl friendly facilities, teacher training and access to products. This can happen on a sustainable basis by including MHM in strategies, workplans and budgets. See the full research report at www.washplus.org/zambia

6.3 Emory Studies (Children as Change Agents, Hydration)

SPLASH contracted Emory University to carry out two studies addressing questions related to school WASH that have been hard to assess. SPLASH was ideal for the following investigations:

Children as Change Agents: As part of WASH interventions in low-income settings, it is frequently assumed that pupils can disseminate information and catalyze change at home, yet this assumption has not been rigorously assessed. The research employed qualitative methods in two phases to assess the potential for children to be change agents in five schools in rural Zambia. Phase 1 included role play and FGDs among pupils on their perceived ability to serve as change agents. Children were then given "homework" that included information on health messages and information on how to build a handwashing station, and were encouraged to engage their family. In Phase 2, the researchers conducted separate FGDs with pupils and mothers on their experiences with the homework. They found that pupils are capable of

communicating WASH knowledge and behaviors to family members, however, discrete activities and guidance are required.

This finding is fairly unique. In general, people assume and state that children can be agents of change, but the study actually demonstrates this. It supports the school WASH approach that heavily involves students in school-based activities such as SLTS and WASH Clubs, and calls for school systems to develop school to home assignments and programs on WASH themes, to ensure a spread effect.

Cognitive Effects of Hydration: Access to drinking water during the school day may improve children's ability to learn through the positive effect of hydration on attention, concentration, and short-term memory. The researchers conducted a randomized-control trial in five schools without water points in Chipata District to assess the efficacy of water provision on measured hydration and cognition. Pupils in grades 3-6 were randomly assigned to receive either a bottle of drinking water in the morning that they could refill throughout the day or were not provided with supplemental water and could only access drinking water that was normally available at the school. The research found no association between water provision and cognitive test scores and no association between afternoon hydration levels and cognitive test scores. Additional research is called for on this topic.

Both research reports are available at www.washplus.org/zambia

Lessons Learned

Monitoring

- Collecting baseline and school monitoring data using mobile technology is cheaper than using paper forms and increases data quality as it is collected in real time. This approach could be used by the MGE to collect annual school data which takes almost two years or more to verify. Further, use of mobile technology for data collection eliminates double entry of data.
- The SPLASH database has provided the platform for the MGE to integrate WASH in school data into the EMIS since the database was populated using unique identifiers such as EMIS numbers for schools. If well-linked to the MGE databases, EMIS database users can search for schools, districts, and provinces in the SPLASH database (if expanded to other provinces) by using the same IDs used in EMIS. By implication, data exported from the SPLASH database can also be integrated into EMIS more easily by utilizing these linkages. With the basis for linking EMIS and WASH in school established, cross-analysis of data from the separate platforms could be possible once an integration interface has been developed, as proposed by the MGE with support of education sector actors.

School Outcome Study

- In future similar studies, continue to track outcomes using a longitudinal approach. Preferably do such studies within the same school year and, if possible, attribute an ID code

to each child so one can track the attendance of specific individuals over time. Include more than one collection point per term or season to be able to track outcomes more closely.
- Systematically collect information available in official school attendance registries to compare study roll call information with official data, and conduct any comparative analysis taking into account the days when school visits take place.
- Expand the area of inquiry to include reasons for teacher absenteeism as well as student applications for enrollment. In the Zambia context, tracking enrollment alone would not provide the full picture of the demand for school services because once capacity is filled, schools turn down applicants. Future studies should include how many applicants were turned down as well as enrollment numbers and whether or not schools are operating to full capacity.

7. Knowledge Management, Documentation, and Communication

7.1 Approach and Activities (participatory materials development, documentation international day commemorations)

The main objective of this component was to collect, share, and disseminate knowledge and experiences generated through SPLASH, and support field activities with relevant technical documents.

7.2 Planned Activities

- Document SPLASH activities and results via stories, videos, and photographs
- Organize and participate in international commemoration days
- Produce and publish teaching and learning support materials on WASH in Schools topics
- Facilitate the formation of communities of practice and encourage organizational learning

7.2.1 Document SPLASH Activities and Results Via Stories, Videos, and Photographs

During the life of the project, more than 25 stories were collected, some of which were documented in a SPLASH success stories booklet, five videos were produced (on the SPLASH Indaba, Mnkhanya launch of SPLASH facilities, commemoration of Menstrual Hygiene Day 2015 at Nsanjika Primary school, MHM poem by Mangweru School for the Blind, End of Project Overview of SPLASH Accomplishments, and the End of Project Event). A library of over 300 photos has been compiled and will be available via the WASHplus website.

7.2.2 Organize and Participate in International Commemoration Days

The project used WASH commemoration days such as World Toilet Day, Menstrual Hygiene Day, Global Handwashing Day, and World Water Day to educate, teach, and inform pupils, surrounding communities, and the nation at large about the importance of adopting good hygiene practices. The importance of school WASH and its impact on school-going children was

also highlighted. The project used these fora to bring on board private sector partners who were always willing to contribute items like food, soap, toothpaste, water, toilet cleaning products, water, reusable and disposable menstrual pads, as part of their social corporate responsibility to pupils and community members.

7.2.3 Produce and Publish Teaching and Learning Support Materials on WASH in Schools Topics

The project published the following publications, which have since been distributed to schools and key stakeholders.

1. The Menstrual Hygiene Management Toolkit
2. WASH Situational analysis
3. SPLASH Baseline study
4. A Teacher's Guide to Integrating WASH in School
5. WASH-Friendly Schools: A Training Resource for SPLASH Use
6. School WASH Facilities: Operation and Maintenance Guidelines
7. SPLASH Success Stories booklet
8. WASH in the mind of a Child
9. SPLASH in Pictures

Project Information Products

1. SPLASH brochure
2. Menstrual hygiene brochure
3. Menstrual Hygiene folders
4. SPLASH promotion folder
5. SPLASH menstrual hygiene profile
6. SPLASH in numbers
7. Knowledge Management Strategy

7.2.4 Facilitate the Formation of Communities of Practice and Encourage Organizational Learning

The project used communities of practices (COP) as a vehicle through which best practices were shared from one district to another. During COP workshops and exchange visits, lessons were learned and problematic issues addressed enabling the project to capitalize on good practices that were later replicated in all the districts leading to effective and efficient delivery on project targets and deliverables.

During quarterly reviews, the project encouraged organizational reflection, which was done through sharing of what was working well. This was strengthened with team building sessions, which stirred the spirit of team work and group learning.

Lessons Learned

- Knowledge Management and documentation must be planned for and budgeted at project outset and all field staff should receive training and tools for documentation to

ensure that everything worth sharing is documented. SPLASH did this, but not from the outset.

- Knowledge management and documentation staff positions could be decentralized to better support field staff in carrying out KM related activities and in doing them close to the action. If budget permits, KM staff at national and provincial level is ideal.
- Creating COPs is a very effective knowledge and information sharing mechanism and can be built into project design. It can be especially effective in an integrated, multisectoral undertaking.

8. Procurement and Cost Share

8.1 Procurement Systems – Experiences and Lessons Learned

SPLASH's large school WASH infrastructure program required a great deal of procurement of various goods and services such as:

- Borehole drilling services
- Supply of construction materials and transport
- Labor based contracting for construction of WASH facilities

Through its systems strengthening strategy, the project attempted to work according to existing government procurement systems. The MGE uses two procurement systems for school construction:

1) Centrally-managed competitive procurement for large contracts: In this system, the school communities have limited (if any) involvement in infrastructure planning or tender process, consider the infrastructure to belong to the government, and parents do not normally make cash or in-kind contributions toward the construction. This was the case for the borehole drilling work that was done in 120 schools.

2) The school community contracting model: Under this model, schools selected by DEBS for infrastructure improvement develop a plan with the assistance of the DEBS Buildings Officer. If approved, funds are transferred from DEBS to the school account for payments of both materials and labor. The school/PTA invites bids, receives the tenders, selects a contractor largely based on cost, and issues a contract. The PTA organizes contributions from parents for about 25 percent of the cost, mainly in-kind burnt bricks, sand, stones, and unskilled labor for digging pits. However, in the case of SPLASH this was not completely adhered to due to the late release of purchase order books to the DEBS (as part of VAT exemption). So the DEBS and targeted schools only participated in the tender process and the contracting and payments of artisans. The procurement of materials was done by CARE International.

For economies of scale, SPLASH used the first type of procurement system to hire contractors for borehole drilling but with some modifications. The drilling of new boreholes was let in packages of 40 boreholes per year and only one drilling contractor at a time was hired through a competitive process. However, for capacity building of the DEBS teams, the preparation of tender documents and advertising for borehole drilling contractors was done centrally by the

project, but the evaluation of tenders and final selection of contractors was decentralized to the districts through already existing District Tender Committees. The district teams were also responsible for supervising the contractors and works certification. Thus, capacity has now been developed in the DEBS teams to manage and supervise procurement of large contracts and contractors. In total, five borehole drilling contracts were issued over the life of SPLASH through the system described above.

For the procurement of construction materials and labor for construction of sanitation facilities, SPLASH adopted the community contracting model because it provides for much greater school and PTA/community involvement and ownership of the works, and as a condition for participation, requires significant contributions from the school, PTA, and parents. The MGE policy on sanitation infrastructure development requires that about 25 percent of construction materials be provided in kind by the community. These materials mainly include bricks, sand and crushed stones. The project used local artisans who signed labor contracts with the schools. This was necessary in order to develop and strengthen the capacity of local artisans as service providers to deliver WASH goods and services to the schools and communities.

As a result, a cadre of local service providers, i.e., artisans, is now trained and available to service the schools and communities.

Lessons Learned

- Engagement of local artisans has many benefits/advantages over using large and certified contractors. The use of local artisans also proved to be cheaper. Labor rates paid to local artisans for construction of WASH facilities were in the range of 15–25 percent of the total cost of the infrastructure whereas the rates for certified contractors are usually in the 25–35 percent range.
- Experiences in working with local artisans shows that most of them are not very skilled and require a significant amount of investment in terms of training and constant supervision to attain the desired quality of construction.
- Using different contractors to do the same type of work provides opportunities for comparing the quality and levels of efficiency. For instance, through the use of two different contractors for drilling of boreholes for FY15 the project team discovered that one contractor omitted to carry out one important task on water quality testing (arsenic) while the other contractor did the work as required.
- In spite of the Zambia Procurement Agency increase in allowable levels for procurement at lower levels, tender committees at the provincial and national level seem reluctant to decentralize the procurement processes to lower levels.
- To effectively implement a large project like SPLASH with a huge procurement component, it was necessary to continuously review, adopt, and modify the existing procurement systems to maintain a balance between efficiency and building capacities of government institutions such as the DEBS. Project staffing levels must also be adequate.

8.2 Cost Share – Sources and Benefits

As a contractual requirement of the USAID Cooperative Agreement for WASHplus, SPLASH had to generate contributions to the cost of the project and did so through several sources including:

- Community contributions in the form of locally available materials (bricks, building sand, concrete sand, and crushed stones) and unskilled labor.
- GRZ and other partner contributions during workshops and events.
- Funding from non-USAID funded partners (e.g., UNICEF).
- In-kind contributions from partners that support project objectives (e.g., donation of tree seedlings to plant in schools as an environmental mitigation measure required by USAID).

Cost share contributions demonstrate a high level of buy-in to SPLASH's objectives from stakeholders who showed willingness to contribute in cash or in kind to the costs of the project. The final community contributions by end of project are likely to be well over $1 million U.S. dollars. Cost share generated from SPLASH was $2,385,000.

Lessons Learned

- Community contributions depended on the infrastructure design and the bill of quantities that show what items are community contributions and thus could be costed at the prevailing market rates in individual locations. When communities are involved in the planning and implementation of the project it is easy for them to contribute and easy to calculate the contribution to school infrastructure.
- Calculating unforeseen construction such as the many household latrines built after SPLASH interventions, were more difficult to cost out. In the future, determining a way to measure or cost out spillover construction should be built into the program from the start.

9. Reflections on the Assumptions Guiding SPLASH Design and Implementation

The implementation of SPLASH has generated many lessons, ideas, content, strategies, and approaches that can be useful for future WASH in Schools programming in Zambia. This section provides some reflections on the assumptions, realities, and challenges of implementing SPLASH in a landscape of changing contexts. We reflect on these assumptions to draw lessons from the experience of actualizing strategies and approaches that we thought would work. Most noteworthy are some assumptions that turned out to be inaccurate and led to surprising results. Among these was the sensitive nature of MHM in school. We assumed we could only hope to open the door, but through a comprehensive program that included building washrooms for girls, teacher training, community involvement and other activities, this topic became almost commonplace and accepted as a normal part of school life in SPLASH schools. The taboos seemed to melt away once the topic was opened in a sensitive way.

Another assumption was that there might be some spillover from SPLASH to the community. This turned out to be significant, with household latrines and handwashing stations being built

by the hundreds, with economic effects from skills training of artisans, with additional buildings springing up due to availability of water and attractive models for institutional facilities. The final tally of unexpected construction is:

- 9,200 household latrines (only anecdotally attributable to SPLASH; the rest is a direct result)
- 20 teachers' houses
- 8 classroom blocks representing 16 new classrooms
- 2 school toilets representing 20 dropholes
- At least 2 washrooms for girls
- A new school kitchen
- A health post and latrine
- Plastering, roofing, and other repair work on school buildings

The power of WASH in schools to become a driver of local development was an unexpected but welcome outcome.

The following assumptions presented challenges and also generated important lessons for SPLASH and school WASH in Zambia:

9.1 Government and Private Partners are Willing and Able to Support the Implementation of WASH in Schools

9.1.1 Government Participation

SPLASH worked within the structures of the MGE and other line ministries (MLGH, MCDMC, MOH) in the four districts in the Eastern Province. Project and GRZ staff carried out joint monitoring of WASH facilities and activities in schools. SPLASH worked collaboratively with MGE and MCDMCH officials and teachers to integrate WASH messages in the national curriculum. SPLASH also worked collaboratively with MGE and MLGH to commemorate global WASH-related days such as World Water Day, World Toilet Day, Global Handwashing Day, and Menstrual Hygiene Day.

While some successes were scored, SPLASH faced challenges in implementing the project through government partners, especially in the following areas:

9.1.2 Local Governance and Coordination of WASH

The project worked toward strengthening local governance and coordination of WASH in Schools through the involvement of multiple stakeholders (pupils, teachers, government departments). This approach was successful at the district level because different government departments coordinate through the D-WASHE to support WASH in Schools. However, this was less successful at national level due to a breakdown in MGE and MLGH relations. Only middle management staff attended SPLASH-convened national-level meetings, making follow-up almost impossible. At the school level governance was also successfully addressed with the introduction of the School WASH committee as a subcommittee of the already existing PTA and

having strong linkages to the school works' and preventive maintenance subcommittees as well. SPLASH also worked tirelessly to form the Provincial WASHE committee which has since added a lot of value to the coordination of WASH activities in Eastern Province.

9.1.3 DEBS Subgranting

Assuming that the DEBS teams would lead and be responsible for all school WASH infrastructure development processes, SPLASH planned from inception to provide grants to DEBS for capacity building and decentralization support. SPLASH staff was only to provide technical assistance. This assumption did not work as planned mainly due to limited capacity in the DEBS teams and schools. For example, there was only one Buildings Officer in each district who was expected to cover over 200 schools, in the cases of Lundazi and Chipata districts. SPLASH learned that both the schools and DEBS had no capacity to take on extra responsibilities in financial management, monitoring, and controlling the ongoing construction.

The DEBS offices also lacked staffing in stores management and lacked a procurement unit with qualified personnel. Weak internal control of finances and stores was evident in most schools, leading to pilfering and petty theft of construction materials. DEBS' inability to manage the construction work and provide timely financial reports forced SPLASH to cancel the subgrant agreements and take over most of the procurement, monitoring, and supervision of construction work given its duty to report on targets, outputs, and finances to USAID. DEBS offices' failure to provide monthly financial reports as per agreement resulted in WASH construction slowdowns.

Furthermore, the DEBS subgranting suffered delays on two fronts. Getting approval from USAID for permission to subgrant to the host country government took longer than expected. When approved, there was another delay in the issuance of a VAT exemption certificate for MGE by the Ministry of Finance. This delayed the procurement of materials and construction of WASH facilities in all schools targeted for subgranting.

9.1.4 Water Quality Monitoring and Testing

SPLASH procured five water testing kits to ensure safe drinking water in schools. The kits were kept by the Local Authorities on behalf of the D-WASHE. Mambwe and Chadiza districts did well in water quality testing. However, government partners in Chipata District, and to some extent in Lundazi District, were unable to carry out the water testing on a regular basis due to lack of reagents and demands for allowances from government health officials. Even in cases where the water quality testing was done, the reports were either not shared with the schools or the Ministry of Education. The D-WASHE Committee in Chipata only managed to carry out water tests for 53 schools although SPLASH provided reagents for 200 samples. Further, the reports produced by government partners lack details as the test results were only recorded as positive or negative instead of showing the actual parameter results.

Toward the end of the project, efforts were made to engage high ranking government officials at provincial level to intervene. USAID/Zambia, SPLASH, and GRZ agreed to correct this anomaly. The Eastern Province Permanent Secretary engaged all heads of government departments responsible for water quality monitoring and testing to ensure that government resources were

mobilized and used in the activity. A memorandum of understanding (MOU) on the coordination of water quality monitoring and testing among government departments has since been drafted. In the end, the University of Zambia was contracted to collect 248 samples from rehabilitated boreholes and test for 31 parameters testing included arsenic, lead, fluoride, nitrates, nitrites and fecal and total coliforms. Of the 248 rehabilitated boreholes tested by the project, 11 tested positive for nitrates and 48 tested positive for bacteriological contamination. The project conducted sanitary surveys which showed no other sources of contamination except domestic animals drinking from the water points and evidence of washing of clothes at the water points. These are problems that a strong school WASHE committee should correct, indicating the need for strengthening the school WASHE committees. The project advised the schools to stop the watering of animals at the soak pits, and advised the DEBS to strengthen the school WASHE committees in these schools to ensure these practices which increase the risk of contamination are discontinued. Also, the project advised coordination with the district health offices and local authorities to chlorinate and/or flush the boreholes as necessary.

Please note that at the time of publication of this report, there remained outstanding issues related to testing the water quality of SPLASH boreholes and efforts were underway to retest all boreholes and address any water quality issues identified. The results of the remaining action will be included in the final SPLASH Environmental Monitoring and Mitigation Report.

9.2 Private Sector Participation

SPLASH sought partnerships with private and nongovernment actors to invest in school WASH. An MOU was signed with YASH Pharmaceutical Ltd, which worked with SPLASH on MHM by producing washable pads. The other MOU was signed with UNICEF to collaborate in Chadiza schools on the construction of pit latrines (UNICEF) and water supply/hygiene education (SPLASH) in 25 primary schools. A local NGO, Project Luangwa, constructed classroom blocks at Mkhanya Community School once SPLASH put in a borehole. The initial project assumption that more private companies will invest in the actual construction of water and sanitation facilities, however, did not pan out. Companies mainly supported hygiene promotion through the commemorations of WASH-related days at national and district levels with in-kind donations. Nonetheless, significant collaboration was achieved by working with the small scale private sector partners as mentioned below.

9.2.1 Communities around the Schools Will Provide Upfront Construction Materials in Terms of Sand, Aggregate Stones, and Bricks

In general, community participation in the provision of upfront building materials was a success, but some communities failed or delayed to mobilize the contributions in the schools, affecting the timing of construction. Some communities took a long time to mobilize upfront materials—in some cases by a year—and in other cases the materials were never provided. In parts of Mambwe and Lundazi, appropriate construction materials were not readily available near the sites. Vehicles or ox carts were hired to collect materials from distant places. DEBS in Mambwe agreed to provide transport costs for ferrying building materials from other places. The

provision of transport to ferry construction materials (that were provided by communities) to schools, was not covered in the initial package offered by SPLASH.

9.2.2 The School/Community WASH Committees Will Make Sustainable Financial Contributions Towards Operation and Maintenance of the WASH Facilities and Infrastructure. Agricultural Production, and Food Security Does Not Decline

It is gratifying that local authorities in Mambwe and Lundazi have stocked up spare parts for water pumps in their SOMAP shops. Also, 259 (70 percent) of schools collected sufficient funds for O&M. However, O&M user contributions in most schools were less than expected due in part to seasonality of income in rural schools. The project anticipated better contributions after crop harvesting, but this was still not the case in some schools. Drought and high cost of agricultural input caused a decline in agricultural productivity and food security during the SPLASH implementation period. Poverty is another factor in low contribution levels. The parent population in rural Zambian schools is poor, without much discretionary income, and asking for a continued stream of funding for O&M can be too much of a challenge in some settings. Another contributing factor to non-contribution was attitudinal. Most communities were used to receiving handouts. They believed the government or a donor will always meet the cost of O&M. It is also not easy to start motivating people to collect O&M funding before they see anything concrete happening in the community, and if capacity building is started too early, they will have lost the learning before the construction starts. To change this attitude of the community members SPLASH would have needed more time for education.

9.2.3 Small-Scale Business People Whose Capacities Will Be Strengthened by the Project Will Be Able to Provide WASH Services and Products to Schools

SPLASH was tasked to strengthen the capacity of small–scale service providers and the private sector to deliver WASH goods and services to both schools and communities in a sustainable manner. This task was achieved locally as small shop owners started stocking toilet tissues and menstrual pads. A few small business people stocked borehole spare parts, but generally project expectations, especially after providing training, were not met. Water point spare parts were not a lucrative business for small-scale business people. This was partly because the water points were newly constructed, there were few cases of breakdowns needing major repairs.

9.3 Changing Contexts (school system, G2G, implementation timing, districts, reviews and approvals, implementation approaches)

This section critically reviews the changing context in which SPLASH was implemented. The reflection provides insights into the changes that influenced or affected project implementation and meeting targets. Considering the contextual factors that constrained the effective implementation of SPLASH can guide future programming of similar WASH in Schools projects and also help to efficiently plan, develop, deliver, monitor, and control a project. Like any other project, SPLASH implementation was faced with a number of contextual changes that affected the overall performance of the project. They included government policy changes, funder policies and regulations, and internal staffing.

9.3.1 Government Policy Changes

During the SPLASH implementation process, the GRZ restructured government ministries. Some departments were moved from one ministry to the other, requiring SPLASH to change its plans and make new working arrangements with the new ministries now housing partner departments. For example, environmental health technologists, who supported the project with hygiene education, were moved from the Ministry of Health to the Ministry of Community Development, Mother and Child Health.

During the project life, government increased allowances for the public service workers beyond the project's budget. Lunch allowances were increased twice during SPLASH. Government workers demanded to be paid lunch allowances, even when they were working within their own districts. Failure by the project to meet the cost of lunch allowances resulted in work being stalled. A case in point is when the government partners from the MOH were demanding to be paid allowances as a condition for doing their water testing work. Since DEBS does not have funding to pay allowances, it would be difficult to sustain these activities beyond the life of SPLASH. Some partners pulled out of WASH trainings because they expected to be paid sitting allowance, facilitation allowance, and transportation funds. These demands affected the project negatively and in many cases delayed the implementation process. However, SPLASH felt that these practices were unsustainable and in any case, were not consistent with USAID policy.

9.3.2 Changes in the Education System

During SPLASH, the MGE abolished the nine-year basic education structure (grade 1–9). All the grade 8 and 9 classes were transferred to secondary schools. Thus, some of the pupils who were targeted for WASH intervention migrated to secondary schools, which were not under the mandate of SPLASH because of the USAID/Zambia focus on early grade reading that could only be addressed in primary schools. Some facilities meant for adolescent girls remained in primary schools, where they were used by very few learners. This change affected the numbers of learners having access to adequate sanitation (a key custom indicator).

9.3.3 Duration of the Project

SPLASH experienced a shortening of its period of performance from five to four years, resulting in the project speeding up construction to reach the targets. The original project design was to work intensively on construction of facilities for the first four years then use the fifth and final year to strengthen systems and capacity required for sustainable use and maintenance of WASH facilities. The reduction in project implementation time affected the ability of the project to ensure effective O&M systems for school WASH. Further, the project had little time for defects correction on facilities that were constructed during the final year of the project. Most of the systems development intended for the fifth year was hurriedly done in the fourth year, along with the construction.

9.4 Underground Water Will Be Available at a Depth Where the Hand Pump Will Function Efficiently

SPLASH managed to sink all planned 120 boreholes. However, 12 school sites did not have water at the depth where the hand pump would function. Dry boreholes were recorded in Mambwe (3), Lundazi (4), Chipata (4), and Chadiza (1). Schools with low water tables were replaced with those that had good water yield to allow efficient hand pump functioning. For schools where drilling was unsuccessful, the alternative plan was to install solar pumps, but the SPLASH budget could not meet this cost.

10. Concluding Remarks

SPLASH, through its collaborative approach, inclusive planning, and implementation of a comprehensive WASH in Schools program, built confidence, trust, and credibility and "accompanied" the communities, schools, and government partners in a supportive way. Throughout the four-year implementation process, SPLASH was interactive with all the partners at various levels. The project provided technical assistance that took account of existing government and community systems and local capacity. The project did not move ahead of government, or be proactive, without the advice and consent of the government partners. The project understood that any government will always have the need for technical assistance and the occasional outside perspective. When the relationship between the ministry and the technical assistance is based on respect, mutual learning, and equality, good synergies and outcomes can be expected.

The SPLASH experience yielded some surprising lessons mentioned previously. One of these is that providing adequate and attractive WASH facilities to schools can have an uplifting effect on entire communities, with economic and social benefits that were not part of the original intended outcomes. Another is that a taboo topic such a menstruation can, with a comprehensive and sensitive approach, turn into a common and openly discussed concern for schools and families, with lasting benefit to school going girls. And SPLASH's Outcome Study showed that schools with a WASH program can have over half the absenteeism compared to schools without WASH, demonstrating that WASH is an undisputed key element of quality education.

As SPLASH closed its doors, it organized an End of Project Event that showcased all the key interventions through exhibitions and demonstrations presented by SPLASH staff and government partners, to 100 invited guests among whom were the 10 Provincial Education Officers (PEOs) or their representatives. The spokespeople for what WASH can accomplish in a school district were the four DEBS from Lundazi, Mambwe, Chipata, and Chadiza. The powerful testimonies and demonstrations have led to resolve by other provinces to make the appeal for similar WASH in Schools programs throughout the country.

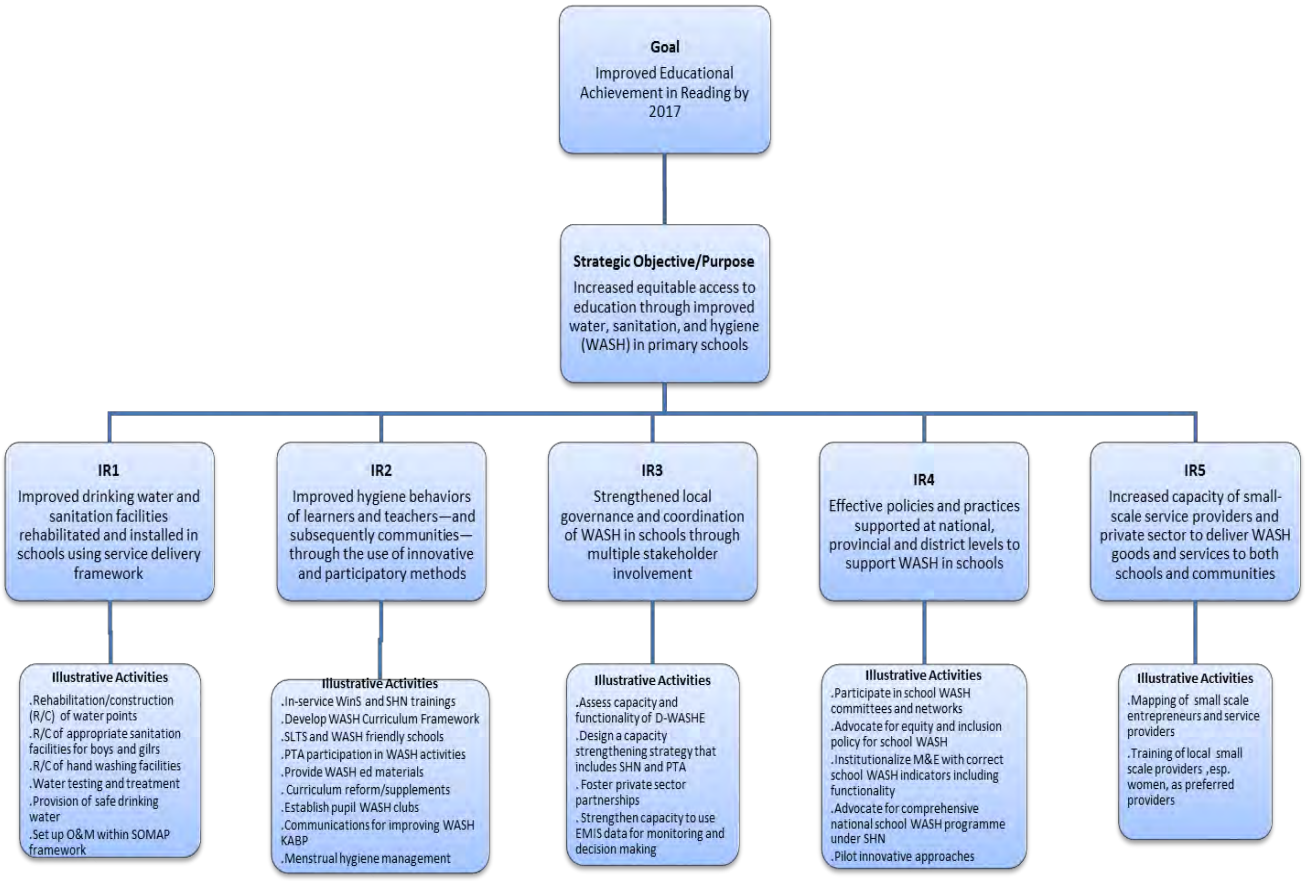
SPLASH strove to assure sustainability from the start by working within existing systems, testing them to discover areas of weakness, then carrying out systematic capacity building and other strengthening activities that are contained in the body of this report.

11. Annexes

1. SPLASH Intermediate Results Framework
2. List of SPLASH schools by district with EMIS ID
3. Map of schools in 4 project districts in Eastern Province where latrines were constructed

Other SPLASH documents are available at www.washplus.org/zambia or upon request.

Annex 1: SPLASH Intermediate Results Framework



Annex 2: List of SPLASH Schools by District with EMIS ID

SPLASH School ID	School Name	District	Type	Level of the School	EMIS Code
101	Ambidzi	Chadiza	Community	1-7	70107
102	Bwanunka	Chadiza	grz	1-7	2822
103	Chadiza	Chadiza	grz	1-7	2823
104	Chafulu	Chadiza	grz	1-7	70013
105	Chamandala	Chadiza	grz	1-7	2824
106	Chamaseche (chadiza)	Chadiza	grz	1-7	7010005
107	Champhanda	Chadiza	grz	1-7	7012
108	Chanida	Chadiza	grz	1-7	2825
109	Chanjowe	Chadiza	grz	1-7	2826
110	Chanukha	Chadiza	grz	1-7	9300
111	Chilenga	Chadiza	grz	1-7	2829
112	Chisewa	Chadiza	grz	1-7	7010003
113	Chiwongo	Chadiza	grz	1-7	9299
114	Chiyambi (Chadiza)	Chadiza	grz	1-7	7008
115	John Farms	Chadiza	grz	1-7	7515
116	Kabvumo	Chadiza	grz	1-7	2830
117	Kadzionele	Chadiza	grz	1-7	2831
118	Kalemba (chadiza)	Chadiza	grz	1-7	2832
120	Kalongwezi	Chadiza	grz	1-7	70016
121	Kaluma	Chadiza	grz	1-7	7521
122	Kampini	Chadiza	grz	1-7	7009
123	Kamuchacha	Chadiza	grz	1-7	7014
124	Kapachi	Chadiza	grz	1-7	2833
125	Kapirimpika	Chadiza	grz	1-7	2834
126	Kasiya	Chadiza	grz	1-7	7010002
127	Katantha	Chadiza	grz	1-7	2835
128	Kaundu	Chadiza	grz	1-7	70229
129	Khomani	Chadiza	grz	1-7	70106
130	Luli	Chadiza	grz	1-7	7520
131	Madzaela	Chadiza	grz	1-7	2836
132	Mangwe	Chadiza	grz	1-7	2837
133	Manje	Chadiza	grz	1-7	2838
134	Mkumbudzi	Chadiza	grz	1-7	2842
135	Msakanyama	Chadiza	grz	1-7	70019
136	Msokosela	Chadiza	grz	1-7	2844

137	Mtaya (Chadiza)	Chadiza	grz	1-7	7516
138	Mwala	Chadiza	grz	1-7	2845
139	Mwangala	Chadiza	Community	1-7	70018
140	Mwangazi	Chadiza	grz	1-7	2846
141	Namwela	Chadiza	grz	1-7	2848
142	Naviruli	Chadiza	grz	1-7	2849
143	Ndapsya	Chadiza	grz	1-7	7013
144	Ngala	Chadiza	grz	1-7	2850
145	Nsadzu	Chadiza	grz	1-7	2851
146	Robbie	Chadiza	grz	1-7	8335
147	Sinalo	Chadiza	grz	1-7	2853
148	Taferansoni	Chadiza	grz	1-7	2854
149	Tigwirizane	Chadiza	grz	1-7	7523
150	Tikondane	Chadiza	grz	1-7	2856
151	Yalumba	Chadiza	Community	1-7	7010006
152	Zemba	Chadiza	grz	1-12	2858
153	Zingalume	Chadiza	grz	1-7	7524
155	Chadyela	Chipata	grz	1-7	8682
156	Chalumbe	Chipata	grz	1-9	2924
157	Chamakanga	Chipata	grz	1-7	7024
158	Chamanda	Chipata	grz	1-9	2925
159	Chamaseche (chip)	Chipata	grz	1-7	7542
160	Chamasongwe	Chipata	grz	1-9	2926
161	Chambawa	Chipata	grz	1-7	7551
162	Chambuna	Chipata	grz	1-7	7025
801	Chamfisi	Chipata	grz	1-7	
163	Chamwavi	Chipata	Community	1-7	7030036
164	Changoma	Chipata	grz	1-7	7743
165	Chankhanga	Chipata	grz	1-9	2927
166	Chanyumbu (chip)	Chipata	grz	1-7	7557
167	Chawa	Chipata	grz	1-9	2929
168	Chenche	Chipata	Community	1-7	9857
169	Chibamu	Chipata	grz	1-9	2930
170	Chigumukire	Chipata	grz	1-7	8644
171	Chigwirizano	Chipata	grz	1-7	10183
172	Chikokola	Chipata	grz	1-7	7544
173	Chikungu	Chipata	Grant Aided	1-12	2934
174	Chilobwe	Chipata	grz	1-9	2935
119	Chimbawa	Chipata	grz	1-7	
175	Chimpembaulo	Chipata	grz	1-7	8362

176	Chimulambe (Chip)	Chipata	grz	1-7	8731
177	Chingazi	Chipata	grz	1-12	2936
178	Chinjala	Chipata	grz	1-9	2937
179	Chinunda	Chipata	grz	1-9	2938
180	Chipangali	Chipata	grz	1-9	2939
181	Chiparamba	Chipata	grz	1-12	2940
182	Chipata	Chipata	grz	1-9	2941
802	Chipembele	Chipata	grz	1-7	2942
183	Chipikula	Chipata	grz	1-9	2943
184	Chipitule	Chipata	Community	1-7	70200
185	Chisitu	Chipata	grz	1-9	2944
186	Chisomo	Chipata	grz	1-7	8352
187	Chiswa	Chipata	grz	1-9	2945
188	Chiyambi (Chip)	Chipata	grz	1-7	7543
189	Chiziye	Chipata	grz	1-9	2947
190	Chizukwe	Chipata	grz	1-7	2948
191	Chizuzu	Chipata	grz	1-9	2949
192	Cronje	Chipata	Grant Aided	1-7	2958
193	Dambe	Chipata	grz	1-9	2951
194	Damview	Chipata	grz	1-12	70226
803	Dwankhonzi	Chipata	grz	1-12	7754
804	Dwansenga	Chipata	grz	1-9	2952
195	Dzoole	Chipata	grz	1-9	2953
196	Gonda	Chipata	grz	1-9	2954
197	Gundani	Chipata	grz	1-9	2955
198	Hillside	Chipata	grz	1-9	2956
199	Ikwele	Chipata	grz	1-7	9766
200	Jenda	Chipata	grz	1-7	2957
201	Jerusalem	Chipata	grz	1-9	7028
805	Kabele	Chipata	grz	1-7	7030
202	Kabvala	Chipata	grz	1-7	8358
203	Kadama	Chipata	grz	1-7	7031
204	Kadiula	Chipata	grz	1-7	7032
205	Kafupa	Chipata	grz	1-7	9312
206	Kagunda	Chipata	grz	1-9	2959
207	Kaikumbe	Chipata	grz	1-9	9767
209	Kalembe (chip)	Chipata	grz	1-7	70176
210	Kaleza	Chipata	Community	1-7	7030024
211	Kalunga	Chipata	grz	1-9	2961
212	Kalungwizi	Chipata	Community	1-7	9768

213	Kamazila	Chipata	Community	1-7	70207
214	Kamboma	Chipata	grz	1-7	4491
215	Kambwatike	Chipata	grz	1-9	2962
216	Kamuna	Chipata	grz	1-7	70036
217	Kanjala	Chipata	grz	1-9	2964
218	Kanyanja	Chipata	grz	1-9	2965
219	Kanyindula	Chipata	grz	1-9	2966
220	Kanzimune	Chipata	grz	1-7	
221	Kapara	Chipata	grz	1-9	2968
222	Kapasa	Chipata	grz	1-9	7036
223	Kapata	Chipata	grz	1-9	2969
224	Kaphinde	Chipata	grz	1-9	2971
225	Kapirimunyanga	Chipata	grz	1-7	7037
208	Kapita (chip)	Chipata	grz	1-9	2972
226	Kapoko	Chipata	grz	1-7	2973
227	Kasenengwa	Chipata	grz	1-9	2974
228	Kasenga	Chipata	grz	1-9	2975
229	Kasenjere	Chipata	Community	1-7	7030029
230	Kasonjola (Chip)	Chipata	grz	1-9	2976
231	Kasukanthanga	Chipata	grz	1-7	8586
232	Kasukusa	Chipata	grz	1-7	8584
806	Kasuma	Chipata	grz	1-9	2977
807	Katambo	Chipata	grz	1-9	2978
233	Katandala	Chipata	grz	1-9	2979
234	Katawa	Chipata	grz	1-9	2980
235	Katayamatondo	Chipata	grz	1-7	9772
236	Katintha	Chipata	grz	1-9	2981
237	Katopola (Chip)	Chipata	grz	1-12	2983
238	Kauzu	Chipata	grz	1-7	9313
239	Kawambe	Chipata	grz	1-9	2984
240	Kawawa	Chipata	grz	1-9	2985
241	Kawiwe	Chipata	Community	1-7	8917
242	Kazimomwe	Chipata	grz	1-7	2986
243	Kazimule	Chipata	grz	1-7	9314
244	Kazuntu	Chipata	grz	1-9	2967
809	Kunika	Chipata	grz	1-7	
245	Kwenje	Chipata	grz	1-9	8916
246	Langa	Chipata	grz	1-9	2988
247	Lukhalo	Chipata	grz	1-9	2989
248	Lunkwankwa	Chipata	Grant Aided	1-9	2990
250	Lunthwele	Chipata	grz	1-7	7030067

810	Lunyike	Chipata	grz	1-9	2991
154	Luona	Chipata	grz	1-9	2992
251	Lutembwe (chip)	Chipata	grz	1-12	2993
252	Madalitso	Chipata	Community	1-7	7030034
254	Madzi-a-tuwa	Chipata	grz	1-12	2994
255	Madzimawe	Chipata	grz	1-9	2995
256	Maguya	Chipata	grz	1-12	2997
257	Magwero	Chipata	Grant Aided	1-9	3000
811	Mainga	Chipata	Community	1-7	
258	Makangila	Chipata	grz	1-7	7039
259	Makungwa	Chipata	grz	1-9	3001
260	Makwe	Chipata	grz	1-9	3002
812	Manda	Chipata	grz	1-7	
253	Mandondo	Chipata	Community	1-7	9779
261	Manolo	Chipata	grz	1-7	9783
262	Manyenje	Chipata	Community	1-7	9782
263	Masamba	Chipata	grz	1-7	3003
264	Matimbanya	Chipata	grz	1-7	8918
265	Mbazima	Chipata	Community	1-7	9785
266	Mbenjere	Chipata	grz	1-9	7040
267	Mbulanda	Chipata	grz	1-7	7527
268	Mburwe	Chipata	grz	1-7	3004
269	Mchenga	Chipata	Community	1-7	70040
270	Mchenja	Chipata	grz	1-9	3005
271	Mgwazo	Chipata	grz	1-9	3006
272	Mishoro	Chipata	grz	1-7	7042
273	Mkandamateyo	Chipata	Community	1-7	9787
274	Mkanire	Chipata	grz	1-9	3007
275	Mkhota	Chipata	Community	1-7	9748
276	Mkhotamo	Chipata	grz	1-7	9742
813	Mkowe	Chipata	grz	1-9	3009
277	Mkungulu	Chipata	Community	1-7	7043
278	Mkwekwe	Chipata	Community	1-7	7030003
279	Mlanga	Chipata	grz	1-7	7046
280	Mnduwi	Chipata	grz	1-7	7563
814	Mnukwa	Chipata	grz	1-9	3011
281	Molozi (Chip)	Chipata	grz	1-9	3012
282	Mpenzenipark	Chipata	grz	1-9	3013
283	Mphuza	Chipata	grz	1-7	8359
284	Msekera	Chipata	grz	1-12	3014
285	Mshashanta	Chipata	Community	1-7	9749

286	Mshawa	Chipata	grz	1-7	3015
816	Mtande	Chipata	grz	1-7	3016
287	Mtaya (Chip)	Chipata	grz	1-9	3017
288	Mtewe	Chipata	grz	1-9	3018
289	Mtizwa	Chipata	grz	1-9	3019
290	Mtowe	Chipata	grz	1-9	3020
291	Muchule	Chipata	Community	1-7	8681
292	Musamaria Wabwino	Chipata	grz	1-7	7045
293	Mwalauka	Chipata	grz	1-9	7049
294	Mwami	Chipata	Grant Aided	1-9	3022
295	Mwasauka	Chipata	grz	1-9	3023
296	Mwita	Chipata	grz	1-9	3024
297	Nadalitsika	Chipata	Grant Aided	1-9	9309
298	Ndalunga	Chipata	Community	1-7	70211
299	Ndembela	Chipata	Community	1-7	7030040
300	Ngoza	Chipata	Community	1-7	70043
301	Ngulube	Chipata	grz	1-9	3025
302	Ngwanda	Chipata	Community	1-7	7755
817	Nkhalikali	Chipata	grz	1-9	3026
303	Nkhoto	Chipata	grz	1-9	3027
818	Nkhulungo	Chipata	grz	1-9	7526
304	Nkwinjiri	Chipata	grz	1-7	8679
305	Nsanjika	Chipata	grz	1-12	3028
306	Nsingo	Chipata	grz	1-9	3029
819	Nsumbe	Chipata	grz	1-9	7858
307	Nthombimbi	Chipata	grz	1-9	3030
308	Nyafinzi	Chipata	grz	1-7	9755
309	Nyakalungu	Chipata	grz	1-9	3031
820	Nyakatali	Chipata	grz	1-7	3032
310	Nyane	Chipata	grz	1-7	3034
311	Nyauzi	Chipata	grz	1-9	3035
821	Nyaviombo	Chipata	grz	1-9	3036
822	Pafluji	Chipata	Community	1-7	9774
823	Sairi	Chipata	grz	1-9	3039
312	Samuel	Chipata	grz	1-9	3040
313	Shamombo	Chipata	grz	1-9	3042
314	Sisinje	Chipata	grz	1-9	3043
315	St Betty	Chipata	Grant Aided	1-9	8677

316	St.Atanasio	Chipata	Grant Aided	1-12	8350
824	Tamanda	Chipata	Grant Aided	1-12	3045
825	Taonga	Chipata	grz	1-7	
317	Thantwe	Chipata	grz	1-9	8676
318	Umodzi	Chipata	grz	1-9	3046
319	Vikwelukwelu	Chipata	Community	1-7	70045
320	Vizenge	Chipata	grz	1-9	3047
321	Walira	Chipata	grz	1-7	7752
322	Zingale	Chipata	grz	1-9	3050
323	Bengamfipa	Lundazi	grz	1-7	9881
324	Benji	Lundazi	community	1-7	3228
325	Beu	Lundazi	grz	1-9	4485
326	Bokosi	Lundazi	grz	1-7	3136
327	Bowe	Lundazi	grz	1-7	3137
328	Boyole	Lundazi	grz	1-9	3138
329	Chahiro	Lundazi	grz	1-7	3139
330	Chambuzi	Lundazi	grz	1-7	3141
830	Champeta Alpha	Lundazi	grz	1-7	
331	Champheta	Lundazi	grz	1-7	7066
332	Champhoyo	Lundazi	grz	1-7	3142
333	Chamsebe	Lundazi	grz	1-7	3143
334	Changulube	Lundazi	grz	1-7	3144
335	Chankhama	Lundazi	grz	1-7	3140
336	Chanyalubwe	Lundazi	grz	1-7	3145
337	Chanyondo	Lundazi	grz	1-7	3146
338	Chanyumbu (Lundazi)	Lundazi	grz	1-7	7067
339	Chaomba	Lundazi	grz	1-7	3147
340	Chasamwa	Lundazi	grz	1-7	3148
833	Chasefu	Lundazi	grz	1-7	3149
341	Chasera	Lundazi	grz	1-7	3150
342	Chatemwa	Lundazi	grz	1-7	3151
343	Chauluma	Lundazi	grz	1-7	70114
344	Chazovu	Lundazi	grz	1-7	3152
835	Chenjeuzi	Lundazi	grz	1-7	
345	Chibangu	Lundazi	grz	1-7	3153
837	Chibondwe	Lundazi	grz	1-7	
838	Chibondwi	Lundazi	grz	1-7	
839	Chibonwi	Lundazi	grz	1-7	
840	Chidolo	Lundazi	grz	1-7	

346	Chigando	Lundazi	grz	1-7	3155
347	Chiginya	Lundazi	grz	1-7	3156
348	Chigona	Lundazi	grz	1-7	3157
841	Chijemu	Lundazi	grz	1-7	
349	Chikhumbi	Lundazi	grz	1-7	3159
350	Chikomeni	Lundazi	grz	1-7	3160
351	Chikuyu	Lundazi	grz	1-7	8369
352	Chilola	Lundazi	grz	1-7	3161
353	Chilubezi	Lundazi	community	1-7	8516
354	Chimoza	Lundazi	grz	1-7	70078
355	Chindindindi	Lundazi	grz	1-7	0
356	Chipembere	Lundazi	grz	1-7	3162
357	Chipumulo	Lundazi	community	1-7	70116
358	Chitala	Lundazi	grz	1-7	3163
359	Chitungulu	Lundazi	grz	1-7	3164
360	Chiwe	Lundazi	grz	1-7	3165
361	Chizingizi	Lundazi	grz	1-7	3167
362	Chocha	Lundazi	community	1-7	8518
363	Chombe (Lundazi)	Lundazi	grz	1-7	0
845	Cumbilwe	Lundazi	grz	1-7	
364	Dambo	Lundazi	grz	1-7	3168
365	Diwa	Lundazi	grz	1-7	3169
366	Donje	Lundazi	community	1-7	70090
367	Egchicken	Lundazi	grz	1-7	3170
846	Ehambeni	Lundazi	grz	1-7	
368	Eluhangeni	Lundazi	grz	1-7	3171
369	Emusa	Lundazi	grz	1-7	3172
371	Fyofyo	Lundazi	grz	1-7	3173
372	Gumba	Lundazi	grz	1-7	3174
373	Hoya	Lundazi	grz	1-7	3175
374	Kabindula	Lundazi	community	1-7	70092
375	Kabulinde	Lundazi	community	1-7	7050031
376	Kabumba	Lundazi	grz	1-7	3181
377	Kachenche	Lundazi	grz	1-7	3177
848	Kachizutu	Lundazi	grz	1-7	
378	Kachunga	Lundazi	grz	1-7	3178
849	Kacizutu	Lundazi	grz	1-7	
430	Kadamsana	Lundazi	grz	1-7	7075
380	Kaithinde	Lundazi	grz	1-7	3179
381	Kakoma	Lundazi	grz	1-7	3180
382	Kakumba	Lundazi	grz	1-7	3182
383	Kalungambeba	Lundazi	grz	1-7	3183

851	Kaluwe Iri	Lundazi	grz	1-7	
384	Kamatete	Lundazi	grz	1-7	7078
385	Kambale	Lundazi	grz	1-7	3184
386	Kambaza	Lundazi	grz	1-7	3185
854	Kambeba	Lundazi	grz	1-7	
387	Kambeteka	Lundazi	grz	1-7	3186
855	Kamilenje	Lundazi	grz	1-7	
388	Kamkwezi	Lundazi	grz	1-7	3188
389	Kamo	Lundazi	community	1-7	70094
390	Kamphanda	Lundazi	community	1-7	7079
391	Kampondo	Lundazi	grz	1-7	3190
392	Kamsaro	Lundazi	grz	1-7	3191
393	Kamsisi	Lundazi	grz	1-7	3192
394	Kamtolo	Lundazi	community	1-7	7080
857	Kamunyunga	Lundazi	grz	1-7	
858	Kamutelo	Lundazi	grz	1-7	
395	Kamwa	Lundazi	community	1-7	7081
859	Kamwala	Lundazi	grz	1-7	
396	Kamzoole	Lundazi	grz	1-7	3193
861	Kandamusna	Lundazi	grz	1-7	
397	Kanele	Lundazi	grz	1-7	3194
863	Kangobe	Lundazi	grz	1-7	
864	Kanjiba	Lundazi	grz	1-7	
865	Kanyanga	Lundazi	grz	1-7	
866	Kanyunya	Lundazi	grz	1-7	
539	Kanyunya	Lundazi	grz	1-7	3196
398	Kapaipi	Lundazi	grz	1-7	8523
399	Kapangala	Lundazi	grz	1-7	3197
400	Kapekesa	Lundazi	grz	1-7	3198
401	Kapichila	Lundazi	grz	1-7	3199
402	Kapili	Lundazi	grz	1-7	3200
403	Kaponga Hills	Lundazi	grz	1-7	9307
404	Kapongolo	Lundazi	grz	1-7	3201
405	Kasongolo	Lundazi	community	1-7	7085
406	Kataba	Lundazi	grz	1-7	3202
868	Katale	Lundazi	grz	1-7	
407	Kateme	Lundazi	community	1-7	0
408	Katete	Lundazi	community	1-7	7050041
409	Kathale	Lundazi	grz	1-7	3203
870	Katiye	Lundazi	grz	1-7	
871	Katiye Comm	Lundazi	grz	1-7	
410	Katope Alpha	Lundazi	community	1-7	9880

370	Katopola (Lundazi)	Lundazi	grz	1-7	3204
411	Katunula	Lundazi	grz	1-7	3206
873	Kauwo	Lundazi	grz	1-7	
412	Kaviskeske	Lundazi	grz	1-7	3207
413	Kawowola	Lundazi	community	1-7	0
414	Kazembe	Lundazi	grz	1-7	3208
415	Kazinda	Lundazi	grz	1-7	7050064
416	Kazonde	Lundazi	grz	1-7	3209
418	Khulamayembe	Lundazi	grz	1-7	3210
419	Khulikhuli	Lundazi	grz	1-7	3211
420	Khuyu	Lundazi	grz	1-7	3212
877	Langwani	Lundazi	grz	1-7	
878	Lobi	Lundazi	grz	1-7	
421	Luambwa	Lundazi	grz	1-7	3213
422	Luamphamba	Lundazi	grz	1-7	3214
423	Luasila	Lundazi	grz	1-7	3215
424	Lukusuzi	Lundazi	grz	1-7	3216
425	Lukwizizi	Lundazi	grz	1-7	7089
426	Lumezi	Lundazi	grz sec	1-7	3218
427	Lundazi	Lundazi	grz	1-7	3219
428	Lupamanzi	Lundazi	grz	1-7	3220
879	Lupita	Lundazi	grz	1-7	
429	Lusuntha	Lundazi	grz	1-7	3221
431	Magonde	Lundazi	community	1-7	70126
880	Malabila	Lundazi	grz	1-7	
432	Malandula	Lundazi	grz	1-7	3223
433	Malawila	Lundazi	grz	1-7	3224
434	Mankhaka	Lundazi	grz	1-7	3222
435	Manyi	Lundazi	grz	1-7	3225
436	Mapala	Lundazi	grz	1-7	3226
437	Masutwe	Lundazi	grz	1-7	7073
438	Matembe	Lundazi	grz	1-7	7090
883	Matipa	Lundazi	grz	1-7	
439	Mazowe	Lundazi	community	1-7	7091
440	Mbenje	Lundazi	grz	1-7	3228
441	Mbuluzi	Lundazi	grz	1-7	7092
442	Mbuzi	Lundazi	grz	1-7	3229
443	Mchereka	Lundazi	grz	1-7	3230
444	Mitondo	Lundazi	community	1-7	0
445	Mkomba	Lundazi	grz	1-7	3232
884	Mnthyengu	Lundazi	grz	1-7	
885	Molozi (Lundazi)	Lundazi	grz	1-7	

906	Mphamba	Lundazi	grz	1-7	
446	Mpheluke	Lundazi	grz	1-7	3234
886	Mphili	Lundazi	grz	1-7	
447	Mpingozi	Lundazi	grz	1-7	3236
448	Msolomoka	Lundazi	community	1-7	70085
888	Msuka	Lundazi	grz	1-7	
449	Msuzi	Lundazi	grz	1-7	3238
450	Mtwalo	Lundazi	community	1-7	3240
451	Munthyengu	Lundazi	community	1-7	8366
452	Munyukwa	Lundazi	grz	1-7	3241
893	Musolomoka	Lundazi	grz	1-7	
894	Mutelwe	Lundazi	grz	1-7	
453	Mutuwanjovu	Lundazi	community	1-7	7095
454	Mwanya	Lundazi	grz	1-7	3242
455	Mwasa	Lundazi	community	1-7	3243
379	Mwase	Lundazi	grz	1-7	
417	Mwasemphangwe	Lundazi	grz	1-7	3244
456	Mwata	Lundazi	grz	1-7	3245
457	Mwimba	Lundazi	grz	1-7	3246
458	Ndaiwala	Lundazi	grz	1-7	3247
896	Ndoje	Lundazi	grz	1-7	
459	Ndundundu	Lundazi	grz	1-7	7096
460	Ngabungambu	Lundazi	community	1-7	0
461	Ngonga	Lundazi	grz	1-7	3248
463	Nkhanga	Lundazi	grz	1-7	3249
465	Nkhanyu	Lundazi	grz	1-7	3250
466	Nkhanzimwene	Lundazi	grz	1-7	3251
468	Nthakalavu	Lundazi	community	1-7	7097
469	Nthitimila	Lundazi	grz	1-7	3252
470	Nthumbe	Lundazi	grz	1-7	3253
471	Nyalubanga	Lundazi	grz	1-7	3254
472	Nyangwe	Lundazi	grz	1-7	3255
473	Phalaza	Lundazi	grz	1-7	3256
474	Phikamalaza	Lundazi	grz	1-7	3257
475	Romase	Lundazi	grz	1-7	3258
476	Sikatengwa	Lundazi	grz	1-7	3260
478	Soyo	Lundazi	grz	1-7	7050014
479	Susa	Lundazi	grz	1-7	7098
480	Swiswi	Lundazi	grz	1-7	3261
481	Tematema	Lundazi	grz	1-7	7050053
482	Thunkhu	Lundazi	grz	1-7	3262
483	Tigone	Lundazi	grz	1-7	3263

484	Umi	Lundazi	grz	1-7	3264
485	Vuu	Lundazi	grz	1-7	3266
486	Vyombo	Lundazi	grz	1-7	3265
487	Yakhobe	Lundazi	grz	1-7	3267
488	Zaninge	Lundazi	community	1-7	70218
489	Zobvulume	Lundazi	community	1-7	70128
490	Zozo	Lundazi	grz	1-7	3268
491	Chambobo	Mambwe	grz	1-7	7070008
492	Chigombe	Mambwe	grz	1-7	8407
493	Chikowa	Mambwe	grz	1-7	3367
494	Chilongozi	Mambwe	grz	1-7	3368
495	Chimulambe (Mambwe)	Mambwe	grz	1-7	7102
496	Chipako	Mambwe	grz	1-7	3369
497	Chisengu	Mambwe	grz	1-7	3370
498	Chitempha	Mambwe	grz	1-7	3371
499	Chiutika	Mambwe	grz	1-7	3372
500	Chivyololo	Mambwe	grz	1-7	3373
501	Chiwawatala	Mambwe	grz	1-7	3374
502	Chombe (Mambwe)	Mambwe	grz	1-7	70193
503	Holyhill	Mambwe	grz	1-7	70193
504	Jumbe	Mambwe	grz	1-7	3375
505	Kabila	Mambwe	grz	1-7	7070009
506	Kakumbi	Mambwe	grz	1-7	3376
507	Kambwiri	Mambwe	grz	1-7	8407
508	Kamphasa	Mambwe	grz	1-7	3318
509	Kamuwawa	Mambwe	grz	1-7	7070002
510	Kamwanjiri	Mambwe	grz	1-7	70191
511	Kapirinsongola	Mambwe	grz	1-7	70192
512	Kapita (Mambwe)	Mambwe	grz	1-7	9739
513	Kasamanda	Mambwe	grz	1-7	3379
514	Katemo	Mambwe	grz	1-7	3380
515	Kaungo	Mambwe	grz	1-7	7104
516	Kawaza	Mambwe	grz	1-7	3381
517	Lutembwe (Mambwe)	Mambwe	grz	1-7	7107
518	Malanga	Mambwe	grz	1-7	3382
519	Malimba	Mambwe	grz	1-7	7555
520	Matula	Mambwe	grz	1-7	3383
521	Mdima	Mambwe	grz	1-7	3384
522	Mfuwe	Mambwe	grz	1-7	3385

523	Mkhuvulo	Mambwe	grz	1-7	9322
524	Mnkhanya	Mambwe	Community	1-7	70050
525	Mphandika	Mambwe	grz	1-7	3386
526	Mphata	Mambwe	grz	1-7	3387
527	Mphomwa	Mambwe	grz	1-7	3388
528	Msoro	Mambwe	grz	1-7	3389
529	Mwandakwisano	Mambwe	grz	1-7	7109
530	Ncheka	Mambwe	grz	1-7	3390
531	Nsefu	Mambwe	grz	1-7	3391
532	Pendwe	Mambwe	grz	1-7	3392
533	St.Francis	Mambwe	grz	1-7	3393
534	Tafika	Mambwe	grz	1-7	9735
535	Uyoba	Mambwe	grz	1-7	7110
536	Wazaza	Mambwe	grz	1-7	3394
537	Yosefe	Mambwe	grz	1-7	3395

Annex 3: SPLASH Schools Where Latrines Were Constructed