

## **Proposal 1772: Children's Sanitation and Hygiene Promotion Project**

### **PROJECT SUMMARY**

**OBJECTIVE:** To develop a model for reducing diarrhea by increasing children's hygienic use of latrines, improving the quality of hygiene and sanitation in the area and facilitating the emergence of sustainable sanitation services.

**RATIONALE:** One of the leading causes of diarrhea is human contact with pathogen-rich feces. Of particular concern are toddlers (ages 2-6) who generally defecate openly as they are not "potty-trained". Care providers (mothers and older siblings) are often responsible for cleaning toddlers' bottoms and cleaning up the feces of toddlers who openly defecate. This is a health risk, especially in areas where handwashing is poorly practiced and where sanitation services are under-developed. The challenge is to eliminate this health risk by overcoming the problem of open-defecation by toddlers, instilling sound sanitation practices throughout the family and broader community, and increasing handwashing.

**INNOVATION/EFFECTIVENESS:** This project proposes a multi-pronged approach to sustainable sanitation services that does not fall into traditional "latrine construction" traps that plague the sector. Children, who are generally not targeted for sanitation and hygiene, become catalysts of change in the household and broader community. School sanitation is combined with a children's household toilet program that will reduce incidences of diarrhea by eliminating open defecation by toddlers, increasing handwashing and facilitating household upgrades of latrines. The project will lead to 100% sanitation coverage and measurably reduce diarrhea in 3 Traditional Authorities in 2 Districts in Malawi without relying on distorted subsidies that undermine the viability of future work.

### **PROBLEM DEFINITION**

The 2002 WHO/UNICEF Joint Monitoring Program's (JMP) figure for rural sanitation coverage in Malawi is estimated at 42%. Almost all the facilities in Malawi are traditional pit latrines (a latrine is referred to as a "chimbudzi" in Malawi), the majority of which are merely holes in the ground and are considered inadequate to prevent fecal-oral disease transmission. The JMP's data is contested in Malawi, with development agencies and the government itself recently estimating rural sanitation coverage at 30% or less. This suggests that 6,720,000 rural Malawians do not have access to adequate sanitation.

Latrine use by children is particularly low. Chimbudzi are feared by children due to the large drop hole and unreliable construction materials. Children do not start using latrines until they are ~7 years old, meaning that infants and toddlers openly defecate. Open defecation is managed by mothers or child care givers (usually girls) and is considered tedious work. Pathogen-rich feces are either handled immediately by mothers/care givers or unnoticed if the toddler defecates outside of the view of their care givers. This means that pathogen-rich feces are left unattended in the environment. This is a considerable health risk, especially in areas where handwashing practices are poor.

School sanitation facilities are usually poor (if they exist at all), and are not designed sustainably. Schools with latrines have problems because the latrines are poorly managed, are not particularly valued and are abandoned once pits are full. Cleaning toilets is usually enforced as a form of punishment, which further erodes a child's sense of the importance of good sanitation.

Upgrading existing household facilities is slow and undermined by subsidy-driven initiatives. Efforts to improve sanitation have been hampered by failures to develop sustainable sanitation services beyond the life of a "sanitation project" and limited evidence that previous sanitation interventions lead to increased use of latrines by children.

Diarrhea rates in Malawi are difficult to verify. Health Center statistics in Chikwawa District from 2002-2006 show that diarrhea rates have ranged from a low of 16,256 cases in 2003-4, to a high of 41,235 cases in 2002-3. These rates are not representative of the real problem, as most cases of diarrhea are addressed at the household level and not the clinic. Still, these numbers are high for a district with 356,682 people (1998 Census). It is accepted that one of the leading causes of diarrhea is poor sanitary practices such as open defecation, poor existing sanitation and limited handwashing.

### **IDEA**

The challenge with sanitation is to increase interest in sanitation, reduce diarrhea and develop a sustained sanitation service that is not distorted by a subsidy.

To generate interest and initiate the project, Water For People and its governmental and non-governmental partners will target children and begin activities in primary schools in 3 Traditional Authorities (TAs) in the districts of Chikwawa and Rumphi. The participating TAs are Kasisi in Chikwawa, and Mwalweni and Mwamulowe in Rumphi. The total number of participating primary schools will be 11 from Kasisi, 12 in Mwalweni and 8 in Mwamulowe.

The first phase of the project will involve an improved sanitation and beautification competition between the schools in each TA. Schools will be provided with arbour-loos, which are round, cement latrine slabs (80 cm diameter) that are placed on shallow pits and then moved to another site in the school yard when the pit is full. A fruit-bearing or non-fruit bearing tree is planted in each used pit. The first challenge for the primary school students will be to develop a plan to beautify their school through improved sanitation, implement the plan with the arbour-loos, and, when finished, install permanent latrines.

The second challenge will be focused on the "Chimbudzi Buddy Voucher" (CBV) Program. Each pupil will receive one CBV. They will take this home and demonstrate improved sanitation practices to the family or neighbor and encourage the family to purchase a children's latrine and an improved sanitation facility for their home through a loan scheme. If the family presents the CBV to the local sanitation promoter and acquires a children's latrine *and* an adult latrine then the school will be rewarded a point.

Children's latrines are small (60 cm diameter), circular and easy to use by children (see picture on following page). Instead of defecating in the open environment, toddlers will be encouraged and taught to defecate in their new toilets. They will be taught and encouraged by their mothers/care givers and the pupils from participating schools who have returned from school with new hygiene and sanitation knowledge. Children will use the latrine in public view (as they defecate in public view already) and put ash/soil in the pit after each use to facilitate the transformation of the excrement and dissuade flies from entering the toilet (by eliminating odor and drying out the excrement). The toddler using the latrine will learn good practices and become comfortable using a latrine. The

process facilitates handwashing improvements as children who use the ash/soil after each use of the latrine will want to clean their hands. The ash/soil mixture serves as an effective cleansing agent, reducing the need for expensive soap.

When the contents of the shallow pit are full, the family moves the children's slab to another area of the yard and plants a tree in the previously used pit. This process not only teaches children how to use a toilet but also provides households with new resources (trees from the district Forestry Departments). Most importantly, it eliminates open defecation by toddlers and breaks the fecal-oral transmission route as family members will no longer come into contact with pathogen-rich feces.



Participating schools will qualify for the inter-school competition if they successfully do the following: beautify their school, eliminate open defecation at the school, increase handwashing at the school and in the broader community through innovative hygiene promotion techniques developed by children, and prove that at least 55% of the pupil's CBVs have been converted to improved household sanitation. The winner of the competition in each TA will be the school that has been judged to have the most beautiful open-defecation free grounds and have the highest percentage of CBVs converted to household latrines (points earned by each child divided by total number of pupils at the school). The competition will be judged by the District Coordinating Team (DCT) members, who are the development representatives of the District Assembly and winning schools will receive publicity from the local media, a sign at their schools and t-shirts.

Demand for latrines will be met by sanitation promoters. The sanitation promoters on the program will be supported through a seed grant that they will use to construct latrines. They will then implement a sanitation loan scheme where families acquire a children's latrine and an improved fossa alterna latrine in exchange for guaranteed access to the contents of the latrine by the promoter once the excrement has been transformed. A fossa alterna is a composting latrine that safely stores and transforms human excrement into valuable compost. The family's debt for the latrines is reduced as promoters acquire the compost, described in detail below. The compost is sold to local community members looking for low-cost valuable compost, or to larger entities, like tobacco growers, who are in the market for larger quantities of high-value compost.

The promoters will expand their market over time by bringing more families into the initiative which increases the amount of compost they have available to sell. The system is sustainable because families become regular customers providing the promoter with high-value compost. The promoter can always build more latrines for new families and thus increase her/his customer base, ensuring that the provision of latrines does not die when the project ends. The promoter will still be in business as long as the compost is purchased, which is predictable given the importance of compost in Malawi.

The approach builds on the lessons of earlier experimental work by the Central Church of Africa Presbyterian (CCAP) but is innovative in a number of ways as described below.

Diarrhea is reduced through a combined initiative that solves sanitation problems at school and household levels, increases handwashing practices in the community as a whole, and innovatively addresses the problem of open defecation by toddlers, a key contributor to diarrhea incidences. It does so by building a sustainable sanitation service that, once started, will no longer require grant finance and will never require a subsidy, thus addressing one of the biggest gaps in sanitation programming worldwide.

## **INNOVATION**

The proposed initiative is innovative for the following reasons:

- The project targets children as the catalysts for change in the household.
- It builds on local interest and enthusiasm for school competitions in a creative way, by linking improvements at the school with demonstrated health improvements in the broader community.
- The intervention overcomes a real constraint in sanitation by shifting the focus from the slab/latrine to what is valuable/marketable – the compost. This is significant, as the supply of compost through the regular cleaning of latrines creates a business service, where latrines are simply a means to an end. The focus is moved away from latrine construction and unsustainable subsidies for slabs to an on-going, dynamic business where the continued effective use of latrines (critical for improved health) translates into a profitable enterprise.
- It creatively meets an expressed need of mothers/care givers who are looking for ways to eliminate the burden of cleaning up toddler feces. It addresses a previously untargeted group – toddlers – who are significant contributors towards diarrhea through open defecation.
- The project uses a creative method for stimulating demand via a voucher system.
- The intervention recognizes that children are more receptive to new ideas than adults and can more easily change and adapt their behavior, serving as models for the rest of the family.
- It is ambitious as the goal is not focused on the number of latrines constructed but on 100% sanitation coverage for adults, youths and toddlers in the village.
- The project potentially diversifies and strengthens household diets through the planting of fruit-bearing trees on filled children's toilets. The practice of planting trees on filled pits is common in Malawi, suggesting that the project is not introducing a foreign concept.
- It is directly linked to improved health as the project will demonstrate a reduction in diarrhea among participating families by 40% by the end of the project.
- The project is not subsidy-driven.

In addition, the proposed project in Chikwawa and Rumphu improves on earlier work in Embangweni implemented by CCAP (a partner in this initiative) which showed that compost has considerable monetary value and that children's latrines meet the needs of mothers/care givers by eliminating their job of cleaning up after toddlers.

Despite this potential, the former initiative has faltered as it is subsidy-driven and slab-focused. Masons are abandoning their work as new clients are harder to find and distances grow from the production facilities to new potential clients. This is because the mason's service is a once-off sale of a slab. The only way for the mason to sustain her/his work is to search for more clients further from their base of production, which leads to increased costs for transport and reduced profits.

Furthermore, the slabs in Embangweni were undervalued because of the subsidy. The pending elimination of the subsidy will destroy the initiative altogether as the dramatic rise in price needed to cover actual costs of production will seem unreasonable to potential customers familiar with a lower-costing subsidized slab.

The Children's Sanitation and Hygiene Promotion Project uses a loan scheme that ensures the sanitation promoter has an ongoing service to provide to each family, not just the delivery of a slab. The promoter provides each family with a children and adult latrine slab through a loan of MK 1,300 (US\$9.03, calculated at US\$1 = MK 144). The promoter then pays the family MK 50 (US\$0.35) and reduces the loan by a further MK 150 (US\$1.04) each time compost is removed, which occurs every 10 months. The value of the compost can be as high as MK 2,000/bag (US\$13.89). A latrine will produce 3 bags of compost each removal period, totaling MK 6,000 (US\$41.67), which is extremely profitable. The promoter and the family will be ensuring the hygienic use of the latrines to guarantee the quality of the compost, subsequently ensuring health benefits within the household. The family pays off the loan after ~9 clearings of the latrine. The family can then sell the compost to the promoter for a higher price than the loan repayment price. Families new to the area, requiring latrines on loan, will find an operational promoter who has not abandoned sanitation because subsidies for latrines have vanished. Diarrhea rates will decline as pathogen-rich feces are no longer found in the community because the provision of new latrines to new families, or families previously not participating, is assured and not dependent on a subsidized "sanitation project."

## **PROJECT IMPLEMENTATION**

In this initiative, the partners include Water For People, the District Commissioners of Chikwawa and Rumphu districts, the District departments responsible for health, education, water and community development, the participating primary schools, Central Church of Africa Presbyterian (CCAP), and the private sector (sanitation promoters).

The time frame for implementation is as follows:

- Signing of formal MOUs with all partners that is specific to the DM and is subsumed within Water For People's current partner agreements.
- Detailed baseline study of households and schools in the 3 participating TAs to confirm sanitation coverage rates throughout each TA. The baseline will include detailed data on diarrhea and handwashing practices that is scientifically sound (~3 months).
- Initiation of the school-based program focusing on handwashing and safe excreta disposal. The program will include a planning program at each participating school so that students can design a beautification project and a hygiene promotion initiative for the school and broader community (concurrently, ~3 months).
- Identification and training of sanitation promoters. These women and men will be entrepreneurs who can see the potential of this work and are committed to achieving 100% sanitation coverage in each TA. Attrition is always to be expected but it is hoped that the significant business potential of the initiative is sufficient to ensure a high sanitation promoter retention rate (concurrently, ~3-4 months).
- Initiate household promotional program through the district Department of Community Development and Department of Health, CCAP and the sanitation

- promoters to ensure that the pupils' messages are reinforced at household level. Emphasis within the hygiene education and promotion component of this work will be focused on reductions in diarrhea through improved handwashing, increased usage of children's latrines, the termination of toddler open defecation and improved adult latrines. This component of the work will be on-going from month 3 of the program (2 months prior to the start of rolling out of CBVs at schools so that the demand can be met when CBVs are submitted).
- Implementation of all the school arbour-loos should be completed within 4 months of the start of the program. The schools will likely require 6 months to do the following: utilize and fill the latrines, ensure handwashing is being done properly by all pupils, and plant trees (start in month 3 and continue through month 6 when all participating schools will be supplied arbour-loos).
  - The loan scheme and CBV initiative will begin in month 5. It is expected that the first wave of respondents will begin shortly thereafter and, if successful, will not stop until the entire TA is covered (this will take a number of years). It is expected that all 3,100 adult toilets and all 3,100 children's toilets included in this project will be started by this time and installed by the end of year 2 of the initiative (months 5-24 of this project). Sale and expansion will occur well beyond Year 2, and well beyond the original allocation of latrines (at no cost to the program as money from sales is being converted into new loans/latrines).
  - Formal monitoring will occur every 6 months for the first 3 years of the program, and then annually thereafter. Monitoring focuses on sanitation coverage, household use of latrines, handwashing practices and evidence of reduced diarrhea. Monitoring of this initiative will fall within Water For People's regular but broader monitoring program (published at [www.waterforpeople.org](http://www.waterforpeople.org)) designed to strengthen local monitoring initiatives by the District Assembly (months 6, 12, 18, 24, 36, 48 and 60).
  - The first inter-school competition will be hosted at the end of year 1. All schools that qualify to compete will be recognized in the media, and all the students from the winning schools (1 per TA) will receive a t-shirt from the District Assembly acknowledging their achievement as well as a large billboard at the school highlighting their achievement (month 12).
  - An initial test of the compost will occur to verify that the compost is free from harmful pathogens (ascaris) and ready to be sold (month 13-14).
  - Collection of compost will start in ~month 15 if the results of the tests on compost show an absence of ascaris. This step will demonstrate whether the assumptions of an available market for compost are in fact real. A good deal of work has gone into exploring whether there is an internal and external market for latrine compost. All indications are that the market is available but it is only at this stage of the program that we will be sure the market is real.
  - Expansion of the initiative will occur in month 18 to at least 3 additional TAs in the two districts. This step is necessary to learn how to scale up the work.
  - A mid-term evaluation will occur from months 21-23 and submitted to the DM. The mid-term evaluation will offer insights into whether the project's targets are being reached, what gaps need to be addressed and what successes the project has had that should be replicated further.
  - A final evaluation will be conducted in months 55-57 and submitted to the DM. The program is designed for 5 years. As such, evidence that the goal of a 40% reduction in diarrhea and 100% sanitation coverage in the 3 participating TAs will only be apparent at this time. By participating in the DM, Water For People

commits to continue to submit reports, monitoring data and a final evaluation to the DM throughout the 5 year project period.

<b>Proposal 1772: Children's Sanitation and Hygiene Promotion Project</b>							
<b>Activity</b>	<b>Months</b>						
	<b>1-4</b>	<b>5-8</b>	<b>9-12</b>	<b>13-16</b>	<b>17-20</b>	<b>21-24</b>	<b>Post 24</b>
MOUs with partners							
Baseline Study							
School-Based Program							
Sanitation Promoters							
Promotion Program							
School Arbour-Loos							
Loan Scheme and CBV							
Formal Monitoring							
Inter-School Competition							
Test of the Compost							
Compost							
Mid-Term Evaluation/Report							
Final Evaluation/Report							
Expansion							

It is important to note that the program is likely to evolve to include an intestinal worm eradication component but this has yet to be finalized with the Ministry of Health and its district counterparts. As such, this possibility is not included in the project at this stage.

It should also be noted that the competitions may continue to include a competition between the 3 competing schools from the 2 districts with judges from the national Ministries of Health and Education deciding on the best school. This has yet to be finalized, but if successful it will serve as a catalyst to other districts to consider this program.

### **PROJECT BENEFICIARIES**

The beneficiaries of this initiative are the following:

- Toddlers aged 2-6 (~3,100 initial beneficiaries but this number will grow as the intervention expands).
- Primary school children who are viewed as agents of change in the project and who will benefit from improved services and reduced diarrhea at school and at home (~500 pupils x 31 schools = 15,500 pupils beneficiaries).
- Families (particularly mothers and care givers) who benefit from improved sanitation facilities, trees, and the elimination of the chore of cleaning up after toddlers (~6,000 families growing as the initiative expands).
- Sanitation promoters, who are given a unique business opportunity and who will be key agents in diarrhea reduction (~30 sanitation promoters).
- Schools (31 schools targeted for this project, but designed to be replicated after Year 2 to an additional ~20 schools).
- Traditional Authorities in the 2 districts that will receive considerable media coverage for success (3 TAs in total but will expand after Year 2 to at least 2 other TAs).

- District Assemblies, who, if successful, will become models for other districts in Malawi, and who, through this program, are empowered to extend the initiative to other TAs in their jurisdiction (2 District Assemblies).

To date, the project has accomplished the following:

- Modified the approach of Embangweni with CCAP and finalized arrangements with the District Assembly in Chikwawa and Rumphu for the proposed project.
- Conducted informal investigations in Chikwawa and Rumphu that suggest that the approach would be acceptable.
- Formalized the technology and confirmed prices that are subsidy-free.
- Initiated discussions with some schools to see if they would be willing to participate, with positive responses.
- Informally explored the fertilizer market which suggests that the potential for low-cost, high-value latrine compost exists both locally (within communities) and externally (among large scale agricultural producers). The value of the Malawian compost/fertilizer market is estimated by government at \$42 million and demand can not be met with current supplies.
- Confirmed that the TAs selected are useful piloting sites with considerable diarrhea challenges (to be quantified as part of the baseline study).

## RESULTS

The project will complete the following outputs that contribute to the broader goals/results described at the end of this section:

- Sign formal Memorandums of Understanding (MOU) with all project partners that is specific to this grant and subsumed within Water For People's existing MOUs with partners.
- Formal agreement to initiate work with all 31 schools.
- Conduct a baseline study of handwashing, diarrhea and sanitation facilities in participating TAs.
- Train 30 sanitation promoters in the construction and promotion of sanitation in Chikwawa (10) and Rumphu (20).
- Target a minimum of 31 primary schools and upgrade their facilities as part of the program.
- Construct and deliver 3,100 children's latrines to participants.
- Construct and deliver 3,100 household latrines as seed money, which is distributed as a loan.
- Initiate and sustain the CBV component of the program along with the broader hygiene promotion effort.
- Monitoring work and "Sanitation Days" to show that children latrines are being used and managed hygienically at home and at school.
- Monitoring work and "Sanitation Days" to show that household latrines are being used and managed hygienically.
- Complete the school competitions.
- Test of compost completed.
- Initiate sale of compost.
- Demonstrate, one year after the project ends, that demand for children's and upgraded household latrines continues to grow and that the masons are meeting that demand



- Monitoring activities demonstrate that handwashing practices in participating families have improved by at least 35%.
- Demonstrate that diarrhea rates are being reduced by 40% among participating households.

<b>DM 1772 Children's Sanitation and Hygiene Promotion Project Results Timeline</b>			
<b>Milestone</b>	<b>Month 1</b>	<b>Month 12</b>	<b>Month 18</b>
<b>Milestone 1:</b> Formal signing of partner MOUs; confirmation of participation by 31 schools (releases first tranche of funding)			
<b>Milestone 2:</b> Baseline study completed; 30 promoters trained, 31 schools upgraded; 3,100 children latrines, 3,100 household latrines; implement loan scheme; implement CBV program; implement hygiene promotion; monitoring evidence that latrines are being used hygienically (schools, children, household); complete first school competition (releases second tranche of funding)			
<b>Milestone 3:</b> Test of compost is completed; initial compost sales are successful; demand for children and household latrines grows and is met beyond the initial 3,100 slabs, with no additional finance for slabs; monitoring activities indicate improvements in handwashing practices and reductions in diarrhea during the first phase of the program (releases the third tranche of funding)			
<b>Tranche release (in US\$)</b>			
Achievement of Milestone 1	\$164,214		
Achievement of Milestone 2		\$78,788	
Achievement of Milestone 3			\$42,425

The program will be deemed a success from a health and developmental standpoint when the following have been achieved:

- All families in a village have children's and family latrines that are hygienically managed and the practice of open defecation has been eliminated.
- All participating schools have sanitation facilities and handwashing facilities that are hygienically managed and sustained.
- All villages in the TA are open-defecation free.
- Diarrhea rates are measurably reduced (40%) at household and community level through improved sanitation and hygiene, thus improving health.
- A 35% improvement in handwashing practices is demonstrated.
- Sanitation services are sustained through the selling of compost in the open market, demonstrated by proof that sanitation promoters are constructing, promoting and delivering slabs to new families without continued project finance.
- The District Assemblies expand the initiative to other TAs in their areas of jurisdiction (at least 2 other TAs).

These broader results will take time and many will likely occur after DM support for the initiative has concluded. Monitoring results should demonstrate that progress is being made within the first 2 years, as is suggested in the table above.

The specific health results are focused on a reduction in diarrhea rates among participating families, but a secondary/indirect result could also be the diversification of diets through fruit-bearing trees that could have some nutritional spin-offs. Water For People is also speaking with the Ministry of Health to see if a comprehensive deworming component can be added to this initiative. This is not finalized at present but if approved worm-load reductions would be included as another health impact. Costs for deworming would be covered by other means and not from the DM.

### MEASURABILITY

Water For People has a monitoring program that measures functionality of infrastructure as well as issues of use and hygiene that will be integral to this project. Monitoring occurs annually and is conducted independently of Water For People through a program called the **Water Corps** which utilizes technical capacity in the North American water and sanitation community (utilities, manufacturers, engineering consulting firms, etc) to work in counterpart with local partners to monitor progress and identify gaps in Water For People's support program. Results are posted on the internet ([www.waterforpeople.org](http://www.waterforpeople.org)) and the results are not in any way modified by Water For People, which enhances program transparency and accountability. The **Water Corps** is comprised of volunteers who want to contribute to improvements in water and sanitation overseas, and will be used as part of this project.

Monitoring of this project will operate at a number of levels. One aspect will explore the functionality and hygienic use of the latrines. The justification for this is that water supply and sanitation infrastructure that is being used hygienically and as designed is **likely** to be **contributing** to the broad goal of improved health, and the specific goal of diarrhea reduction. If the services are not being managed hygienically then it can be assumed that the latrines are **not** contributing to improved health or diarrhea reduction.

Monitoring trips are unannounced at community and school level, and generally start by monitoring 30% of all facilities supported, reducing over time to 15% as the number of facilities grows. Random sampling procedures are used and the methodology can be provided to the DM if requested.

The quantitative indicators for this component of the project (household and school) include:

- Number/percentage of children, adult and school latrines being used as designed.
- Number/percentage of households/schools free from open feces (inspection of the family's compound and school grounds).
- Number/percentage of latrines whose floors and walls are free of feces and urine.
- Number/percentage of latrines that do not have flies entering/leaving the latrine at the time of inspection.
- Number/percentage of households and schools with water available within 3 meters of the latrine on the day of inspection.

- Number/percentage of households and schools with soap available within 3 meters of the latrine on the day of inspection.
- Number/percentage of children who can correctly specify necessary handwashing times (after defecating, after cleaning a child's bottom, before preparing food, before eating, before handling drinking/cooking water).
- Number of trees planted on previously used children latrine pits (with the latrine being relocated and used again).
- Number of latrines being purchased through loans, and evidence that promoters are building latrines without additional project finance following the first seed grant.
- Monitoring will eventually include data on compost sales and a market analysis.

A detailed health/diarrhea survey will also be included that establishes a baseline and monitors progress. Indicators focus on 2-week recalls of diarrhea incidence in the household, but are combined with detailed 4-day studies that quantify diarrhea rates at household level and augment recall figures. One of the key implementers of this study and monitoring of results will be primary school pupils with district and partner support. This cements pupils' positions as agents of change and will enhance their hygiene promotion efforts.

As stated above, the baseline will be established at the start of the project and monitoring results produced every 6 months during the life of DM support.

Qualitative data will be gathered through "Sanitation Days", conducted every 6 months in at least 3 villages per TA. The "Sanitation Days" will be qualitative in nature, employing participatory investigative techniques and focus groups, designed to better understand what people think about the program, what impact it is having at household and school levels, what aspects of the program need to be changed and ideas on how to further lure non-participating families into the scheme.

#### **ORGANIZATIONAL SUSTAINABILITY: PROJECT TEAM AND PARTNERS**

Water For People—Malawi is currently in the "growth" stage of its organizational development. There are four full-time staff members with specialized roles working in three different departments: executive, program and accounting. In 2006 Water For People—Malawi transformed the local Board of Trustees into an Advisory Committee in line with Malawi's regulations related to international NGOs. A policies and procedures manual and an established control system are both in place, while performance reporting and annual financial audits are conducted as required. Water For People—Malawi has a comprehensive five-year strategic plan for 2007-2011 that is accompanied by an annual operational plan. Both clearly dictate where the organization works, how it partners, what its roles and responsibilities are and what dictates the program funding needs. The greatest strength of the organization is its emphasis on partnerships, capacity building and results, evidenced through the organization's strategic and operational plans as well as its commitment to monitoring, needs assessments and evaluation.

During the period 1997-2005, Water For People—Malawi supported an assortment of projects proposed and implemented mainly by its existing partners. Most of the projects were successful and have served tens of thousands of Malawians with water, sanitation and hygiene education but Water For People—Malawi lacked a strategically coherent

work program focused on specific districts. Water For People—Malawi is now well placed to implement more strategic and innovative programs with its district governmental and non-governmental partners focused in Rumphi and Chikwawa.

The project team for this initiative, and their key responsibilities, is as follows:

<b>Team Members</b>	<b>Affiliation</b>	<b>Responsibilities within DM 1772 Initiative</b>
Team Leader (Kate Harawa)	Water For People	<ul style="list-style-type: none"> <li>- Overall coordination of the entire initiative</li> <li>- Provision of support to all partners</li> <li>- Monitoring completion of all milestones</li> <li>- Disbursement of funds/reporting</li> </ul>
Chikwawa Program Manager (Mr. Ephron Mwenitete)	Water For People	<ul style="list-style-type: none"> <li>- Support partners in community mobilization and sensitization, health education and promotion</li> <li>- Training of sanitation promoters</li> <li>- Project supervision, planning and reporting</li> <li>- Advocacy</li> </ul>
Rumphi Program Manager (Mr. Jim McGill)	CCAP Livingstonia Synod Projects Office, Rumphi District	<ul style="list-style-type: none"> <li>- Support to District Assembly in areas of community mobilization and sensitization, and health education and promotion, and implementation in communities in collaboration with the DAs</li> <li>- Training of sanitation promoters</li> <li>- Project supervision, planning and reporting</li> </ul>
Chikwawa and Rumphi District Commissioners (Mr. Harison Lende and Mr. Andrew Misomali)	Chikwawa and Rumphi District Assemblies	<ul style="list-style-type: none"> <li>- Community mobilisation and sensitisation</li> <li>- Coordination of activities with the relevant sectors involved in the project</li> <li>- Project supervision, planning and reporting</li> <li>- Provision of Chikwawa office space</li> <li>- Advocacy and expansion</li> </ul>
Chikwawa and Rumphi District Health Offices	Chikwawa and Rumphi Districts	<ul style="list-style-type: none"> <li>- Community mobilization</li> <li>- Project supervision</li> <li>- Monitoring and reporting of health impacts at school and household levels</li> <li>- Community hygiene education and promotion</li> </ul>
Chikwawa and Rumphi District Education Managers	Chikwawa and Rumphi Districts	<ul style="list-style-type: none"> <li>- School mobilization and sensitization</li> <li>- Ensure that all school objectives of the initiative are met</li> <li>- Monitoring and reporting at school level</li> </ul>
Chikwawa and Rumphi District Community Development Officers	Chikwawa and Rumphi Districts	<ul style="list-style-type: none"> <li>- Community-based management training</li> <li>- Financial and business management training</li> </ul>
Chikwawa and Rumphi District Forestry Officers	Chikwawa and Rumphi Districts	<ul style="list-style-type: none"> <li>- Provision of seedlings for latrine trees</li> <li>- Technical support</li> </ul>
Chikwawa and Rumphi District Water Officers	Chikwawa and Rumphi Districts	<ul style="list-style-type: none"> <li>- Oversight and regulation of sanitation services</li> </ul>

Technical Advisor (Mr. Steve Sugden)		<ul style="list-style-type: none"> <li>- Advisor on design of sanitation facilities, hygiene promotion campaigns and partner capacity building</li> <li>- Training of sanitation promoters</li> <li>- Business development</li> </ul>
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### TEAM LEADER

Ms. Kate Harawa is Water For People's Country Coordinator in Malawi and will serve as the team leader. She has been instrumental in the development of this strategy and has developed strong relations with district partners and CCAP and has worked with them to develop this strategy. Ms. Harawa has extensive field and managerial experience with a sound focus on health and hygiene, and is considered to be an extremely effective and efficient narrative and financial reporter within Water For People. She has consistently asked hard questions of impact and is particularly strong at supporting partners in making programmatic changes based on results from the field.

### RISK EVALUATION

There are a number of risks and assumptions made in the project that threatens success. These include the following:

- Health risks from composted human excrement – the time required to transform pathogen-rich excrement to productive, safe-to-handle compost is dependent on many factors (temperature, soil conditions, use of ash, pH, BOD, etc). Studies from the sub-region suggest that 10 months of storage is required before the compost is safe to handle. Tests on compost are included in the project to ensure that the project is not inadvertently contributing to poor health by people handling what is thought to be safe compost.
- The assumption that human compost is valuable and will be used by farmers and large producers is a fairly safe assumption. Fertilizer is becoming politicized in Malawi with a possible candidate in the next Presidential election, former President Muluzi, claiming he will offer free fertilizer to Malawians if elected. If this happens, it would undermine the program.
- Transport of compost will be a challenge, and may reduce sanitation promoter profits.
- If compost is easily sold and profitable it could lead to another risk – people harvesting the compost before it has fully transformed into safe-to-handle compost. To address this, the District Assemblies will have to play a regulatory role, which is consistent with their responsibilities, but at present not very effective. This will have to be monitored closely.
- The project will test the premise of whether primary school children are effective agents of change for their families. If proven, this creates further opportunities for the effective use of children in development.
- Sanitation promoters will start and leave the scheme as attrition is inevitable. It is assumed that the profit potential and subsequent reality, combined with careful targeting of promoters, will limit this risk.

It is believed that some of these risks are manageable (testing of compost, building regulatory capacity/enforceability within the District Assemblies, attrition and transport). The politicization of fertilizer is completely beyond the control of the program but is a risk worth taking.

## **GROWTH POTENTIAL**

The project has considerable growth potential. It is replicable because of the following:

- It focuses on a small number of TAs (3) and similar services are needed in other parts of Chikwawa and Rumphi. Success in these first 3 TAs will lead to interest and pressure to expand the work within Chikwawa and Rumphi and beyond.
- Government, donors and local/international NGOs are looking for new ways to engage children in water and sanitation, and to enhance the link between schools and the broader community.
- School-based programming is increasingly important in Malawi and the country is looking for innovations in this sector.
- It demonstrates a new model for sustainable sanitation services in a sector anxiously looking for innovative and successful models that are not subsidy-dependent.
- Compost is valued nationwide, demand is high and supply is not assured.

The initiative is scalable because of the following:

- The potential to grow this program in Malawi is significant given the large number of crèches/primary schools in need of similar support.
- If successful and creatively covered in the media, it will lead to calls for similar work in other parts of the country. It will potentially inspire other Districts/donors/NGOs to expand the work, and will not require the continual involvement of Water For People as the scheme is designed as part of broader capacity building efforts with the District Assemblies and NGOs like CCAP.
- Water For People can apply this model in other countries where it operates, based on successes and lessons from Malawi.

## **FINANCIAL VIABILITY**

The attached Excel spreadsheet provides an overview of the finance required for this initiative. The project is a pilot designed to test a new approach to reduced diarrhoeal disease through sustainable sanitation service provision. Water For People has functioning 5 year MOUs confirming our commitment to support the districts of Chikwawa and Rumphi. A key component of the MOU is to meaningfully reduce diarrhea through improved water supply and sustainable sanitation services throughout the districts. If successful, the DM-supported initiative will be replicated throughout Chikwawa and Rumphi.

Regarding costs, Water For People will assume responsibility for all inflationary costs and costs associated with fluctuating exchange rates and will continue the effort after Year 2. No revenue is expected to be generated.

Funding to support this initiative has been secured from the Henry E. Niles Foundation, who will allow us to allocate US\$70,000 of a US\$100,000 grant to this work. Water For People also has a secure "workplace giving campaign" which will supply the required counterpart funding of US\$15,426. The explanation for the rest of the budget is as follows:

### 1. Personnel:

- Country Coordinator, team leader allocating 50% of her time to this initiative: US\$18,160/year @ 50% = \$9,080/year x 2 years = \$18,160

- Program Manager, field based, allocating 75% of his time to this initiative: US\$12,000 @ 75% = US\$9,000/year x 2 years = \$18,000
- CCAP Staff including Jim McGill's time and one staff member @ 50% to the initiative @ US\$7,000/year x 2 years = US\$14,000.
- The total personnel line item equals US\$50,160 with US\$25,080 allocated in year 1 (15% of total year 1 allocation) and US\$25,080 in year 2 (20.5% of total year 2 allocation).

## 2. Materials and Equipment:

- School Arbour Loos (80 cm slab): US\$5.56/arbours loo x 31 schools x 10 arbour loos per school = US\$1,724
- Permanent latrines at schools: Upon completion of the beautification project, each school will convert their arbour loos to permanent latrines, including a permanent superstructure, the attachment of the slab to a proper floor, and pit and a roof @ US\$2,500/school x 3 schools = US\$7,500
- Household latrines (80 cm slab): US\$5.56/slab x 3,100 slabs over 2 years = US\$17,236. The finance for this is provided as seed money for a loan to households, with promoters building their client base beyond the 3,100 over time.
- Children latrines (60 cm slab): US\$ US\$3.47/slab x 3,100 slabs over 2 years = US\$10,757. The finance for this is provided as seed money for a loan to households who purchase household latrines (see bullet above), with promoters building their client base beyond the 3,100 over time. The total value of the loan is US\$5.56 and US\$3.47 = US\$9.03/family.
- Handwashing facilities: all participating schools will receive 2 improved handwashing facilities, which include a tank and taps and are sufficient for schools up to ~1,000 students. The cost is US\$75.00/handwashing facility x 31 schools x 2 handwashing facilities/school = US\$4,650.
- The total material cost for the initiative is US\$41,867, with the vast majority of the funding (76%) financed in Year 1 to ensure that the targets are achieved and that promoters can meet household demand.

## 3. Training:

- Sanitation Promoter Training involves a series of workshops and the supply of basic equipment to each promoter. The workshops are focused on technical issues (slab construction) as well as promotional and business skills development. It is estimated that each promoter will require US\$1,000 in supplies and training, with follow-up work occurring in year 2 for a total of US\$30,000 over the 2 years.
- Teacher Training/Support includes hygiene promotion materials for staff and training in targeted health and hygiene initiatives that focus on diarrhea reduction through improved sanitation and handwashing, estimated at US\$3,000/TA x 3 TAs x 2 years = US\$18,000.
- Training for District Assemblies will be in areas of health and hygiene, monitoring, participatory facilitation skills, and regulation to ensure that the District Assemblies are playing their proactive and central role in the program. The costs are estimated at US\$3,000 x 2 District Assemblies x 2 years = US\$12,000.
- The total cost of Training is US\$60,000, with US\$35,000 allocated in year 1.

#### 4. Travel:

- Travel costs, which include petrol, vehicle maintenance and allowances is estimated at US\$300/support organization/month x 4 support organizations (Water For People, Chikwawa District Assembly, Rumphi District Assembly and CCAP) x 24 months = US\$28,800.
- Steve Sugden will make 2 trips to Malawi in year 1 and 2 trips in year 2 @ US\$1,000/trip = US\$4,000.
- The total cost of travel is US\$32,800, split evenly over the 2 year period (US\$16,400/year).

#### 5. Other:

- Baseline study administered by partners to clarify access to sanitation, handwashing practices and diarrhea rates @ US\$5,000
- Study of compost to test when ascaris die off at the University in Mzuzu (Rumphi) @ US\$3,000
- School competition awards, including publicity, a sign at the winning school and t-shirts for all students at the winning school @ US\$4,000/school x 3 schools (1 per TA) = US\$12,000
- Steve Sugden's consulting fees at US\$600/day x 30 days = US\$18,000
- Total for "other" equals US\$38,000

#### 6. Monitoring/Evaluation/Information Dissemination:

- Monitoring visits will happen twice a year x 2 years @ US\$6,500/monitoring = US\$26,000
- One mid-term evaluation to determine whether the program is on track to meet its targets will be conducted in Year 2 @ US\$10,000
- A Lessons Learned publication, approved by the DM and the Water and Sanitation Program (suggested) is produced in Year 2 @ US\$5,000
- The cost for Monitoring, Evaluation and Information Dissemination is US\$41,000

#### 7. General Administration/Overhead:

- Water For People will require US\$150/month for administrative costs x 24 months = US\$3,600
- The other partners (CCAP and the District Assemblies of Chikwawa and Rumphi) will each receive US\$250/month x 24 months = US\$18,000
- The overall administrative cost of the program is US\$10,800 in year 1 (6.5% of overall year 1 budget) and US\$10,800 in year 2 (8.8% of overall year 2 budget)