



Building Demand for Sanitation

A 2015 Portfolio Update and Overview
Water, Sanitation, and Hygiene Strategy

June 2015

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Photos:

Cover: Women review a map during a meeting to discuss sanitation and safety issues in the NTPC Subhas camp (Delhi, India, August 2014).

This Page: Nguyen Van Phuc and his family stand next to their newly constructed hygienic latrine behind their house in Long Hung commune (Chau Thanh district, Tien Giang province, Vietnam, 2014).

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Preface

In January 2015, Foundation staff, grantees and sanitation sector experts converged on Hanoi, Vietnam for a series of important meetings. The first of these, the 5-day Fecal Sludge Management III conference, focused on technical aspects of a critical challenge—how to manage, treat, reuse, and dispose of waste which is accumulating at an increasing pace in ‘onsite’ sanitation facilities throughout the world, particularly in developing countries. The conference provided an opportunity for experts from many fields and organizations to exchange ideas on preventing fecal sludge from entering into the environment, and ideally, how we might convert this waste into products, energy, or fertilizers which will generate revenue and increase people’s standard of living.

The second meeting brought together Foundation grantees from all initiatives across our Water, Sanitation, and Hygiene (WSH) strategy—Transformative Technologies; Urban Sanitation Markets; Building Demand for Sanitation; Policy, Advocacy and Communications; and Measurement, Learning and Evaluation. Normally, most of these grantees don’t come into contact with each other, as they are working on distinctly different parts of the Foundation’s sanitation effort. However, in this first-of-its-kind convening we spent a very productive and enlightening day discussing matters of interest to us all. Based on the success of this event, we hope to continue to promote exchanges between sanitation grantees and other colleagues as the Foundation’s WSH program matures.

The final meeting was a four-day event attended by all the *Building Demand for Sanitation* (BDS) grantees as well as some of the *Measurement, Learning and Evaluation* (MLE) grantees. This was the fourth such meeting of the BDS portfolio partners,¹ during which grantees and Foundation staff take stock of progress, discuss challenges, and propose new ideas. Many of the BDS grants have now either been completed, are nearing completion, or have entered a new phase. There was obviously a lot to talk about, given the maturity of the projects and research efforts.

The challenges facing the Foundation’s sanitation partners and our other colleagues working in the sector are enormous. Forty percent of the world’s population (2.5 billion people) practice OD or lack improved sanitation facilities; the consequences of this for human health and the environment are staggering. Poor sanitation contributes to about 700,000 child deaths from diarrhea each year, sanitation-related environmental enteropathy impedes child development and is linked to stunting and a reduced effectiveness of vaccines. Poor sanitation robs women and girls of their dignity and safety, and inflicts significant economic losses on national economies. In India alone, economic losses from poor sanitation are estimated to be \$54 billion a year.²

The year is 2015—the target for achieving the Millennium Development Goals (MDGs). As of 2014, the global MDG for water supply (88% coverage) had been achieved—which is very encouraging news. However, there are still 76 countries who have not yet reached the water MDG—including 45 which are not on track to meet it by the close of 2015.³

On the other hand, the sanitation MDG (75% coverage) will likely not be achieved. Overall, sanitation coverage in developing countries increased 21 percentage points since 1990 (a larger increase in coverage than for water supply)—which is a worthy accomplishment. However, at least 108 countries are still shy of the MDG, and 79 of these countries are off track for reaching the sanitation MDG. Compounding this challenge is the fact that it will become increasingly difficult to reach those who still lack access to improved sanitation; the progress achieved so far has been more concentrated in urban and easily-accessible areas, and among the wealthier socioeconomic strata. The majority of those who have been left behind are poor and/or lack easy access to sanitation markets and services.⁴ In addition to the challenges just meeting the MDG targets (measured as access to improved sanitation), there is a growing body of evidence demonstrating that the actual use of facilities is not guaranteed even where access exists.

In spite of these challenges, or perhaps because of them, the Foundation’s partners are a determined, resilient, and innovative group of professionals who consistently see opportunities and synergies rather than focusing on constraints and roadblocks. The Hanoi BDS workshop offered us another opportunity to focus our attention on what we’ve learned and how we can use that knowledge to accelerate global progress towards achieving *universal sanitation*.

The report that follows attempts to outline what the Foundation and its BDS partners are doing to help meet these challenges and move the world towards universal sanitation. Naturally, it is impossible to capture everything that these individuals and organizations are accomplishing. However, I hope that readers will be inspired by it, and if particularly interested in certain topics, projects or organizations—they can use the contact information provided to find out more.

Jan Willem Rosenboom
June 30, 2015.

Introduction

EVOLUTION OF THE FOUNDATION'S WATER, SANITATION AND HYGIENE (WSH) PROGRAM

The Water, Sanitation and Hygiene program of the Bill & Melinda Gates Foundation was launched in mid-2005 as a “Learning Initiative,” eventually becoming a full-fledged program under the Global Development Division in early 2010. The Foundation’s efforts in the WSH sector are now nearly a decade old, and during that time it has undertaken a wide range of efforts involving research, experimentation, reflection, advocacy, and field implementation.

The early stages of the Foundation’s WSH effort explored a broad menu of water, sanitation, and hygiene challenges facing the developing world. Research efforts, landscaping studies, and pilot projects were important parts of the Foundation’s early WSH investments, although some large-scale projects also got their start during this period (e.g., IRC’s Triple S and WSP’s TSSM projects). Through these initiatives, and by listening to and learning from many global leaders in the WSH sector, the Foundation ultimately determined that its impact would be greatest if it focused on achieving catalytic change in sanitation services for the poor—an area that has long been recognized as important by the global development community, but one which traditionally had received far less investment than water supply services.

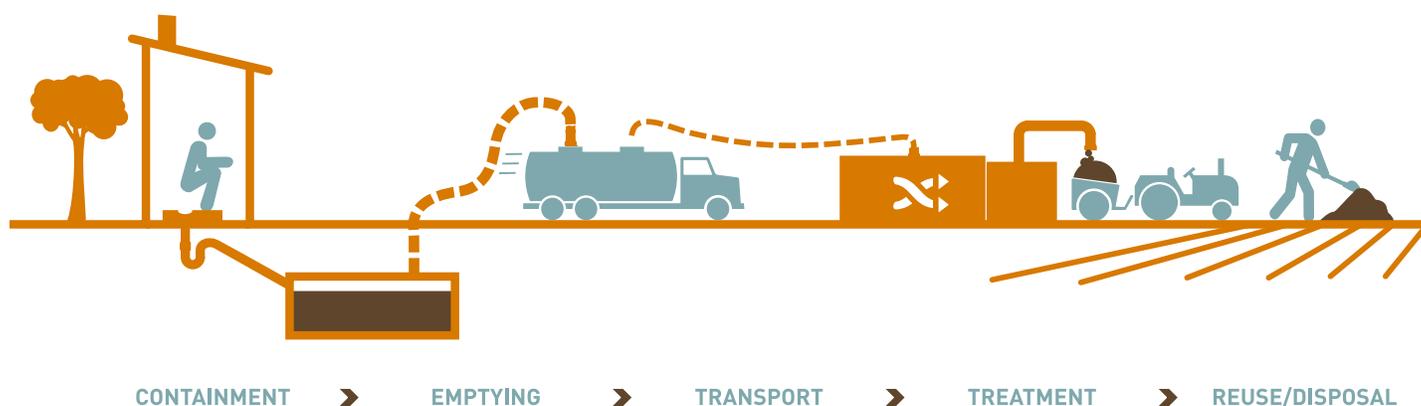
Through external consultations and internal analysis, the Foundation believed that the sanitation crisis in the developing

world had two fundamental elements: (i) 2.5 billion people, mainly in rural areas, lacked access to “improved” sanitation, meaning they practiced OD, or used unimproved pit toilets; (ii) 2.1 billion people in urban areas—many of whom were considered to already have “improved” sanitation—were capturing their waste on site—but nearly all of this waste was eventually being released into the environment without treatment. Importantly, the second failure was much less widely recognized within the WSH sector than the first. In other words, the WSH strategy identified and tried to address needs and opportunities along the entire sanitation ‘value chain’ (see graphic below).

Further, the Foundation also concluded it was unrealistic to expect that piped sanitation would (within a reasonable time frame) be able to reach the majority of the poor. To serve the poor, the Foundation believed it should focus on sustainable non-piped sanitation services. The ‘theory of change’ for generating widespread impact from this new program direction was based on the need to overcome three main challenges:

- Many people exhibited *low demand* for sanitation, even if they valued improved health.
- In terms of *sanitation supply*, fecal sludge (FS) extraction, transport, treatment, and disposal remained costly and difficult.
- The *policy environment* showed limited government capacity to select effective solutions.

Sanitation Value Chain



The Foundation thus determined it would contribute to meeting and overcoming these challenges through three main grant-making initiatives:

1) Ending Open Defecation (OD) – This approach combined several key elements: a) community-led demand stimulation; b) marketing affordable, desirable sanitation products and services by local entrepreneurs; c) strengthened enabling environment; d) capacity building for local governments; and, e) effective monitoring and evaluation.

2) Improving Sanitation Tools and Technologies – Development of new tools and technologies with the goal of supporting scalable business models and technologies across the sanitation value chain. Three main sub-initiatives would be: (i) Next generation latrine; (ii) Waste extracting and transport; (iii) Waste treatment and reuse.

3) More Effective Policy and Advocacy – Advocacy work to disseminate successful approaches to sanitation and encourage changes in policy and funding priorities necessary to accelerate access to sustainable sanitation.

The Foundation’s present-day WSH program has grown out of the work done under these three initiatives. Along the way, the program structure has periodically been modified to incorporate lessons learned through the various research and implementation initiatives. The current WSH program structure has three principal, inter-related initiatives, and two cross-cutting initiatives, as shown below.

These five initiatives reflect the Foundation’s current WSH priorities, showing our understanding of where the Foundation can have the greatest impact in a complex, diverse, and large sector.

TRANSFORMATIVE TECHNOLOGIES	URBAN SANITATION MARKETS	BUILDING DEMAND FOR SANITATION
<ul style="list-style-type: none"> • Applied Research • Innovation • Prototyping 	<ul style="list-style-type: none"> • Market Research • Identify or create new markets • Promote uptake of service in low-income urban areas • Field Testing • Commercialization 	<ul style="list-style-type: none"> • Increase adoption of evidence-based practices • Contribute to at least 30 million people living in OD Free (ODF) communities
POLICY, ADVOCACY & COMMUNICATIONS	<ul style="list-style-type: none"> • Encourage donors and implementers to invest in non-sewered sanitation • Improve sanitation policies for the poor • Foster effective regulatory environments 	
MEASUREMENT & EVALUATION	<ul style="list-style-type: none"> • Efforts of the sanitation field are supported by strong measurement and evaluation 	

BUILDING DEMAND FOR SANITATION PORTFOLIO

The Sustainable Development Goals (SDGs) being proposed for ‘post 2015’ focus on achieving, among other things, *universal access* to sanitation. Though the timeline for some of these new development targets may extend to 2040, governments and implementing partners will still need to accelerate the pace of progress in sanitation programs. Without accelerating the pace, some countries will not achieve universal access to sanitation *until the 23rd century*.

The core focus of the BDS portfolio is to help increase the efficiency and effectiveness of sanitation programs—in other words, to help ‘pick up the pace’ of sanitation improvement (and ensure the improvements are sustained). Based on sector research and the Foundation’s findings over the past 10 years, we believe these factors include:

- Promoting community-wide adoption (achieving open-defecation-free status, or nearly so)
- Reaching the poorest and most marginalized groups
- Establishing an adequate supply of affordable (and aspirational) sanitation goods and services
- Providing access to affordable financing and credit, especially for the poor
- Integrating demand-led and supply-side interventions for optimal mutual benefit

To operate effectively at scale, governments and the WASH sector in general must be supported by an ‘enabling environment’ that can accelerate the process. The factors which we believe are most critical to this include:

- Building capacity in governments and implementing agencies, and strengthening their ownership, investment, and leadership
- Improving sector monitoring, verification and reporting systems
- Establishing solid evidence on what works (and what doesn’t), and advocating for wide-spread adoption of the best approaches

The Foundation has established long-term and intermediate targets for the BDS portfolio which will continue to help align its investment, and provide benchmarks against which progress can be measured.

Progress on these accelerating factors will be difficult without improving the capture and transfer of sector knowledge. Many WASH sector organizations have realized that, and in the past several years a number of agencies have sharpened their focus on knowledge management, including the Foundation. The chapter on Knowledge Management and Research Needs provides further information on the Foundation’s WSH knowledge management effort.

Each of the BDS grantees are working hard to meet the challenges facing the sanitation sector (and have made great progress). Their accomplishments and more importantly, the key lessons learned from their work—are highlighted in the chapter titled Grant and Project Summaries.

3-5 YEAR BDS GOALS	12-18 MONTH RESULTS
30 million people in rural and urban areas demand, use and form social norms for sanitation via replicable models	Carry out at least 4 demand-generating, integrated communications and consumer awareness campaigns in urban environments
	Contribute to over 5 million people in rural communities using improved sanitation services
The evidence base for building sanitation demand is strengthened and used to drive best practices and deliver improved services.	Portfolio-generated information is readily available through the BDS Knowledge Management Initiative
	Evidence from completed CLTS and sanitation marketing grants is effectively disseminated through appropriate channels
	Field-based research efforts constructively influence key implementation agencies
	In India, two rural states (Bihar and Uttar Pradesh) adapt the implementation of national sanitation programs, with assistance from State and Federal-level Technical Support Units

GRANT-MAKING APPROACHES

There are three features of BDS portfolio grants that are important to mention; two of these are used widely across the Foundation, and one is more specific to the BDS portfolio. The first two features discussed below relate to i) how grants are designed; and ii) the structure of grant payments.

Outcome Investing

This is an approach to grant making that establishes up-front a clear vision of what a successful outcome to the project would be, and then translates that vision into measurable outcome (or sometimes output) indicators. This clarity of purpose then guides the development of the grant agreement. Outcome investing emphasizes:

- Aligning an investment around the intended impact of a project, rather than its activities or outputs;
- Translating project impacts into a number of specific, measurable outcomes that will serve as proxies for impact;
- Agreeing on a transparent and robust approach to measuring project outcomes as part of routine project monitoring. In some cases, independent third party verification of project results is included as part of the measurement approach.

The main benefit of outcome investing is that it creates clarity of purpose—aligning a grantee and the Foundation around a shared vision of success. From the Foundation’s point of view, the advantage is that monitoring (and reporting) focus mostly on outcomes, making it easier to understand whether the investment is paying off in terms of achieving the desired impact. From the grantee’s perspective, this approach empowers them to devise the best ways of delivering results—giving them the flexibility to adapt or change their project activities or approaches as required.

Payment by Results

A special case of outcome investing is where payments to the grantee are actually linked to achieving specific outcomes. There are several ways of doing this, with varying degrees of linkage. On one end of the spectrum, all grant payments can be linked to achieving results or outcomes. The East Meets West grant for the CHOBA project in Vietnam and Cambodia is an example of this; payments to EMW are made (largely) based upon the number of toilets sold by the Vietnam Women’s Union (there also are other qualifying factors taken into account). This approach has enabled EMW and their partners to experiment with their approach until it ‘clicked’ and started delivering results at scale. If the project had been more rigidly designed around specific activities and output deliverables, EMW and its partners might not have hit upon the highly effective approach they are currently using (an approach with which EMW is now exceeding the original targets).

Another approach to outcome investing involves establishing a baseline “satisfactory performance” project performance level, and then linking “incentive payments” to outcomes which exceed this. In this situation, the Foundation provides an agreed-upon base amount of financing for the project, and then pays the grantee an additional amount(s) if performance exceeds expectations. The grant to International Development Enterprises (iDE) for the Sanitation Marketing Scale-Up project in Cambodia was designed this way, as well as Foundation support for the WASH II program being carried out by BRAC in Bangladesh.



Community Health Club members in Rwanda displaying their certificates.

These outcome investing approaches provide greater flexibility to grantees in terms of project design and management, as well as meaningful financial incentives to outperform expectations. For the Foundation, outcome investing helps to reduce its financial risk in the case of under-performance, and helps keep its grant relationships focused on results and impact. In summary, outcome investing and payment by results has helped lead to:

- Shared vision of success between the Foundation and grantees, and a shared sense of risk and reward;
- Greater flexibility in project implementation for grantees, which in turn encourages innovation and rewards ambition;
- Shift in grant management focus from verification of activities and expenditures to verification of results;
- Project monitoring has become more effective and better-focused.

The table below provides some additional examples and further details on how the Foundation has used outcome investing in the BDS portfolio:



Young women discussing hygiene and menstrual management, Bangladesh.

GRANTEE ATTRIBUTES	GRANT FEATURES	RISK SHARING AND EXAMPLES
Strong on research but relatively weak on policy influence	Agreement with grantee that the vision of success is policy influence and not (just) completion of research. Funding based on activities.	None. Example: r.i.c.e.
Weak on research but relatively strong on policy influence	Allowing the grantee the flexibility to develop a research proposal with suitable partners. If research results successfully influence policymakers, grant payout increases.	Limited. Payments upfront for each outcome, but follow-up payments conditional on reaching previous outcome. Example: WSA Dakar (not known in BDS portfolio)
New to the sector and developing business model.	While developing business model, payments based on activities; switching to outcome payments later as model becomes clear.	Limited. Paying for outcomes only in the second half of the grant. Example: PSI Bihar (3SI grant).
Has developed a business model and is using the grant to reach scale.	Clearly defined outcomes and expected value for money, with modest incentives for reaching stretch goals.	Moderate. Part of the budget is represented by incentive payments for excellent targets, and hence is at risk. Example: iDE Cambodia
Has an excellent field presence, has worked at scale, and has experience with outcome investing.	Cash on delivery applied to all service delivery targets, not just stretch goals. Highly incentivized to innovate to optimize impact.	High. In the example, 80% of budget is paid for outcomes upon delivery. An additional 12% of payments are linked to 'stretch' goals Example: EMW Vietnam

Contributing to WSH Sector Evidence Base

As discussed above, as the Foundation was determining whether and how to invest in the WASH sector, it became clear that there was a lack of *rigorous evidence*⁵ on what was working (and what was not) regarding sustainable sanitation delivery models at scale. In response to this, the Foundation has endeavored to invest in learning and research to the extent practicable under the BDS portfolio. This research has been (and continues to be) conducted either as standalone investments (e.g., the Innovations for Poverty Action research on the “migration of sanitation demand” in Bangladesh), or as an integral part of an implementation program (e.g., the testing of CLTS facilitation approaches by Plan International and the University of North Carolina in Ghana, Ethiopia and Kenya, or the work on strengthening large-scale CLTS and sanitation marketing by WaterAid in Nigeria).

This lack of rigorous evidence in the WASH sector has meant that many key programming decisions are (or have been) made based upon incomplete or inconclusive information—not so much in terms of what will have the greatest impact on health, but particularly how to best influence sanitation and hygiene behavior, or how to design and promote adoption of new sanitation technologies. Combining implementation and evidence-gathering has become one of the defining characteristics of the BDS portfolio. This has led to productive partnerships between implementers and researchers (Plan and UNC; iDE and IDInsight; WaterAid and IPA as well as EDePo⁶). The partnerships between implementing agencies and research institutions have not always been easy for the grantees to establish, but once accomplished they have generally proven very beneficial for all involved.

Broadly speaking, the Foundation invests in research to help us (and others) find out “what works” in delivering sanitation and thus make more informed decisions about what kinds of programming to fund.

Should we support programs that link sanitation to micro-finance? Conditional cash transfer programs? CLTS programs that are implemented through partnership with teachers? Our hope is that by integrating learning initiatives (research) with implementation projects we will learn more about what works, and why it works. This information has been, and will continue to be fed into our own grantmaking efforts as well as shared with Governments and other organizations involved with WSH sector implementation.

Another goal of WSH research is to enable the Foundation to reflect on the value for money achieved by particular investments, and to share this information with others. For example—how cost effective are investments in sanitation? How could they be made more cost effective? How do investments in sanitation compare to other types of investments that compete as priorities within Governments and donor institutions?

Focus on Learning

A theme that connects different stages of the BDS strategy—and that has stayed constant throughout, independent of changes to the initiative priorities—has been a focus on learning. The previous section talked about the research and learning driven by specific questions. Apart from that important programmatic learning, there is another level of learning focused on clearly identifying, sharing and applying what we learn, leading over time to better results in the sector. The report from the 2013 BDS convening in Cambodia put it nicely:

“To enable progress on [factors that accelerate the delivery of cost-effective sanitation at scale], they must be underpinned or supported by improved knowledge management and dissemination, noting that the type of knowledge which is most impactful is that which is highly accessible, as well as that which is capable of being put to practical application in ongoing or upcoming programs.”

Stepping back and reflecting on what we are learning as a sector has been one of the functions of the annual convenings. Those started in late 2011 in Kenya (focusing on metrics and measurement of progress monitoring), followed by the meetings in Cambodia (2013, “Learning what works”), Kenya (2014, “Knowledge management”) and Vietnam in 2015 which is the subject of this report.

In the Hanoi convening the program included even more specific activities than in previous years designed to encourage reflection, surface ideas and insights. In response, there have been very enthusiastic reactions from participants about the opportunities to learn and share after the convening (such as the exchange visits that will take place later in the year).



Participants engaged in a “Fishbowl discussion” on financing and subsidies.

Portfolio Progress

INTRODUCTION

BDS grantees are carrying out a range of interventions and research efforts focused on sanitation demand creation, market establishment, systems strengthening (enabling environment), reaching and empowering marginalized groups, and understanding and improving behavior change approaches. In contrast to the situation in 2013 (when the previous portfolio report was issued), most of the grant-supported activities are now well underway, nearing completion, or fully completed.

Preliminary or mid-project results are available, as well as the final outcomes from a few grantees.

The table below provides a quick overview of the current and recently completed BDS portfolio projects, and their overall focus. The narrative sections which follow the table provide more detail on each project, with highlights of their key contributions and lessons learned.

GRANTEE	PROJECT NAME	LOCATION	STATUS	FOCUS
PRODUCT DEVELOPMENT GRANTS				
American Standard Brands (ASB)	Designing Sanitation Products for Sub-Saharan Africa	New markets in Sub-Saharan Africa	Ongoing (follow up on the earlier grant that developed the original SaTo pan)	Develop new low-cost toilet pan products that are adopted for use in one or more rural markets in Africa and Asia.
Fundacion In Terris (FIT)	The Earth Auger	Ecuador	Ongoing	Develop an ecological dry toilet that meets customers' aspirations; goal of product commercialization by 2016.
World Bank Water and Sanitation Program (WSP) and International Finance Corp. (IFC)	Selling Sanitation	Kenya	Completed	Support private sector to expand access to products that meet BoP consumer needs, and help create demand.
RESEARCH AND KNOWLEDGE SHARING GRANTS				
Center for Distributive, Labor, and Social Studies (CEDLAS), University of La Plata, Argentina; UNICEF Mali	Evaluation of the Impact of a Rural CLTS Programme	Mali	Completed	RCT to assess effects of a CLTS program on child health, welfare, and household sanitation behavior in rural Mali.
Eawag; USAID ⁷	Determining the effectiveness and mode of operation of CLTS	Cambodia, Ghana, Lao PDR, Mozambique	Starting	RCT in Ghana to analyze behavior change approaches used by CLTS as well as ODF adoption process by communities. Preceded by an evaluation of completed CLTS projects in 3 countries.

GRANTEE	PROJECT NAME	LOCATION	STATUS	FOCUS
RESEARCH AND KNOWLEDGE SHARING GRANTS				
Environment and Population Research Centre of Bangladesh (EPRC)	Improving Rural Total Sanitation through Empowered Female Local Government Members	Bangladesh	Ongoing	To learn whether female Local Government members, working with women's groups, can establish effective sanitation improvements at scale.
Institute for Development Studies (IDS)	CLTS Knowledge Hub	Global	Completed (Continuing Funding from SIDA)	Promote learning and knowledge management for CLTS; expand and strengthen its application.
Innovations for Poverty Action (IPA)	Inter-Linkages in Sanitation Demand Across Households	Bangladesh	Ending	RCT to study effectiveness of demand generation, supply-side marketing, and sanitation subsidies. Investigate influence of sanitation decisions on decisions by others in a social network.
IPA	Does Sanitation Behavior Migrate?	Bangladesh	Ongoing	Study of how sanitation interventions affect the behavior of seasonal migrants, and how sanitation in towns affects migrants' home villages on their return.
Research Institute for Compassionate Economics (r.i.c.e.)	SQUAT Report/ Switching Study	India and other countries	Ongoing	<ol style="list-style-type: none"> 1. Analysis of large country data sets (starting with India) showing strong correlation between OD and stunting, and reductions in stunting with reductions in OD. 2. Study of sanitation behavior in 5 states in India showing widespread OD by latrine owners. Evidence linking OD and culture, explaining preference for OD.
INTEGRATED IMPLEMENTATION AND LEARNING INITIATIVES				
Africa Ahead	Community-Based Environmental Health Promotion Programme	Rwanda	Ongoing	RCT to test effectiveness of Community Health Clubs (CHC) as a social mobilization and behavior change approach. The grant makes use of the fact that Rwanda is establishing CHCs in all villages, over a period of a few years.
BRAC	Innovations in Sustainable Sanitation in Bangladesh	Bangladesh	Ongoing	Increasing sanitation coverage at scale -with a special emphasis on reaching the hardcore poor- as well as innovation and replication components.
Central India Initiative (CINI)	Integrated Water and Sanitation Model for Rural India	India: Gujarat and Jharkhand	Ongoing	Sanitation promotion and sustainable sanitation technology for rural households, as part of livelihood projects aimed at alleviating poverty among tribal communities.
Community Water and Sanitation Agency of Ghana (CWSA)	Fecal Sludge Management Study	Ghana	Ongoing	A study of fecal sludge management approaches in villages and small towns, to inform national FSM policy development.

GRANTEE	PROJECT NAME	LOCATION	STATUS	FOCUS
INTEGRATED IMPLEMENTATION AND LEARNING INITIATIVES				
East Meets West Foundation ⁸ (EMW)	CHOBA	Vietnam, Cambodia	Ongoing	Sanitation financing, hygiene education, and marketing in a project driven by financial transfers and incentives payments, to promote sanitation improvement in rural Vietnam and Cambodia, especially among the poorest.
International Development Enterprises (iDE)	Sanitation Marketing Scale-Up Project (SMSU)	Cambodia	Completed (continuing with funding from other sources)	Brought commercial sales of moderately-priced latrines to scale. Demonstrated market-based approaches can significantly increase sanitation coverage in Cambodia, also among the poor. Learning efforts included testing of financing models, consumer price sensitivity and replication in other countries.
Plan International with University of North Carolina (Plan/UNC)	Testing Modified CLTS for Scalability	Ethiopia, Ghana, Kenya	Ongoing	How to scale up CLTS while maintaining quality and containing costs. Research around testing impact of different internal actors (natural leaders, teachers, and district officials). Learning component includes case studies, literature review, and dissemination.
Population Services International (PSI)	Supporting Sustainable Sanitation Improvements through Supply-side (3SI) strengthening	India (Bihar)	Ongoing	Develop sustainable sanitation business models and products that match consumer expectations. Demonstrate innovative financing approaches to increase coverage, and conduct multi-media campaigns for sales and marketing.
Population Services International (PSI)	Project Prasaadhan: rural pit emptying	India (Bihar)	Ongoing	Develop and test business models to promote rural FSM practices (focusing on pit latrine emptying).
Rajiv Gandhi Mahila Vikas Pariyojana (RGMVP)	Women's Empowerment and Poverty Reduction in Uttar Pradesh	India (Uttar Pradesh)	Ongoing	Organize women into Self-Help Groups as agents of change in sanitation, hygiene, and other social and economic spheres. Conduct research on effectiveness of different implementation approaches.
UNICEF	Scaling-up and Strengthening Community Approaches to Total Sanitation	Indonesia, Malawi	Ongoing	Increase access to sanitation through strengthening government sanitation programs at scale; analyze program innovations and strategies; distill lessons learned and transmit learning to other Asian and African countries.
WaterAid	Sustainable Total Sanitation in Nigeria	Nigeria: Jigawa, Ekiti and Enugu	Ongoing	To improve the effectiveness, efficiency, inclusion and sustainability of total sanitation approaches in 3 States, and contribute to wider national and regional good practice. Research impact of varied combinations of CLTS and marketing approaches.

Grant & Project Summaries

PRODUCT DEVELOPMENT PROJECTS

Designing Sanitation Products for Sub-Saharan Africa

Grantee: American Standard Brands

Partners: UNICEF, Water for People, Cresstanks Ltd. and others

Location: Uganda, Kenya, Rwanda

Dates: May 2013 – December 2015

Information:

Jim McHale

mchalej@AmericanStandard.com

American Standard Brands

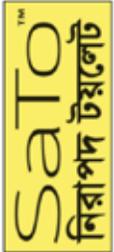
Focus and Objectives:

This project is an extension of the Foundation’s previous partnership with American Standard Brands (ASB),⁹ under which ASB developed a prefabricated toilet pan in Bangladesh that was hygienic, easy to install and clean, and was economically mass-produced. The “Sato Pan” improved upon existing pan designs that were available on the open market, and in so doing, provided an affordable, attractive and hygienic alternative for consumers. Over 700,000 Sato Pans are now in use in Bangladesh, of which roughly 500,000 were donated by ASB to partner NGOs BRAC, Water for People, Save the Children, and WaterAid. About 200,000 units have been sold to consumers through the open market by the manufacturer, RFL Plastics. The retail price of the pan in rural Bangladesh is around \$1.75, which is within a price range that most consumers can afford. This price point allows for profit-taking throughout the supply chain, providing a sustainable business model. The product is considered both a programmatic and a commercial success and introduction into other countries (Timor Leste, Vanuatu, possibly India) has happened independent of project activities.

Under this new partnership, ASB will introduce improved sanitation products at scale via market-based approaches in one or more sub-Saharan African markets over a 2-year period. The products will be variants of the Sato Pan developed in Bangladesh. ASB will establish local production and marketing efforts, so as to help generate sanitation demand as well as contributing to livelihoods opportunities.

Project targets include:

A ‘deep dive’ sanitation demand and supply analysis (completed), followed by product development prototyping,

	Door Style		
	Collection Box	 Suitable for Direct Pit Installation or Offset Pit utilizing Collection Box.	Direct Pit Installation Only.
Pan 1 (Original SaTo™) 	Original SaTo™ Product. For installations where water is relatively abundant and concrete is widely used for construction.	For installations where water is less abundant but concrete is not widely used in construction.	
Pan 2 (Wide Flange SaTo™) 	For installations where water is relatively abundant but concrete is not widely used for construction. Easier to install with mud / wood.	For installations where water is less abundant and concrete is not widely used in construction. Easier to install into mud / wood floor.	
Pan 3 (Stool) 	For installations where water is relatively abundant but a seated solution is culturally desirable. Can be installed with or without concrete.	For installations where water is less abundant but a seated solution is culturally desirable. Can be installed with or without concrete. Also can be equipped with manual opening feature for easy disposal of wiping materials.	
Pan 4 (Integral Slab) 	For installations where water is relatively abundant but concrete is not widely used for construction. Easier to install on mud / wood floor.	For installations where water is relatively abundant but concrete is not widely used for construction. Easier to install with mud / wood. Also can be equipped with manual opening feature for easy disposal of wiping materials.	

field trials, and refinement of products for market. Once these steps are completed—the final product(s) will be manufactured and marketed if warranted by a solid business case.

Accomplishments to Date:

The ‘original’ Sato Pan as developed in Bangladesh consisted of one basic pan design, with a flapper door to keep the pit contents sealed from the environment. A ‘collection box’ was also manufactured which served to adapt the pan for offset pit installations. The original Sato works best when installed in a concrete slab. The concepts to be tested in Africa include the original design, plus three new variations: a ‘wide flange’ model for installation in wooden or earthen structures; a ‘stool’ model for seated use; and an ‘integral slab’ model. A new trap door design, which is more lightly counterweighted and opens to a steeper angle to minimize water usage has also been developed. Each of these models mentioned above can be fitted with either of the two trap door varieties. The new concepts are also fitted with a “pull string” for manual opening of the trap door. This was deemed necessary to allow for the passage of paper, leaves,

etc., that might be used as wiping materials and would be too light in weight to cause the trap door open on its own.

Production tooling for the wide flange pan (“Pan 2”) and the new door (“Door 2”) have been produced with manufacturing partner, Cresstanks, located in Kampala, Uganda. This new product will become commercially available in Uganda and other neighboring markets in 2015. The retail price point is expected to be below \$5 USD.

Key Learnings from Project: Field trials of the stool and integral slab concepts are underway in Rwanda with assistance from the local UNICEF office. Additional field trials are being planned for Uganda and Kenya, again with assistance from UNICEF. Early feedback from users has been very positive, with odor reduction and “cleanliness” being cited as the most significant benefits. One specific learning has been the unexpectedly high acceptance of the stool version in Rwanda. General opinion at the onset of the project was that the Sub-Saharan African consumer preferred squatting toilets and would not accept seated options. This thinking was generally confirmed in the initial field research interviews in Zambia and Kenya. However, in the relatively small sample of 15 families

participating in the Rwanda field trials the seated version was preferred nearly 2:1. Three households that had originally selected the integral slab version requested to switch to the stool when seeing both products side by side. Although the stool concept was originally designed for the functional purpose of lifting the moving trap door mechanism up and away from the opening to the pit, it appears that it could be viewed as a more aspirational, perhaps premium product for this market.

Next steps for the project will be to:

1. Conduct field trials in Rwanda, Uganda, and Kenya and collect user feedback.
2. Launch the large flange product on a commercial basis in Uganda to determine price point, distribution strategy, marketing plan, and other critical aspects of the business model.
3. Evaluate user feedback and determine whether to commercialize additional models.



A prototype of the new American Standard plastic slab with SaTo pan fitted in an existing latrine in Rwanda.

The “Earth Auger”, Testing and Introducing in Latin America’s Market a New Technology on Decentralized Sanitation

Grantee: Fundacion In Terris (FIT)

Partner: Critical Practices LLC

Location: Ecuador

Dates: July 2013 – December 2015

Information:

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Charles (Chuck) Henry
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Fundacion In Terris

This project is developing an ecological, dry toilet that meets customers’ aspirations—with a goal of product commercialization by 2016. The Earth Auger (El Taladro de la Tierra) is a urine-diverting dry toilet whose key innovations include a pedal-operated dry-flush mechanism, and an automated composting system. When the pedal is operated the feces, cleansing paper and automatically-added sawdust are mechanically moved along through a pipe with an auger inside. Successive “flushes” mix and aerate the materials while moving them through to a storage bag at the end of the pipe, where the mixture is retained for further dehydration and pathogen die-off prior to being used as a soil amendment. Urine is harvested separately, mixed with any wash water and drained, preferably to a nearby garden. In mass production the units (without superstructure) are expected to cost between US\$150 and US\$300.

Project targets include:

- Demonstration and testing of mass-produced Earth Auger prototypes in sufficient numbers to assess the toilet’s functioning and acceptability by users, as well as the microbiological quality and the use of the final product (e.g., as fertilizer).
- Improve design and production, to increase product quality and decrease manufacturing costs.
- Develop a business plan for production, marketing, assembly and distribution that is sustainable and competitive for Ecuador.

Accomplishments to Date:

- 86 demonstration Earth Augers installed; over 50 additional installations expected in first quarter of 2015.
- Arrangements for micro-financing household toilet purchases should reduce cost for the user to \$225-\$565 (with the higher amount including the superstructure), paid back at \$10-\$24 per month over a 2-year repayment period (equivalent to a cost of \$0.07 to \$0.17 per user per day for a family of five).
- Several State & County Governments are interested in the toilet; approval for the design by National Ministry of Environment.

Key Learnings to Date:

Early products, which were partly hand-built, had reliability and user acceptance issues and a relatively high cost. Project targets were adjusted to provide more time for design improvements and collect in-depth performance data and user feedback. The business plan is currently under development, and the project has been extended until end of 2015. Commercialization goals are focused on the Ecuadorian market. Lessons learnt:

- The discovery that it is possible to have plastic components manufactured without paying the full cost for a mold (but instead paying mold “rental charges” to the manufacturer) transformed manufacturing options allowing the project to stop using the low-quality hand built components.
- Testing early products at small scale and collecting user feedback is necessary before scaling up production.
- Business models need to be based on local field data. In the absence of reliable data, crafting a sound business plan takes significant investment of time, effort and resources.

Next Steps:

Further efficiencies will be sought along the supply chain to ensure sustainability, along with finding additional ways to reduce the unit’s retail cost. As the demonstration model moves towards production, FIT will increasingly focus on building demand for the units by increasing the product’s aspirational features as well as further cost reductions. FIT will use crowdsourcing to speed up development of solutions and identify design and manufacturing improvements. From a user protection perspective, FIT will be seeking improved methods for increasing (and measuring) pathogen die-off during the composting process, and to ensure the safety of land application of mature compost products. FIT also will collect data regarding users’ experience including the toilet itself, as well as any benefits gained from composting.

Selling Sanitation—Catalyzing the Market for Household Sanitation in Africa

Grantees: IFC and WSP

Partners: Numerous government, private sector, and financing organizations

Location: Kenya

Dates: 2012 – 2014

Information:

[IFC Website](#) and [Project Video](#)

Yolande Coombes (WSP)

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Plastic latrine slabs like this one are now manufactured and sold in Kenya.

International Finance Corporation & Water and Sanitation Program-Africa

Although half of Kenya's base-of-pyramid (BoP) consumers already have the desire to invest in sanitation for their homes, the available options are complex to purchase and generally of poor quality. Sanitation products are not standardized, and sanitation businesses are not seeking new customers. To improve on this situation, the Selling Sanitation project¹⁰ has worked with businesses to develop affordable and desirable sanitation products, with Government and financing organizations to help establish a sustainable market for sanitation services, and with outreach organizations to increase consumer demand and to help end OD through CLTS campaigns, as well as to improve other hygiene-related behaviors such as hand washing. This is in line with and supportive of the Government of Kenya's vision to achieve universal access to sanitation by 2030. The project's Foundation funding officially ended in 2014, but WSP is continuing its work on this with other sources of financing.

Project targets include:

The overall IFC/WSP project target is to sell 1.5 million of the latrine slabs by 2020, including sales from expansion countries outside of Kenya. Selling Sanitation has already led to two partner investments of approximately \$500,000. As a result, one manufacturer, Silafrica, has developed the manufacturing capacity to produce over 10,000 units per month. The final product design is fixed and distribution began in August 2014, with 1,000 durable plastic slabs sold even before the launch of the main demand creation campaign which began in November 2014. Selling Sanitation also catalyzed the signing of a distribution agreement between Silafrica and Equity Bank to leverage their extensive BoP presence (Equity Bank provides 56% of all Kenyan bank accounts).

Although these are still only early results in Kenya, there is already interest in replication from both the public and

private sector sides elsewhere in East Africa, such as Uganda, Tanzania and Ethiopia. Manufacturers involved in Kenya are well-positioned to expand to access the larger regional market, as several have factories in other East African countries and distribution networks spanning sub-Saharan Africa.

Accomplishments to Date:

Through in-depth market research, and in partnership with manufacturers, the project used the Human Centered Design approach to develop a range of hygienic, aspirational plastic latrine slabs that are manufactured locally in Kenya (see photo). The slabs range in price from \$17 to \$55 (ex-factory), can be easily transported and stored, are easy to move to a new pit once the old one is full and provide an attractive and durable alternative to the built-to-order concrete products that had dominated the Kenyan marketplace.

The project has also worked at the policy level to integrate market-based approaches into the Kenya Environmental Sanitation Policy and Strategy, as well as the National Sanitation Bill. In addition, the project helped establish working partnerships between NGOs, Government, and other agencies to pool resources for more effective and cost-efficient behavior change and capacity-building campaigns.

Improving consumer access to affordable credit is another area of project engagement. The project is working with MFIs and other partners to support development and testing of workable financing mechanisms that can enable more consumers gain access to new products. Mechanisms may include existing water,

sanitation or housing MFI consumer loans, or working capital loans to private partners who can pass on terms of credit to consumers.

Key Learnings from project:

Through consumer and market research, the project has learned that

- Sanitation customers were dissatisfied with available product choices and were interested in latrine construction and upgrades if costs were reasonable
- Consumers did not know of options between traditional and high-end concrete slabs; the aspirational high-end options were financially out-of-reach for many, including BoP customers
- Available slab products were not designed to fit consumer needs and preferences
- Little to no market testing of plastic sanitation products had been done because onsite sanitation was still seen as a low priority and high risk market
- Misinformation about improved latrines led manufacturers to design plastic products that did not fully achieve health benefits for consumers
- The market for latrine slabs in rural and peri-urban Kenya was estimated at 1.6 billion KES (USD 19 million) in 2014

Next Steps:

The project will focus on expanding the market for the plastic slabs and going ‘the last mile’ to reach more consumers. Efforts will include helping the private sector to identify optimal distribution channels, including engaging with local masons and artisans, marketing to communities who have been triggered through CLTS, and utilizing new marketing channels. The project also will seek to address the complexity of purchasing and financing by establishing partnerships with formal MFIs, Savings and Credit Cooperative Organizations, and local micro-savings groups. Finally, an evaluation of the impact of the plastic latrine slabs is planned to begin with a baseline study starting in March 2015.



RESEARCH AND KNOWLEDGE SHARING PROJECTS

Evaluation of the Impact of a Rural CLTS Program

Institution: Center for Distributive, Labor, and Social Studies (CEDLAS), National University of La Plata

Researcher: Dr. Maria Laura Alzua et al.

Location: Mali (Koulikoro Region)

Dates: April 2011 – May 2013

Information:

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CEDLAS and UNICEF

Research Focus and Objectives:

This research effort was conducted as a learning exercise within a large CLTS program being implemented by UNICEF in rural Mali. The study was designed to assess the effects of a CLTS program on sanitation and defecation practices, child health, and other household and community attributes.¹¹

Methodology:

A randomized, controlled trial (RCT) was conducted with half of the 121 eligible communities randomly assigned to receive the CLTS intervention. The study investigated the intervention's effects upon sanitation adoption and defecation behavior, child health and nutritional status, labor supply, schooling and women's safety. Also investigated were what the drivers of collective action related to latrine adoption were, and to assess any effects related to social structure.

Key Findings to Date:

The study showed that there was a significant increase in access to private latrines, improved quality of latrines, and a reduction in OD. Specifically,

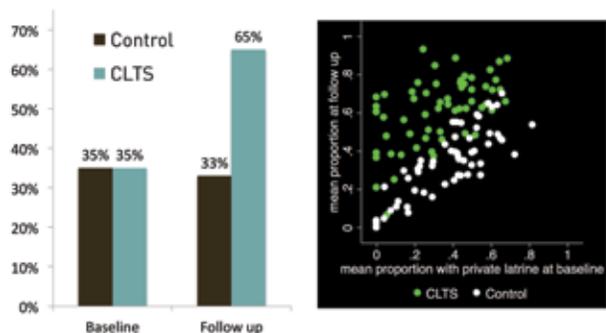
- Access to private latrines nearly doubled among households in CLTS villages, going from 35% to 65% on average.
- Adult OD rates fell by 70%; among children (aged 5-10) by 46%; and among children under five by 50%
- Children too young to use latrines were more likely to use a potty in CLTS villages (51% vs. 15%)

CLTS intervention households also had cleaner latrines and improved hygiene:

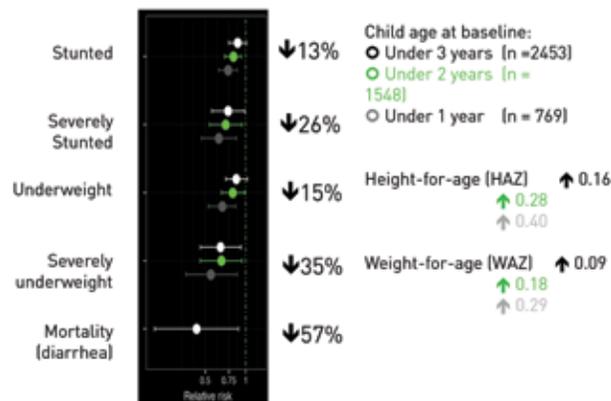
- Households were three times more likely to have soap and 5 times more likely to have water (for handwashing)
- Latrines were more than twice as likely to have a pit cover, and 20% less likely to have flies inside the latrine

Perhaps the most significant findings were related to child health and nutrition in the intervention areas. There was a positive, significant impact on child growth patterns: children under five years in CLTS villages were found to be taller (+0.18 height-for-age Z-score). Stunting was reduced by 17%, and severe stunting in children under 2 years was lower by 23%. There also was a 57% reduction in diarrhea-related under-five mortality in CLTS villages. There was no statistically significant impact on child diarrheal disease or respiratory illness. However, there were significant reductions in bloody stool incidence.

Results: Private Latrine Access is Doubled



Results: child growth & mortality



In terms of social effects, there were significant differences in prosocial¹² behaviors such as cooperation and community empowerment in CLTS intervention areas. Increased feelings of privacy and safety were reported by women.

An unexpected finding was that no significant change in the amount of diarrheal disease was found, yet there was a significant impact on child growth. There also was no change in the bacteriological quality of water in the intervention areas. The findings suggest that improved sanitation works to prevent child malnutrition; the mechanism may be that lower OD rates in CLTS communities led to lower prevalence of non-diarrheal but fecally-transmitted pathogens such as soil-transmitted helminths, (*Ascaris*, hook-worm) and/or lower prevalence of environmental enteropathy.

A reduction in the prevalence of diarrheal diseases may require stronger adoption of hand-washing with soap, improved food hygiene, as well as improved access to safe water.

The findings of this research were presented at several international public health conferences in 2014; the health impact results will be published in an international journal. The results also will be presented and discussed with the Malian government.

Next steps:

Future research will look further into the role of social networks on latrine adoption and OD practices, conduct a cost-benefit analysis, and perform a comparative analysis using data from India, Indonesia, Tanzania and Mali.

Determining the Effectiveness and Mode of Operation of CLTS

Institution: Eawag

Researcher: Drs. Hans-Joachim Mosler and Miriam Harter

Partners: USAID and Plan International

Location: Ghana, Cambodia, Lao PDR, and Mozambique

Dates: November 2014 to October 2017

Information:

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Eawag (Swiss Federal Institute of Aquatic Science and Technology)

Research Focus:

To analyze the behavior change approaches used by CLTS and community ODF adoption processes. The research will attempt to determine how different elements of CLTS affect behavior, and whether there are elements which have counter-effects on individuals or social systems. The study will identify the psychological determinants of behavior change triggered by the CLTS activities. In addition, the study seeks to identify which are the best combination of CLTS elements to attain an ODF community, and to unpack the ODF adoption process including assessing which community members are ending OD first, who is doing so last, and why. Finally, the identified combinations of CLTS elements will be compared to a data-driven behavior change strategy.

Methodology:

Pre-surveys will be conducted in 3 countries (Cambodia, Lao PDR, and Mozambique) where CLTS has been implemented (600 households in each country). The main study to follow will be conducted in Ghana, as the research component of a large CLTS implementation program funded by USAID. The study includes face-to-face interviews in 3,125 randomly selected households using quantitative, structured interviews on three key behaviors: OD, latrine construction, and latrine use; as well as behavioral determinants. Spot checks will be conducted regarding OD within households and at the village level.

The pre-surveys started in March 2015, and the main research in Ghana will follow—starting with a baseline survey in October 2015.



Household interviews in rural Cambodia

Improving Rural Effective Total Sanitation through Empowered Female Local Government Members

Institution: Environment and Population Research Centre

Researcher: Dr. Bilqis Hoque

Partner: Jagoroni Chakra Foundation (JCF)

Location: Bangladesh (Comilla and Dinajpur Upazilas)

Dates: May 2012 – Apr 2015

Information:

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Environment and Population Research Centre of Bangladesh (EPRC)

Research Focus:

The importance of institutions in addressing long-term development challenges is well accepted, though there is a lack of empirical evidence on their effectiveness. In particular, there is little information available regarding the roles played by female leadership in bringing about societal changes such as sanitation and hygiene improvement.

Although Bangladesh has made great strides since 1990 in latrine coverage, nearly 45% of the rural population still lack access to sanitary latrines. Lack of local leadership has been shown to be an important factor influencing the adoption and sustained use of latrines and related behavior change.¹³ EPRC is studying whether female Local Government members (FLGMs), working together with Cluster Women's Groups (CWGs), can effectively promote sanitation, including ownership and use of improved latrines and related hygiene practices. The FLGMs are members of the Union Parishad¹⁴ (Council); each UP has three elected female representatives that serve on the 12-member body. Government policy stipulates that FLGMs should chair at least one third of the Council's standing committees which in turn make recommendations for UP Council approval.

The knowledge gained hopefully will serve other rural populations in Bangladesh as well as other developing countries. Many if not most countries have also been promoting a greater role for local government in sanitation campaigns. Attention to gender and poverty issues is often acknowledged as a necessary component, but empirical evidence and practical guidance on how to do this effectively has been lacking.

Methodology:

The study involves a RCT in 32 intervention and 32 control Union Parishads. The implementation aspect of the study involves supporting FLGMs to work with CWGs in order to carry out sanitation and hygiene education interventions, as well as to promote hygiene and sanitation within the context of the UP itself.

Key Findings to Date:

Monitoring of intervention communities indicates that FLGM and CWG-led hygiene promotion efforts have resulted in significant changes over baseline conditions. These changes include:

- Rates of access to sanitary latrines increased to nearly 97% from a baseline of around 80% (over a 2-year span). This exceeded the project target to increase access by 10 percentage points.
- Observed presence of hand washing agents improved significantly.
- About 40% of FLGMs showed good potential for coordinating sanitation at the UP level
- Three out of 10 "Best Practice" fact sheets recently developed for Local Government were prepared by intervention FLGMs and their UP Chairmen.
- The National Institute of Local Government agreed to recommend FLGMs be considered as Chairs of the UP WASH Standing Committees.

Discussion of Findings:

Results so far suggest that working with FLGMs improved their overall capacity as UP members and they played important roles in promoting sanitation in their Union Parishads, including both schools and communities. With CWG assistance, FLGMs demonstrated the potential to lead the drive to achieve total sanitation at the local level, in line with national sanitation policy.



A community gathering in Bangladesh

There have been challenges to the project which are worth considering. One hinged around incentives—as this project offered no financial or other incentives for community members (e.g., latrine subsidies; meeting attendance costs) which differed from some other major national projects. This resulted in constraints to a number of FLGMs who faced difficulties in building community participation. In addition, national elections were followed by a prolonged period of unrest which influenced UP budgets and the ability to carry out project work; the project timeline had to be extended to accommodate this.

Though most communities readily accepted FLGMs in their role as promoters of improved sanitation, this stronger leadership by FLGMs led to occasional tensions between

male and female UP members regarding their roles and responsibilities. As female members' capacity and confidence increased, they sought greater and more equitable participation in the governance process. Overall this trend is positive, though further evolution will likely need to take place regarding the roles and responsibilities of FLGMs and CWGs in the context of UP governance.

Finally, the lack of affordable pit de-sludging services and treatment/disposal options are of increasing concern, especially as latrine use rises. Pit wastes continue to be disposed untreated into water bodies.

Networking and Action Learning to Support CLTS (CLTS Knowledge Hub)

Institution: Institute of Development Studies

Researcher: Prof. Robert Chambers

Location: Global

Dates: Feb 2012 – Sept 2014

Information:

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Institute for Development Studies (IDS)

Focus and Objectives:

Promote learning and management of knowledge about the CLTS approach; expand and strengthen its application, quality and scale.

Key activities:

Convened learning workshops with practitioners, documented and published lessons learned, maintained the CLTS website, published a periodic newsletter with programmatic updates, and engaged in action learning and networking with CLTS practitioners.

From a technical perspective, the Knowledge Hub also promoted equity and inclusion in sanitation programs, sustainability of the approach, and enhanced monitoring and verification. The Hub also carried out important policy and advocacy work with leading organizations and key government bodies.

Next Steps:

The Foundation's project is now completed, but IDS has secured new sources of funding and continues to expand its services to the CLTS practitioner community in order to broaden, improve and strengthen CLTS at scale. A recent innovation was the establishment of a new publication series called "Frontiers of CLTS: Innovations and Insights". The Knowledge Hub continues to focus on policy engagement in India, recognizing that India's sanitation situation is a major challenge in the sector. IDS will continue to engage with the Government of India in an attempt to understand and constructively influence policy and practice there. For example, IDS has taken part in initiatives and discussions leading to new national guidelines for the Swachh Bharat Mission (India's national sanitation program), and is tracking developments regarding the proposed guidelines for Rapid Action Learning Units.

A particular focus for the Hub are the second and third generation challenges that have arisen now that CLTS is being implemented at scale, and in many cases by Government. Sustainability is one of the central challenges that encompasses many other issues such as equity and inclusion; integration of sanitation technology design and marketing; post ODF follow up; monitoring; and ODF verification. In 2015, the Hub will host a write-shop on sustainability which will result in a publication. The Hub is also engaged in learning more about adaptations of CLTS in urban settings, and plans to conduct research, hold thematic workshops, and prepare papers on this topic during 2015-16.

Does Sanitation Behavior Migrate?

Institution: Innovations for Poverty Action

Researcher: Dr. Ahmed Mushfiq Mobarak

Location: Bangladesh

Dates: Sep 2013 – Sep 2015

Information:

A. Mushfiq Mobarak

ahmed.mobarak@yale.edu

Innovations for Poverty Action (IPA)

Research Focus:

This study by researchers at IPA¹⁵ seeks to answer two related questions: do rural sanitation campaigns impact migrant (worker) behaviors when they move to cities and towns? Conversely, do migrant workers bring back sanitation habits acquired in cities and towns to their home villages?

Methodology:

Two sets of experiments were conducted:

- Sanitation campaigns**¹⁶ were randomly assigned to rural villages, and the sanitation behaviors of migrants from those villages were tracked when they moved to cities and towns.
- Incentives to seasonally migrate** were randomly assigned to rural residents,¹⁷ encouraging them to move to cities and towns for work during the slack season. The sanitation behaviors of returning migrants were tracked, both at their destination and at their origin.

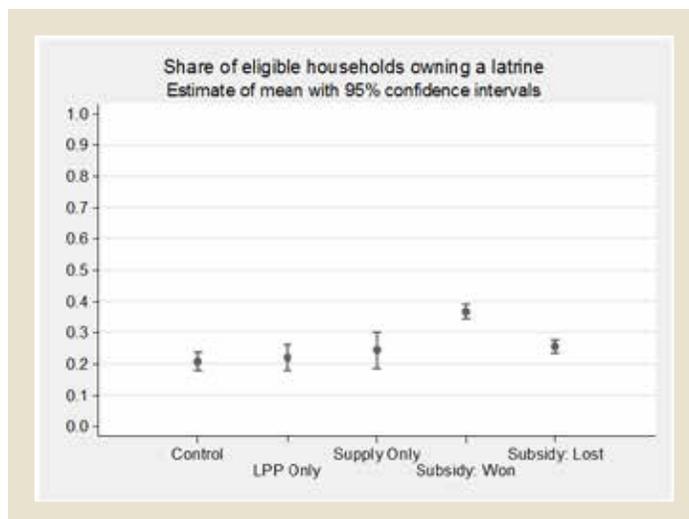
Discussion of Findings:

The study still has at least one more round of data collection to go, so results are preliminary at this point. For Experiment 1 (effects of sanitation campaigns on the sanitation practices of migrants) the following results were observed:

- Sanitation campaigns decrease OD among migrants
- Migrants from households who invested in latrines (through randomized subsidies) are less likely to practice OD at their destination

For Experiment 2 (effects of migration on sanitation behavior of returning migrants):

- Adults who migrate are much more likely to practice OD when they return home if they migrated to high-OD destinations (such as small towns). Adults who migrate to a low OD area (such as a city) show no difference in OD behavior against the control group.



Result of previous research: CLTS or latrine supply alone did not lead to large changes in latrine ownership relative to the control group. CLTS + subsidy had the biggest impact (and even households that did not win the subsidy showed a big increase).

Next steps:

The research continues and once data collection is complete, findings will be published. Any implications for program design or implementation will be considered jointly with implementing organizations.

Previous research:

IPA conducted an earlier study (2011-13) in Bangladesh entitled Inter-Linkages in Sanitation Demand across Households, in partnership with WaterAid Bangladesh and Village Education Resource Center (VERC). The research was conducted in rural areas of Tanore Upazila (located about 265 km northwest of Dhaka).

The research (an RCT conducted in 380 villages) focused on testing the effectiveness of different types of sanitation interventions intended to increase hygienic latrine ownership.

Key questions addressed:

- Is demand generation necessary or sufficient?
- Is a supply-side push necessary or sufficient?
- Are subsidies necessary?
- Who should you subsidize? How should you subsidize?

The demand-generating approach, referred to as the 'latrine promotion program' (LPP) was a version of CLTS carried out by VERC. The supply program (latrine supply agent or LSA) was a respected community member with knowledge of sanitation technology. The subsidy program was run as a lottery among poorer households, and if awarded would cover about 75% of hygienic latrine cost.

Effect on latrine ownership was greatest for the subsidy treatment-eligible households were 16% more likely than those in control villages to own a latrine (averaging for those who both won and lost the subsidy lottery). Households in the LPP + Subsidy treatment group were 14% more likely to have latrines than in the LPP only group. Even subsidy lottery ‘losers’ were 7% more likely to own latrines (than control villages), indicating that sanitation investment decisions made by one household were influenced by those made by another. This is an important finding, because program implementers have often made the assumption that providing a subsidy to some discourages others from investing in a toilet. In this study, this was not the case. The LPP-only group had the lowest increase in latrine ownership (around 6%).

The small effects of the LPP Only and Supply Only treatments suggest that lack of information about the benefits of improved

sanitation or lack of access to markets for toilet components are not the key deterrents to sanitation investments in this setting. Instead, the results suggest that financial constraints are an important limiting factor. Asking community members to make a joint investment commitment is a good idea, but study results suggest this should be accompanied by subsidies targeted to the poorest members of the community. Further analysis of the data from this study will further investigate the links between subsidies and investment decisions by others. Shame, aspiration or changing social norms could all be at play in this case (do richer households buy a latrine after the poorer households receive a subsidy because they are ashamed of remaining without toilet? Or are poorer households investing because they aspire to be like their richer neighbors? Or does the provision of a large number of subsidies help change social norms in the community?). Further results and any implications for programs will be published as they become available.

Sanitation Quality, Use, Access, and Trends (SQUAT Report); and Switching Study

Institution: Research Institute for Compassionate Economics

Researchers: Dr. Dean Spears, Sangita Vyas, and others

Location: India (5 states)

Dates: March 2013 – August 2015

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Research Institute for Compassionate Economics (r.i.c.e.)

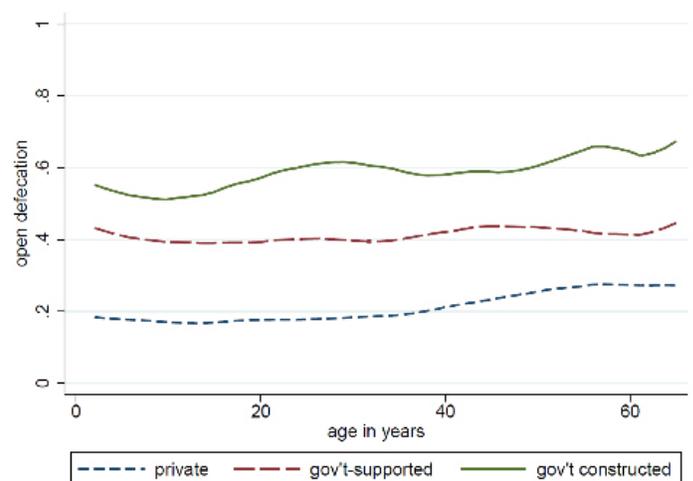
Research Focus:

These related studies examined the drivers of OD in India, including links between OD and culture, and the reasons why people use or do not use latrines.

Methodology:

For the SQUAT Report, 3,200 households in 13 districts were sampled in 5 states.¹⁸ The sampled states are home to one third of the global OD population. The data were analyzed quantitatively. The Switching Study¹⁹ was a semi-quantitative survey using structured interviews (100 conducted) across Gujarat, Haryana, Uttar Pradesh and the Nepali terai.

Figure 1: Males from HHs with latrines who practice OD (SQUAT survey results).



Discussion of Findings:

India with its very high OD rate is an outlier compared to other Asian and South Asian countries. Simple latrines are unpopular in India, especially in the northern plains states, though they have gained popularity in many other countries in the region and in Africa. Comparing India to other countries, India's higher OD rate does not appear to be correlated with income, poverty, education, or access to water. Importantly, access to sanitation is not really the answer—even households with latrines still have members which practice OD—as many as 40% or more of rural household members with latrines may still OD.

Another important finding is that Government-constructed or supported latrines are less likely to be used than private latrines. One reason is that private latrines typically have much larger-capacity pits which require much less frequent emptying.

OD practices and low preference for latrines appears linked to cultural beliefs about ‘purity’ and ‘pollution’. The presence of a latrine in the home is seen as ‘polluting’, whereas OD is seen as pleasant, invigorating, and a healthy lifestyle practice. Latrine use is also associated with weakness—they are built for the convenience of sick people, the elderly, young children, and women who recently delivered a baby; i.e., people who would have a hard time walking long distances to defecate. Relatively few interviewees expressed interest in having a latrine, when given a choice of other consumer goods.

Moreover, higher-caste members do not prefer simple pit latrines because they require more frequent emptying (and contact with pit emptiers, who are seen as polluting). At the same time, lower-caste members want to distance themselves from manual scavenging and pit emptying as symbols of the past and of oppression.

These findings help explain the high rate of OD, the preference for private over Government latrines, and the difficulty of promoting latrines in areas with limited space around the household. Therefore, solving the OD problem in India will

require much stronger attention to drivers of behavior, which include religious and cultural values, among other challenges.

Next steps:

The preference for very large latrine pits and related cultural preferences will be key issues to address in any sanitation campaign. These policy issues should be discussed with local, state and national government.

New questions being considered in ongoing research include analysis of cultural links to the Infant Mortality Rate, and possible links between sanitation and anemia.

Previous research:

R.i.c.e. has carried out a number of studies on the correlation between stunting and OD—starting with the Indian question (why are children in India shorter, on average, than children in sub-Saharan Africa who are poorer, on average?) as well as performing similar analyses on other country data sets. The findings demonstrate strong correlations between stunting and the percent of households who engage in OD. These results, and numerous related research studies, can be found on the r.i.c.e. website.

INTEGRATED IMPLEMENTATION AND RESEARCH PROJECTS

Community-Based Environmental Health Promotion Programme in Rwanda

Grantee: Africa Ahead

Partners: Ministry of Health

Location: Rwanda (Rusizi District)

Dates: October 2013 - December 2016

Information:

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Africa Ahead

Description and Approach:

This project tests the effectiveness of different approaches of Community Health Clubs (CHC); the evaluation seeks to distinguish between two levels of intervention: the ‘Classic’ CHC approach and a ‘Lite’ version. The ‘Classic CHC’ model claims to achieve high levels of hygiene behavior change together with holistic preventative health outcomes (that includes ODF, demand for improved sanitation, and hand-washing) together with significantly strengthened social cohesion and the empowerment of women. The research will employ an RCT to test the effectiveness of the two different

intensities of CHC interventions. The ‘Lite’ version is more in line with the PHAST²⁰ method of health and hygiene education. The CHC model was adopted for the Rwandan Community-Based Environmental Health Promotion Programme (CBEHPP) because previous research had demonstrated CHCs capable of achieving high levels of cost-effective behavior change. This project randomly selected 150 villages and is delivering the ‘Classic’ (20-module) version of CHC trainings to 50 villages; 50 villages are receiving the ‘Lite’ version, and the rest are control villages. (All Lite and Control villages will receive ‘Classic’ CHC training after the RCT is completed in early 2016).

Accomplishments to Date:

After six months of intervention, field monitoring indicates participating households (8,420) have made significant gains with an average 41% improvement in hygiene behaviors across 14 water and home hygiene indicators. Anecdotal evidence suggests district and sub-district leadership are becoming engaged with the CHCs and are taking responsibility for supporting their preventative health and hygiene efforts. Some CHCs are forming village-based enterprises, registering as cooperatives, and opening bank accounts. Such promising developments will continue to be monitored and supported. The evaluation’s RCT results will not be available until the beginning of 2016. In the meantime, impressed with the results to date, the MoH has called for a scale-up of CHCs nationally.

Innovations in Sustainable Sanitation in Bangladesh

Grantee: BRAC

Partner: IRC

Location: Bangladesh

Dates: Oct 2011 – August 2015

Information:

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Private business supplying latrine components to rural customers.

BRAC

Description and Approach:

This grant supports BRAC's WASH II program, which covers half the country's upazilas²¹ and whose overall targets included reaching 51 million people. The Foundation sought to reach at least 1.2 million persons with the funds it provided; as of December 2014, BRAC had reached nearly 4.5 million (who have obtained new or upgraded latrines). The project used a community-based integrated approach and also provided financial subsidies for the *ultra-poor*,²² and loans for poor households. The project sought to increase sanitation coverage as well as sustaining it by strengthening demand, supply, finance, and enabling environment. Foundation-specific components included reaching the poorest; emptying pit latrines and producing organic compost from the composted waste; adoption of the approach by government and other NGOs, cost analysis (WashCost); and using smart phones for monitoring. Additional support for BRAC's WASH II program (and for the earlier WASH I program) was provided by the Dutch government (DGIS).

The BRAC project aimed to bring sanitation services to at least 1 million people in the existing 152 upazilas, and at least 225,000 people in five new upazilas. In addition, targets were specified for sustainable sanitation use (measured six months after implementation); the design of a "waste to energy" component focused on handling waste from latrine pits; and the replication of WASH II project approaches by others. In fact, the project (which will finish later this year) exceeded "satisfactory" project target levels on almost every key indicator (reaching "excellent" on many), according to an independent verification study completed as part of the BDS grant incentive payment scheme.

Some of the result areas have been supported by BRAC's knowledge partner, IRC. IRC was jointly engaged by the Dutch government and the Foundation to focus on qualitative monitoring, strengthening the sanitation supply chain, hygiene

promotion, and documentation and learning. IRC also was coordinating action research to address some of the key challenges identified in phase one of BRAC WASH, including low-cost sanitation technologies for high water table areas, business models for turning waste into energy, composting options for pit contents, and ways to simplify monitoring and reporting processes.

Project objectives included:

- Improved understanding of what it takes to reach the hardcore poor and greater effectiveness reaching them through the project;
- Improved understanding of long term sustainability and factors influencing it;
- Pilot-scale "sustainability" efforts to identify new solutions for pit emptying, including micro-production of organic fertilizer and producing energy from fecal sludge combined with agriculture waste;²³
- Availability of low cost latrine options for use in challenging areas;
- Adoption of components of the project model by local government and other agencies (e.g., use of twin pit latrines, copying of "sustainability" pilots).

Accomplishments to Date:

Over the past eight years BRAC WASH has set new standards for large-scale interventions in low-income rural communities. BRAC has combined mass mobilization, community participation and leadership, and behavior change campaigns—facilitated by well-organized management strategies. BRAC also made substantial progress in monitoring hygiene practices at scale and in developing a unified monitoring platform for key program data including finance.

Principal accomplishments include:

GOALS	ACCOMPLISHED TO DATE
1,225,000 persons with sanitation services in 157 Upazilas	4,004,425 persons with new latrines;
	452,715 persons with repaired latrines
95% sustained access in target areas (baseline of 51%)	98% sustained access
Selection of poor & ultra poor: 600,000	650,514 households
Grant support to ultra poor: 132,177	145,529 households
Loan support to poor: 14,880	14,880 households
Rural Sanitation Centers (RSCs): 53	53 ²⁴
Entrepreneurs to market organic fertilizer: 8	2
Low-cost sanitation options	Action research completed; report due in 2015
Pit composting options	874,000 twin pit latrines in use in 157 Upazilas
Menstrual hygiene management	Over 12 million cluster meetings with women's groups; over 2 million cluster meetings with adolescent girls ²⁵
	Health volunteers sold over 1 million bars of soap; 1.1 million sanitary napkin packets
Adoption of project model components by local government and other agencies	Twin pit latrine model adopted by government agencies, RSCs and NGOs at community level

Key Learnings from project:

- Integrated approach to hygiene, sanitation and water can deliver long-term change. However, sustained behavior change requires time, patience and frequent interpersonal and gender-targeted communication.
- Availability of water is crucial for maintaining hygienic behavior.
- Strong staffing commitment to hygiene behavior change was a key to success—BRAC trained over 8,000 staff to improve their communication skills.
- Strong political commitment, government support, and collaboration with NGOs, CSOs, and other partners played a crucial role in the project's success.
- Grants given to ultra-poor only after coverage reached 60% (demonstrating community commitment).
- BRAC target was 90% coverage (achievement was 98%). This high coverage figure was reached across all economic strata, and did not exclude the poor or ultra-poor (90% of all toilets resulting from the project reached ultra poor or poor households).

Next Steps:

The Foundation's project is almost completed, but reaching the 'last mile' still remains a priority, along with sustaining gains made during the project. This goes especially for the ultra-poor, who often find it expensive to maintain hygienic behaviors. Also, further research is needed to develop low-cost and sustainable sanitation technologies for challenging hydrogeologic conditions.

Ghana: Sanitation and Hygiene in Small Towns and Rural Areas

Grantee: CWSA

Partners: AFD and EIB

Location: Ghana

Dates: June 2014 - December 2018

Information:

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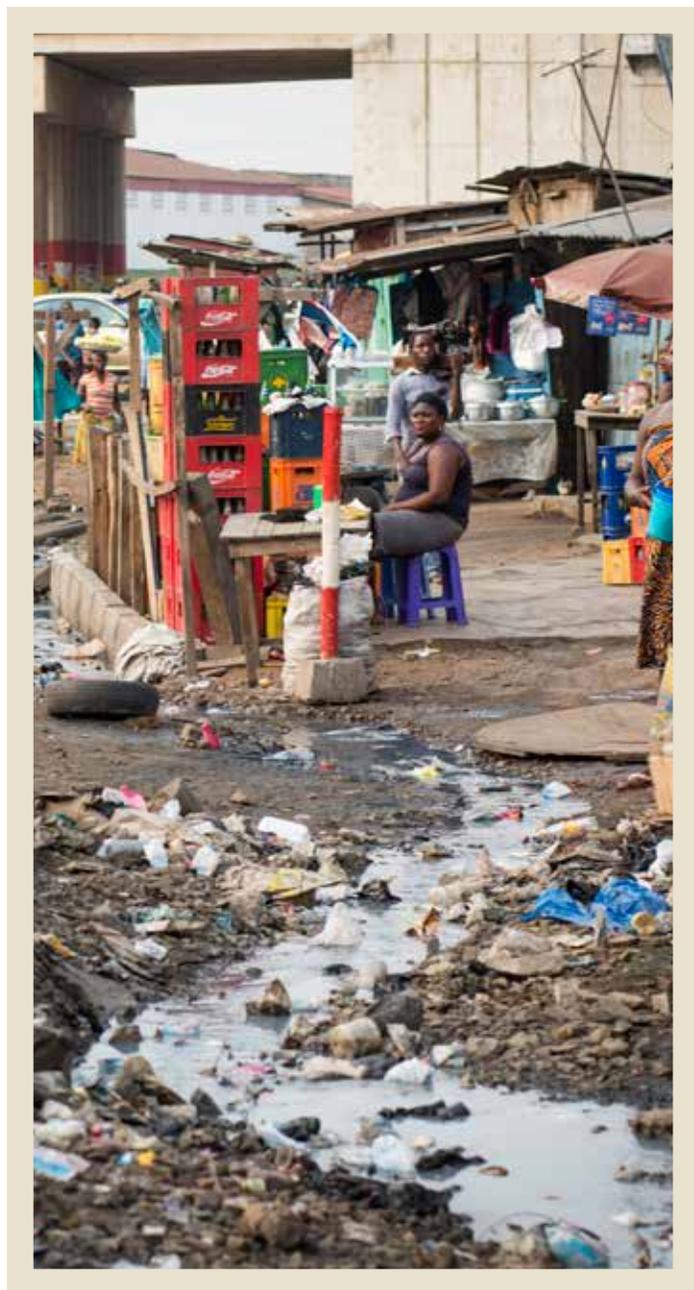
Community Water and Sanitation Agency of Ghana (CWSA)

Description and Approach:

This project was originally designed to establish an innovations unit at CWSA, to support a €80 million sanitation and water supply program for small towns and rural areas, financed through loans from the French government (AFD) and the European Investment Bank (EIB). The Foundation grant was restructured when the loan was canceled; however, the planned feasibility study of technical options for Fecal Sludge Management (FSM) in small towns and rural areas has moved forward. Possible next steps depend on the results of the study.

Project Goals and Accomplishments:

The FSM study is underway and should provide an overview of existing public and private options used by households, institutions and public facilities. The study includes a review of national policy and strategy, as well as management, business, and operating models for fecal sludge collection, transportation, treatment and disposal or re-use. The results are expected in the first half of 2015 and will be used by CWSA to pilot sanitation options and associated FSM practices for institutions (such as schools and clinics) and public places (such as markets and bus stops). A national FSM strategy will be developed on the basis of the study and pilot results.



Residents walk by an open sewer in a slum (Accra, Ghana, January 2014).

Community Hygiene Output Based Aid (CHOBA)

Grantee: East Meets West Foundation

Partner: Water and Sanitation Reference Center;
Mekong Development Research Institute

Location: Vietnam and Cambodia

Dates: May 2012 – June 2016

Information:

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East Meets West Foundation (EMW)²⁶

Description and Approach:

This project merges sanitation financing, hygiene education, marketing, financial transfers and rewards, and output-based aid in an effort to deliver hygienic latrines and septic systems in rural Vietnam and Cambodia, with a strong emphasis on low-income households. CHOBA is designed to address two challenges: first, it seeks to accelerate the climb up the sanitation ladder; and second, it focuses explicitly on the poorest 40% of the rural population. With these challenges in mind, standard CLTS approaches are not applicable.

In Vietnam, the main implementing organization is the Vietnam Women's Union (VWU), a government-affiliated mass membership organization whose provincial chapters field 2,500 volunteers to promote hygiene behavior change and motivate the construction of sanitary latrines. Critically, these VWU motivators connect target households with sanitation hardware providers and construction contractors while also facilitating access to consumer credit. Both EMW and the VWU are compensated for the development and management expenses only after producing well-defined outputs: hygienic latrines built and used by poor households. VWU motivators in turn earn modest financial rewards for each poor household that elects to purchase a latrine. In Cambodia, these facilitation functions are assumed largely by Village Chiefs, Village Commune Councils, and the Provincial Departments of Rural Development (PDRDs).

Another program element intended to incentivize household action are 1) a “consumer rebate” following verification of a properly built hygienic latrine and evidence of usage; and 2) conditional cash transfers to local government authorities when communities reach certain sanitation coverage targets.

Key Learnings:

A well-structured results-based payment approach can change the mind-set of field workers who, even when well-intentioned,

Project Goals and Accomplishments:

GOALS	ACCOMPLISHED TO DATE
110,825 poor households in Vietnam and 50,558 in Cambodia install and use hygienic latrines.	85,926 poor households in Vietnam and 42,023 in Cambodia mobilized as of February 2015
Target communes reach 30% increase in sanitation coverage from baseline, and 95% coverage in about 71 communes	37 communes reach at least 30% increase in coverage; 95% coverage in 1 commune in Vietnam
Improved hygiene behavior in target communes	Hygiene promoted by VWU as part of national campaign (“clean house, clean community and clean nation”). Hygiene messages communicated in various meetings with beneficiaries in Cambodia.
Set up monitoring, evaluation and learning (MEL) systems	MEL systems set up as planned. Baseline data in Vietnam for 1 million households, and about 220,000 households in Cambodia. Information used to perform analysis and refine approach. Data collection by tablet, directly populating a database “in the cloud” with extensive information and analytical capacity.
Conduct research to evaluate EMW's approach and to provide evidence for large-scale replication	RCT on effects of consumer rebates and CCT is ongoing in Vietnam. Mid-term survey conducted end of 2013. Final survey (Hai Duong) conducted January 2015; Tien Giang survey scheduled March 2015. In Cambodia, research underway on OBA incentives and sanitation marketing.

tend to go for the ‘low hanging fruit’ (i.e., better-off households who can more easily afford to build latrines). Under the OBA system, field workers provide more help to poor households and get more effective penetration of the lowest quintiles. In 2014 the project reached an average of nearly 7,800 low-income households per month (Vietnam and Cambodia combined) with peak monthly latrine output surpassing 11,300.

An accurate monitoring and verification system needs to be an integral part of the project to ensure incentive payments are fairly distributed, and to reach the poorest income strata.

Moreover, a range of incentive types may be needed for different stakeholders (e.g., household rebates, incentive for volunteers, and conditional cash transfers for communes—that are focused on both reaching the poor and improving coverage). Different approaches may be needed even for the extremely poor.

Government buy-in and commitment are critical for scaling up. Incentive and management payments to government authorities may require fine-tuning; indeed, CHOBA's had to be restructured early on during implementation to make sure they were more effective at engaging government. Also important for scalability is the way verification is set up, and trade-offs between accuracy and cost may need to be made (at larger scale of implementation, it will be difficult and costly to verify all applications made, the way they are now).

RCT results have so far confirmed that CHOBA incentives effectively encourage poor households to climb the sanitation ladder and install hygienic latrines. Results also indicate consumer rebates have a greater impact on sanitation improvements than CCTs (which are paid to the community). Final surveys will provide further evidence for these analyses.

Overall, results-based payments have helped increase project effectiveness and sharpened its focus on reaching the poor. However, it has taken time to build the capacity and trust required to implement this relatively complex programmatic approach.

CHOBA has demonstrated that there is indeed considerable consumer demand for household sanitation in both Vietnam and Cambodia, though financing remains a significant issue. Most sanitation investments in Cambodia tend to be financed by family savings and loans from friends and relatives. In Vietnam, however, access to affordable credit from microfinance institutions appears to play a major role in moving poor households up the sanitation ladder.

Remaining challenges: Reducing operational costs (and in particular the costs of latrine hardware components and construction) as well as finding ways to more accurately measure hygiene (and other types of) behavior change are two areas of focus. Strategically, EMW is actively seeking to transition the OBA approach from a donor-supported model to one that is self-sustaining.

Next steps:

The final phase of the project will focus on CCT implementation and transitions to commercialization. EMW also is piloting a commercialization model that seeks to address the challenges of transitioning to a self-financing model, as well as maintaining the high output achieved by the VMU during the project.

Sanitation Marketing Scale-Up Project (SMSU)

Grantee: International Development Enterprises

Partner: Cambodian Government, PATH, WSP, IDinsight, WSP, 17 Triggers

Location: Cambodia (60 districts in 7 provinces)

Dates: October 2011 – October 2014

Information:

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International Development Enterprises (iDE)

Description and Approach:

The SMSU project set out to determine whether commercial sales of latrines through private businesses and sales agents could be scaled up and also reach the poor. SMSU follows on an earlier program that, among other activities, developed the “Easy Latrine” for the rural Cambodian market. The award-winning Easy Latrine was developed through a ‘Human Centered Design’ approach and made a number of significant breakthroughs, chief among which was it provided an aspirational model that was convenient, desirable, and affordable for a rural household, and attractive for local enterprises to produce and sell. iDE’s role was to improve the consumer sanitation experience by streamlining the supply chain, developing a direct sales team, and engaging local government. This disrupted the formerly fragmented market in which households had to exert significant effort to procure a desired sanitation solution, and businesses were only catering to wealthy households.

SMSU also set ambitious project targets, and had met or exceeded most of them, demonstrating that a market-based approach can effectively increase sanitation coverage in Cambodia at almost seven times the typical background rate.²⁷ The project collected strong evidence that providing access to affordable financing options at the point of sale increases sales (by a factor of 4). Training businesses and sales agents to conduct effective marketing and direct sales has helped to close deals at the household level.

Key Learnings:

Rural Cambodian households are willing and able to purchase a desirable sanitation solution at market price without subsidy, and at scale. Moreover, businesses are willing to invest in the sanitation market and cater to low-income rural households. Microfinance, if available to latrine purchasers, was shown to have the potential to increase market demand four-fold. However, MFIs have so far been reluctant to expand their services for household sanitation loans.

Project Goals and Accomplishments:

KEY MILESTONES	BASELINE ²⁸	TARGET (SATISFACTORY LEVEL)	TARGET (EXCELLENT LEVEL)	ACHIEVEMENT
70,000 latrines purchased from project-connected enterprises	N/A	70,000	140,000	141,030
45,000 latrines purchased in target districts from enterprises not connected to the project	N/A	45,000	N/A	90,138
41% total latrine coverage in target districts	29%	41%	60%	45%
10,500 latrines purchased by poor households from project-connected enterprises and/or through project-connected finance mechanisms	N/A	10,500	42,000	30,191
90 enterprises profitably serving rural households with affordable sanitary latrines	N/A	90	N/A	124 ²⁹

Direct sales in communities worked well as a means of reaching the rural poor. However, most private businesses were reluctant to hire and manage a sales team, so iDE has taken on a greater role of supporting sales.

Remaining Challenges:

Ensuring access to an adequate supply of latrines and microfinance has been a constraint. Therefore, iDE is focusing on “unblocking” the supply chain and exploring whether an in-house microfinance capacity would be an effective way to alleviate this problem. iDE has also sought ways to establish effective, targeted financial subsidies for the poor to increase sales (in partnership with East Meets West/CHOBA project).

Affordably and sustainably addressing sanitation needs in challenging environments (e.g., flood-prone areas, collapsing soils) continues to be a concern in Cambodia, as well as in many other countries. Fecal sludge management, especially in the rural context, remains a challenge, especially in the context of financial viability.

Next Steps:

The SMSU Project has been completed; however, iDE will continue the program with other sources of support, aiming to increase rural sanitation coverage from the current 45% to 74% in three years. Work will continue on scaling up microcredit for latrines, developing and marketing low-cost superstructures, bundling latrines sales with sales of household water filters and hand hygiene products, and testing further smart subsidy interventions.

Accomplishments to Date: The project set and has met or exceeded most of its original targets (see Table above).

Figure 2: Sanitation marketing is taking off in Cambodia



Testing CLTS Approaches for Scalability (TCAS)

Grantee: Plan International USA

Partner: University of North Carolina

Location: Ghana, Ethiopia, Kenya

Dates: October 2011 – September 2015

Information:

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Plan International and University of North Carolina (Plan/UNC)

Description and Approach:

The TCAS project aims to learn, capture and share reliable and unbiased information on CLTS approaches and scalability. TCAS is exploring how to overcome selected implementation challenges while maintaining quality and containing costs. A key aspect of this is to experiment with the roles of different ‘local actors’ in three focus countries: natural leaders in Ghana, teachers in Ethiopia, and district officials in Kenya. A range of research and learning activities also are integrated into the project, including seven CLTS case studies, a global review of literature on the effectiveness of CLTS, and detailed evaluations of the three country-level efforts. Local, regional, and global learning and dissemination events are planned to ensure that TCAS’ findings reach a wide range of stakeholders.

Accomplishments to Date:

The early phase of the project included desk-based reviews (led by UNC researchers) to systematically review the formal (peer-reviewed) and informal (grey) literature on the effectiveness and impact of CLTS programs. A key finding of the review of formal literature is that there is very little of it—an extensive search yielded only 18 peer-reviewed articles dealing with CLTS or total sanitation approaches. The findings of this review included:

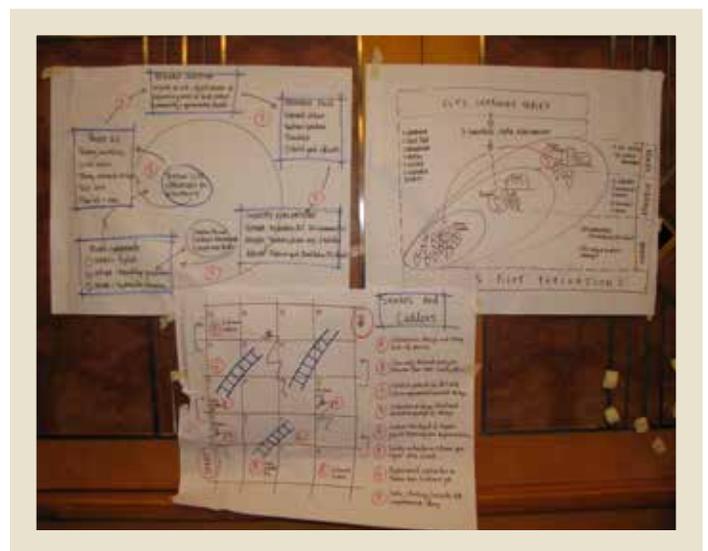
- The focus was mainly on project impacts, although study designs were often inappropriate for the types of conclusions drawn
- Generally, CLTS was found to have a positive impact on latrine access and usage
- Children identified as effective behavior change agents for peers in schools

- Natural leaders, teachers, and local government actors identified as community change agents, but no rigorous evidence was provided on their actual effectiveness
- More rigorous evaluations of CLTS impact are needed, including on the effectiveness of the various techniques used by CLTS on long-term behavior change

The search for informal literature on CLTS turned up more than six times as much documentation—115 relevant reports were found, mainly on projects (often in the form of case studies) produced by international NGOs and international organizations like WSP and IDS. The informal literature review found that:

- Generally, CLTS case studies were done on ‘successful projects’
- Methodology was less rigorous than those documented in formal literature
- Focus was on project processes and implementation (not impacts)
- Structured post-triggering follow-up activities helped communities eliminate OD. Visits by ‘outsiders’ were considered most effective.
- Natural leaders, teachers, and local government actors identified as change agents, but no rigorous evidence on their impact on CLTS (same finding as for formal literature)
- Children and women often cited as most effective natural leaders; teachers mainly mentioned in only in the context of “school-led” CLTS projects
- Greater rigor and consistency is needed in project monitoring and evaluation methods (so as to generate better data on project performance)

The project’s integrated implementation and research phase



At the convening, posters and drawings were used to highlight progress and setbacks.

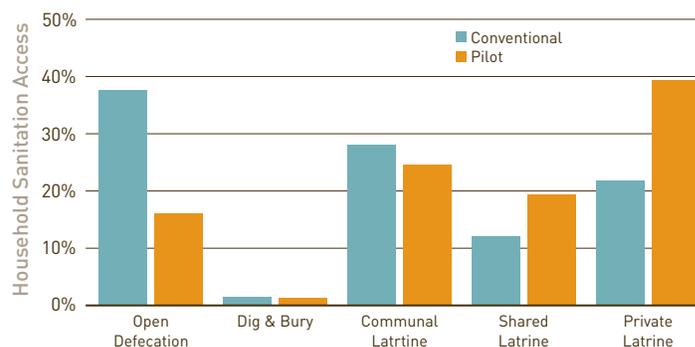
was informed by the literature review phase, and was designed to provide rigorous evidence with regards to the effectiveness of natural leaders, teachers, and local government in CLTS campaigns. Implementation is mostly completed in the three target countries, and evaluation of those efforts is currently underway. Preliminary findings from Ethiopia (where teacher-facilitated CLTS was the focus of the research) suggest the following:

- Teachers may be more appropriate in supporting roles, rather than leading
- Kebele (village cluster) administrators seemed to be the most important actors (an unexpected finding)
- CLTS seems to work best in settings where baseline latrine access is low and OD is high

Preliminary findings from three regions in Ghana (where training CLTS natural leaders was the focus of the research) suggest the following:

- CLTS facilitation intensity varied between regions and throughout the year
- Intensive Natural Leader training required about 50% more facilitation time
- Natural Leader training had positive impacts in all 3 regions
- Natural leader training impact was greatest in Ghana's Upper West region, possibly because
 - Upper West is more remote, with low expectation of sanitation subsidies
 - Communities are smaller, more homogenous and cohesive
 - There is little to no reliance on communal or shared latrines

Figure 3: Household Sanitation Access & Practices after 18 months of CLTS



Overall results in Ghana showed a rise of about 25% in use of private and shared latrines, and a drop of 22% in OD. In Upper West, the share of private and shared latrines rose from about 17% to 65%, an increase of about 48%.

Research in Kenya is still under way and the findings will be analyzed in the coming months. Early findings suggest that the training and engagement of local government officials appears to have improved budget allocations for sanitation, and possibly individual performance. Financial flow systems are critically important and can create bottlenecks to scaling.

Next steps: The project is scheduled to be completed during 2015. The focus of remaining activities will include a deeper analysis of cost effectiveness data, completion of the Kenya research, developing final conclusions and findings, carrying out learning events, and other information dissemination efforts.

Supporting Sustainable Sanitation Improvements through Supply-Side Strengthening (3SI)

Grantee: Population Services International

Partners: Monitor Deloitte, Water for People

Location: India (Bihar State)

Dates: July 2012 – June 2017

Information:

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<http://www.inclusive-markets.org/sanitation>

Population Services International (PSI)

Description and Approach: The 3SI project will demonstrate the potential for market-based solutions to increase access to improved toilet facilities among the poor in Bihar through a mix of private and public sector support. Market research was conducted to analyze consumer needs, aspirations and ability to pay. In addition, the project studied the private sector to assess its existing capacity and needs, and to develop more effective business models and toilet designs. The project also will demonstrate innovative financing approaches to increase coverage, as well as helping generate demand through multi-media sales and marketing campaigns.

Accomplishments to Date: Market research³⁰ has shown that latent demand for toilets exists—84% of households expressed a desired to own a toilet, and 38% had already researched the options. However, the lack of affordable, aspirational products remains a major market constraint in Bihar, as elsewhere. Analysis of the current household toilet designs suggests it might be possible to reduce toilet cost further by improving design and other efficiencies.

Financing is also a significant constraint, as households rarely have sufficient cash on hand for a toilet purchase, and there are other products and services which are in higher demand. Availability of affordable credit and targeted subsidies to the poor would facilitate sales, especially to base of pyramid (BoP) consumers. Existing Government of India sanitation financing schemes could help in this regard, especially if the Government scheme could be integrated with an improved sanitation marketplace and more efficient targeting of the poor.

Additional learnings from project include:

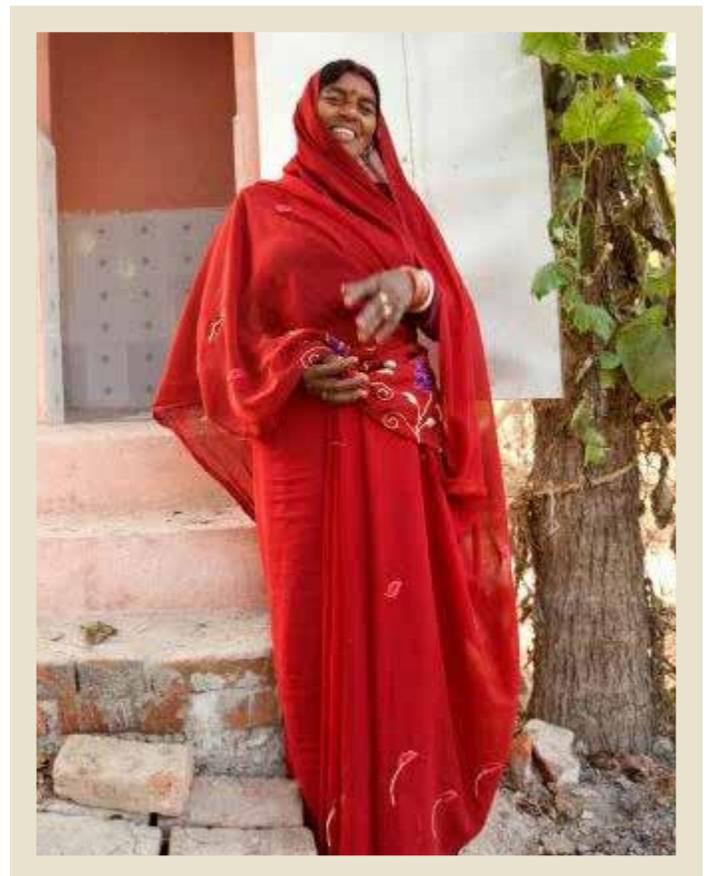
- Demand for sanitation in Bihar is driven by convenience,

privacy and other social-status concerns. Health is not an important driver.

- Consumers want a high quality product that does not require frequent emptying. However, existing models usually cost the equivalent of \$400 or more, and may require engaging with multiple businesses/providers.
- Availability of affordable credit can help move consumers; however, lowest quintiles may require partial to full subsidies.
- The ideal envisioned solution was a ‘Turnkey Service Provider’ model, however a lighter-touch model based around Cement Ring Manufacturers (where enterprises provide substructure and toilet components to consumers) is proving to be more appropriate (primarily because it lowers costs).

To date, around 9,400 toilets have been sold by sanitation enterprises, with over 84,000 households visited. One third of the toilets sold were to BoP customers, and roughly 5% were sold with loans.

Next Steps: Developing a platform for sanitation loans through MFI partners; creating an enabling environment for customers to get access to subsidies; and an increased focus on demand generation through Behavior Change Communication campaigns.



Proud owner in front of her newly completed latrine.

Women's Empowerment and Poverty Reduction Project

Grantee: Rajiv Gandhi Mahila Vikas Pariyojana (RGMVP)

Partners: Shramik Bharti and International Center for Research on Women

Location: India (Uttar Pradesh State)

Dates: Oct 2012 – June 2015

Information:

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Twitter: @RGMVP

Rajiv Gandhi Mahila Vikas Pariyojana (RGMVP)

Description and Approach: The project aims to increase the number of poor women organized into Self-Help Groups (SHGs) and SHG federations, and to test efficacy of community institutions to promote improved sanitation and hygiene practices in parts of Sultanpur and Amethi Districts in Uttar Pradesh. Learning questions being addressed include:

- Does building of social capital through SHGs improve hygiene and sanitation outcomes in the community?
- Do expedited SHG models and their sanitation interventions lead to similar outcomes as the full-scope, phased SHG (Model 1 below)?
- How do these compare with the normal Government sanitation promotion approach?
- What is the cost effectiveness of these models?

The four 'models' being tested are:

1. RGMVP sanitation interventions as part of larger package of community strengthening with mature SHGs
2. RGMVP sanitation interventions delivered simultaneously with SHG formations in new villages
3. Standalone sanitation interventions by Shramik Bharti in villages where no SHGs are present
4. Control villages with interventions under the Government of India's sanitation campaign

Each model is tested in 40 selected villages (160 total) selected randomly from the two target districts. The target area's baseline survey highlights the extent of the sanitation challenge being faced:

- 97% of population reported engaging in OD
- Average time to reach OD site from home is **30 minutes**
- Toilets available at only **9.4%** of households.
- **85%** of women do not have hygienic menstrual hygiene practices³¹

Accomplishments to Date: Historically, RGMVP has organized over 1.4 million poor households into over 120,000 SHGs, as well as forming over 150 "Block Organizations" and over 5,000 Village Organizations across 42 districts. These bodies address issues related to health, collective social action, human rights, and access to credit. The research effort is being implemented in 160 villages out of over 50,000 villages where RGMVP has a presence.

During the project, RGMVP or their community partners have:

- Delivered over 300 WASH training sessions
- Delivered over 200 sessions on menstrual hygiene management (MHM)
- Organized and trained 63 Young Women's SHGs
- Renovated 786 defunct toilets, and constructed 132 new toilets using SHG funds
- Facilitated 537 new toilets 'sanctioned for construction' by Government scheme

Preliminary results monitoring indicates that over 1000 women in 44 villages have improved MHM practices; improved WASH hygiene practices are also reported (hand washing with soap; improved water handling, and household water treatment). Young Women SHGs also have taken on key roles in spreading sanitation awareness and adopting and spreading behavior change in sanitation and hygiene practices.

Next Steps: The project continues to implement the various SHG models and will carry out end line surveys and data analysis during April to June 2015. Some of the key challenges the project will continue to seek to overcome:

- Extreme poverty of many residents in the target areas
- Trying to change behavior over a relatively short span of time
- Lack of awareness about Government sanitation programs
- Constraints on the supply side in meeting increased demand for sanitation
- Lack of land (space) required to construct a latrine at many households

Scaling Up and Strengthening Community Approaches to Total Sanitation

Grantee: UNICEF

Partners: Government and civil society Partners

Location: Indonesia and Malawi

Dates: November 2012 – November 2016

Information:

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Malawi declared, in its 2011 national sanitation strategy, that 2015 was the year it would achieve 100% ODF. This would be an astonishing achievement, since (as of 2012) Malawi's national improved sanitation usage rate was only 10%.³⁵ This challenge is in part what led UNICEF to select Malawi as one of the focus countries for this project. UNICEF is supporting the national ODF Task Force, and among other activities has helped to improve the national sanitation monitoring system. The project also is strengthening the supply side through latrine construction and business management training, and a marketing campaign carried out in partnership with PSI. However, cumulative progress has been slower than expected. New ODF communities number 446 (representing over 45,000 households). But the ODF 'hit rate' is only 30% after 6 months. Positive examples do exist, including one Traditional Area that has attained ODF and which serves as a constructive role model.

Regionally, UNICEF is engaged in a number of monitoring and learning efforts as part of this project—including:

- Online Sanitation Monitoring Toolkit (published at www.sanitationmonitoringtoolkit.com).
- Supporting Kenya, Mozambique, and Madagascar on CATS reviews and tools development
- Preparing CLTS reviews and case studies
- Learning projects including use of Social Norms Theory, small town approaches to CLTS, regional sanitation supply chains research, and reviews of School Led Total Sanitation
- Learning, and dissemination events

Next Steps: In Indonesia, UNICEF will improve communications and advocacy; promote stronger M&E, assess the potential for more intensive supply-side work, and improve post-triggering data capture and analysis. UNICEF also will increase its focus on accelerating progress in weaker-performing districts.

In Malawi, UNICEF will continue to work with PSI to help strengthen sanitation marketing campaigns, and will increase its focus on strengthening local government leadership of sanitation campaigns.

Across both country programs, UNICEF is focusing on bringing intent to the learning focus and not giving in to "focusing on the numbers" in light of the missed targets. In the long run, unlocking insights into what makes for successful program delivery at scale will be more useful than just delivering against a coverage target.

UNICEF

Description and Approach: UNICEF supports implementation of CLTS or CATS programs in a large number of countries globally, mostly in Africa and Asia. This project is designed to support CATS innovations and implementation strategies in two countries—Malawi and Indonesia—and to distil and disseminate lessons learned to other UNICEF country programs in Africa and Asia. Among other goals, the project seeks to meet ambitious ODF 'hit rates,'³² of 66% and a 'reach' target of 85%.

Accomplishments to Date: In Indonesia, access to improved sanitation facilities currently stands at 59% of the population, which is significantly short of the MDG target of 86 percent. An estimated 54 million people still practice OD, or about one quarter of the population. On a country basis, this is second only to the size of the population practicing OD in India.³³ UNICEF is supporting Indonesia's national "STBM"³⁴ campaign to help accelerate sanitation progress. A number of key steps have been taken to systematize STBM, including a Knowledge, Attitudes, and Practice (KAP) survey, a review of existing evidence, development of STBM training materials, establishment of a knowledge management framework, and undertaking Joint Technical Reviews with the Government of Indonesia. New alliances have been built to make sanitation and hygiene communications more effective; and the use of social media has been expanded. However, though the enabling environment in Indonesia is supportive, a number of key challenges remain. Progress achieved against project targets has been off track in terms of number of new latrines constructed. Other challenges include lack of partner implementation capacity, low hit rate of ODF villages, continued fragmentation of the sanitation sector, and impediments to sharing and disseminating lessons learned.

Sustainable Total Sanitation in Nigeria

Grantee: WaterAid

Partners: Local Government Authorities; CSOs

Location: Nigeria (Ekiti, Enugu, Jigawa states)

Dates: July 2012 – June 2016

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A pour-flush latrine with offset pit under construction.

WaterAid

Description and Approach: The project seeks to improve the effectiveness, efficiency, inclusion and sustainability of total sanitation approaches in Jigawa, Ekiti and Enugu States of Nigeria (targeting 625,000 people), and through the learning so generated contribute to wider national and regional good practice. The project encompasses components of implementation, action learning and research, and advocacy.

Accomplishments to Date: To date, 76% of the 382 target communities have been triggered and are undergoing follow-up monitoring. Both demand-side and supply-side research efforts have been completed, and the results are being incorporated into project plans. New community monitoring approaches also have emerged. The CLTS approach has been reviewed; community monitoring forms for effective follow up (towards achieving ODF in triggered communities) also have been developed.

Demand-side research has shown that rural households are increasingly exposed to urban lifestyles and upwardly mobile; there is reasonable access to cash and modern building materials. Yet OD is still a widespread practice. Households express dissatisfaction with this situation, often including their current sanitation facilities—which points to potentially large opportunities for sanitation marketing enterprises. There is little expressed household interest in low-quality latrine investments; but rather a preference to wait and build an ‘ideal’ facility. In terms of motivating forces—external pressure from, and enforcement of local ordinances by village leaders seem to be effective for motivating toilet construction. There is also a positive effect from families returning home from abroad that prompts home improvement projects including household

latrines. On the other hand, the fact that there is no shame in OD means that there is no “internal” personal or family pressure to improve.

Supply-side research has found the latrine purchasing process (through multiple artisans) to be complex, and it is difficult for home owners to estimate the cost of the complete product. Though an extensive rural marketplace infrastructure exists, sanitation hardware retailers and concrete block producers operate in a fragmented manner, and labor must be procured separately. In addition, quality of the finished product varies greatly. Testing of improved sanitation products has been conducted in Ekiti and Enugu States and WaterAid has taken feedback from this process into account when establishing the sanitation marketing approach and when developing sanitation products that appeal to consumers.

Next Steps: WaterAid is continuing its work to rationalize and strengthen the sanitation marketplace, and to integrate these supply-side efforts with demand generation. As part of this effort, WaterAid is trying to improve information about sanitation products and increase transparency regarding pricing, and increasing access to affordable credit and finding other suitable mechanisms for improving financing of sanitation for the poor. Other challenges to be addressed include designing sanitation communication campaigns which can tackle the changing demand situation in communities in an iterative and flexible manner.

Scaling Up Rural Sanitation

Grantee: Water and Sanitation Program

Partners: Governments, civil society, and private sector partners

Location: India, Indonesia, and Tanzania (plus 10 expansion countries)

Dates: 2007 – Present

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WSP

Description and Approach: The World Bank's Water and Sanitation Program (WSP) has been working with the Foundation since the latter's WSH effort was still a 'learning initiative'; WSP's role has evolved considerably as the Foundation's engagement with the WSH sector has changed and grown over the years. However, WSP's core strengths in addressing strategic-level issues with governments as well as advancing innovative implementation approaches in the field have remained central to WSP's relationship with the Foundation's WSH program.

WSP's Scaling Up Rural Sanitation (SURS) business area is an outgrowth of that evolution, and WSP's mandate is to support governments to catalyze systematic changes for reaching scale in rural sanitation programs at the country level. The geographic focus of WSP engagement has grown rapidly from its initial Total Sanitation and Sanitation Marketing (TSSM) project in India, Indonesia, and Tanzania—to a global learning program covering 13 countries in four regions, including Bangladesh, Cambodia, Ethiopia, Kenya, Lao PDR, Niger, Pakistan, Senegal, the Philippines, Uganda, and Vietnam. Under WSP's business area "Sustainable Services through Domestic Private Sector Participation", WSP has worked with governments in some of those as well as additional countries to catalyze private sector service delivery on rural sanitation, such as Bangladesh, Nicaragua, Niger and Peru.

The theory of change involves working on 4 key areas in order to accelerate the pace of sanitation program scale-up:

- Generating demand for improved sanitation at scale
- Strengthening supply of sanitation products at scale
- Strengthening the enabling environment
- Learning and knowledge management

Translating these four strategic pillars into project activities has broadly meant that WSP's service delivery model has involved the following:

- Problem identification (multi-sector, results-focused)
- Design (utilizing the best ideas and evidence available)
- Implementation and iterative improvement (technical assistance, capacity building, and operational learning)
- Evaluation and learning (sharing knowledge from successes and failures; new products and tools; and promoting south-to-south learning)

Accomplishments to Date: Governments in the original 3 focus countries plus 10 expansion countries have now increased their access to improved sanitation to an aggregate total of over 20 million persons. In addition, the initiative has contributed to ending OD by an additional 19 million persons. While it is not possible to summarize this level of effort in a page or two, some key examples of learning shared at the recent Grantee workshop in Hanoi in 2015 follow below.

It can be a 'long road' from fragmented implementation to coherent national sanitation programs. WSP support to the Government of Indonesia began in East Java (rural population of 20 million) in 2007, and based on lessons from failure and success, by 2014 the Government is now implementing a national rural sanitation program (120 million people), supported through a large scale World Bank financed program designed based on lessons from WSP technical assistance.

Specific key learnings from Indonesia are relevant to many country settings, and include:

- A heavy investment in institutional capacity building can pay big dividends over the long term. WSP anchored its capacity building efforts in the existing (pre-service) government training system, helped government develop an accredited training program for in-service professional staff, as well as on-line training as a supporting mechanism. Implementation Guidelines for the Government's national program were supported, help harmonize implementation and form the backbone of the capacity building program.
- Supporting a process to move from patchwork financing and project delivery, to bringing different sources of finance together for a program that covers all communities in a phased manner in targeted districts.

- Supporting Government monitoring systems and their national scale-up and usage, rather than developing project-based systems.

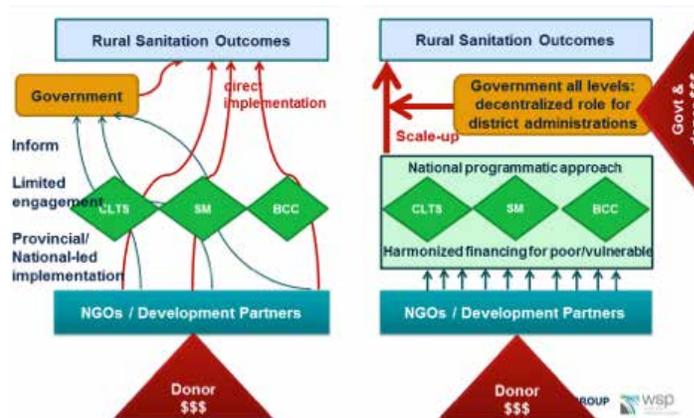
WSP's engagement with the sanitation marketplace in Indonesia also has evolved from analyzing sanitation markets and developing new products and services—to operating at a more strategic level. This evolution has taken many years, but has led to a scale-up of the sanitation marketing effort:

- 1. Filling gaps:** Developing and testing new products and business models
- 2. Promoting business models:** Training sanitation entrepreneurs on the 'one-stop shop approach'
- 3. Starting an industrial network:** Coaching businesses, establishing certification processes, and facilitating access to capital
- 4. Growth and sustainability:** Supporting the network, which has taken shape as a national business association, while it coaches and collaborates with actors throughout the sanitation value chain, and moves to a franchise model to aggregate value-adding services to its members

Another lesson learned is from India, with the Government's focus on toilet construction, instead of sanitation behaviors WSP has supported central and state government to make a critical shift in thinking to focus on monitoring outcomes, which is critical in an environment where massive resources are being channeled for toilet construction subsidies. The application of a third party mobile monitoring system and its scale-up at national level is transformational in ensuring a focus on results. WSP as part of the World Bank team is supporting the design of a new large-scale rural sanitation loan, originally targeting at least eight lagging states, but recently expanded to cover the whole country, ensuring a focus on results in behavior change.

Cambodia provides another example of the 'long road' from fragmentation to harmonized national programs, led by government. With many active sanitation partners, and a lack of harmonized program approaches or financial flow mechanisms, the sanitation sector started out as on the left side of the diagram—with a smorgasbord of actors, approaches, and implementation systems. The Government of Cambodia, together with WSP and sanitation sector partners are actively working towards the situation depicted on the right side of the diagram: a national rural sanitation program led by

Figure 4: From Fragmentation to National Program: Empowering Government at Different Levels while Building on Strength of all Players



government, with decentralized engagement at district level; harmonization of program and financing approaches; increased resource mobilization; and leveraging of national, sub-national and development partner funds.

Next Steps: WSP is actively engaged in the 'post-2015' process of establishing global new water, sanitation and hygiene targets—and universal access will likely comprise the core of these new goals. With 2.5 billion people in need of access to sanitation (over 70% of them in rural areas), there is still plenty of work ahead for the entire sector. WSP will continue to work with the Foundation and other partners to 1) Eliminate OD by 2025; 2) reform sanitation policies and accelerate progress towards achieving universal access by 2030; and 3) increase its focus on the elimination of inequalities in access. WSP will carry out two core activities to help governments achieve greater equity in rural sanitation:

- Integrate sanitation into existing nationwide poverty alleviation, health and nutrition programs that target poor households. Key to this will be working with country-led programs that are providing publicly financed subsidies to the poorest to meet other social needs, to learn how subsidies for sanitation can be integrated into these programs without distorting the market.
- Identify opportunities to work with local financial institutions to extend financing to the extreme poor, leveraging subsidies when possible.

Summary and Discussion of What's Working

Ten issues were identified during the 2013 Sanitation Partners' Workshop as being of critical importance to effectively and sustainably scale up sanitation programming. How have the partners working on projects within the BDS portfolio been contributing to progress on these issues?

Reaching the poorest at scale.

It is the poorest who most lack sanitation services and who are disproportionately affected by the health problems stemming from unhygienic environments. To reach the poorest more efficiently, several sub-issues were identified: the need for continued innovations in demand generation including CLTS; pro-poor credit and marketing schemes; and financial support mechanisms for the poor which do not distort the sanitation marketplace.

Demand Generation.

Progress is being made in a number of key areas, including ongoing investigations on how CLTS campaigns can be made more effective, sustainable, and cost efficient. PLAN and UNC are working to better understand the relative impact of different internal actors on CLTS impact; WSP and others are working on harmonizing national approaches and making campaigns more systematic; IDS³⁶ and others are continuing to promote at-scale approaches; future BDS work also will look at identifying drivers of demand in, and effective approaches for, peri-urban and urban environments.

A key challenge with CLTS has been the uneven ODF 'hit rate' achieved within and across countries. UNICEF has challenged itself in Malawi and Indonesia with an ambitious project target of 66% ODF communities (per total triggered), with a 'reach' target of 85%. The project has more than one year to go, but so far it has proven challenging to achieve those high hit rates. On the other hand, UNICEF's CLTS program in Mali was able to achieve a hit rate of 97% ODF in the 60 communities that were part of the RCT on CLTS impacts conducted there by CEDLAS. The Mali campaign had a strong focus on post-triggering follow up (weekly visits for 3 to 4 months), which may be part of the reason why this hit rate (and other performance indicators) were so high. While the benefits of intensive post-triggering

CHALLENGES IN GENERATING DEMAND FOR SANITATION

Programs focused on creating demand for sanitation face daunting challenges, depending on the context. These may include:

- Lack of access to easy and affordable credit
- Lack of aspirational and affordable latrine options
- Consumer desire for higher-end options and lack of interest in simple, home-built latrines
- Complicated process to procure a latrine (multiple businesses or persons involved)
- Lack of marketing and sales capacity in the private sanitation sector
- Cultural preferences which favor OD (e.g., in India)
- Poor quality implementation (e.g., of CLTS triggering or mobilizing)
- Low capacity of implementing agency(ies) and poor coordination
- Heterogeneous population; lack of communal cohesion; conflict; seasonal migration
- Proximity to subsidized programs; expectations of hand-outs at the community level
- Lack of land or space around the home to build a latrine
- Occupants don't own land (and landlord unwilling to install a latrine)
- Collapsing soils and other physical challenges
- Lack of support from village leaders and/or local Government

follow up are well noted, being able to scale this intensive approach up in a cost-effective manner remains a challenge. The EAWAG-USAID research in Ghana may shed light on the question whether it is possible to design a CLTS-type approach that routinely results in a higher hit rate (which, if this could be done, would lower the cost of attaining ODF).

The Foundation and others are also considering the drawbacks to monitoring primarily “ODF” achievements in CLTS programs. While ODF communities certainly represent a desirable endpoint for CLTS campaigns (and other sanitation campaigns as well) – this metric also results in a binary situation whereby CLTS either ‘succeeds’ (ODF status achieved) or ‘fails’ (ODF not attained). In the latter case there may still be a significant decrease in OD and increase in the access to and use of latrines. The Foundation is already exploring how to accomplish this more nuanced type of monitoring of CLTS performance with help from UNICEF in Indonesia.

Other methods of demand generation are also moving forward. BRAC is using an ‘integrated approach’ to demand generation and hygiene behavior change communication which involves forming, training and supporting village WASH committees, and uses PRA³⁷ techniques (among others) to promote effective WASH improvements. By the very nature of BRAC’s size in Bangladesh, their WASH II program (which the Foundation is supporting) is operating at scale and already reaches many parts of the country. WASH II includes financial incentives for the ultra-poor, and credit financing schemes for the poor.

East Meets West and iDE have made excellent progress generating demand through sanitation marketing efforts. In Vietnam, EMW has used an output-based aid approach to strongly incentivize the implementing agency (Vietnam Women’s Union) to reach the poor with improved sanitation options. Credit and other financial awards are used at various levels in the project to help drive results and enable the poorest to purchase aspirational sanitation systems. In Cambodia, iDE has also reached the poor with improved sanitation through sanitation marketing campaigns backed by affordable financing schemes. However, they have found that microfinance institutions are unwilling to scale up loan portfolios for household sanitation purchases. Also, iDE has found that sanitation-oriented businesses are often reluctant to invest in and manage the direct sales teams required to reach customers at the community level.

New implementation research on sanitation demand generation and behavior change will be conducted on the effectiveness and cost of the Community Health Club model being advocated by Africa Ahead. The integrated research and implementation effort will assess whether a less intensive CHC approach can still deliver results (which would be a more scalable model).

Sanitation financing (including credit schemes, subsidies, and



Volunteers are selected to help organize the village to build latrines during a Community-Led Total Sanitation (CLTS) triggering session at the Maparanhanga village (Mozambique, September, 2009).

other interventions) is another important factor to consider in sanitation demand generation. Another factor to consider in sanitation demand generation is the effect and importance of credit schemes, subsidies, and other financial interventions. Experience suggests that households are willing investors in on-site sanitation and often pay the bulk of sanitation hardware costs. Toilets are aspirational products and many consumers, including the poor, want higher-quality sanitation products. However, cash flow issues can impede the poor from acting on these decisions. Household sanitation investments also must compete with other spending priorities such as education, health care, communication, transportation, and entertainment.

Subsidies have long been a controversial matter in the sector, with some agencies and experts arguing that subsidies distort the market, confuse the behavior change progress at the community and household level, and create an undesirable dependency on external agencies. Observations made by WaterAid and VERC in Bangladesh in the late 1990s led to the conclusion that hardware subsidies were part of the problem rather than the solution; this in turn led to the development of CLTS as a method of putting communities back in charge of their sanitation decisions.³⁸ Yet more recent research carried out by IPA in Bangladesh³⁹ suggests that generating demand (through CLTS) may have little overall effect on ownership of hygienic latrines without some type of financing being made available. The seeming contradiction raised by these two studies, though they are separated in time by well over a decade,

is indicative of the fact that this issue is still of major concern to sanitation-focused organizations and communities alike.

The modalities employed by agencies using hardware subsidies highlighted in the 2003 publication by Kar and IDS were problematic for a variety of reasons:

- Approaches were not harmonized among agencies and varied considerably.
- Subsidies were often captured by the better-off and did not reach the poorest; little targeting of the poorest took place.
- Poorest households could not afford the required cash investment needed to construct functioning toilets where subsidies took the form of in-kind sanitation hardware components.
- Subsidy funds are usually limited and not sufficient to provide a subsidy to everybody who qualifies for one. This can lead to capture of subsidies by the fastest movers and confusion among those who are left behind.
- Progress was generally measured in terms of the number of toilets built, rather than behavior change (use) or reduction in (or end to) OD.

Additional research and experimentation since the early 2000s has led to greater understanding of how to apply sanitation credit and subsidy schemes in a manner that does not distort markets or create dis-incentives at the household or community level. Some of the contributions that BDS grantees have recently made in this regard include:

- **East Meets West** in Vietnam found that households would postpone sanitation investment until they had sufficient funding to pay for the type of facility they wanted. In such situations, offering affordable financing to households can act as a catalyst for investment decisions.
- **iDE Cambodia**, with PATH, saw a 400% increase in demand for Easy Latrines sold at market price when financing was made available. However, MFIs do not appear prepared to scale up this type of consumer loan program, in spite of the 100% repayment rate suggesting that the poor are not risky as creditors had thought.⁴⁰
- **CInI**, who work in some of India's most challenging areas, acts as a financial intermediary to help make Government financing delivery systems more efficient. CInI provides up-front payments to households who want to build toilets; after those toilets are built, households apply for the Government subsidy. When households receive the subsidy, they pay CInI back.
- **BRAC** in Bangladesh are targeting sanitation subsidies to the ultra-poor, using a clear set of criteria applied during a community census (the recent outcome verification study suggested that BRAC should update household classifications

on a regular basis, as people move out of –but also move into–poverty over time).

- **PSI** in India's Bihar State found that households rarely have sufficient cash on hand for a toilet purchase, and other products and services are in greater demand. Affordable credit and targeted subsidies to the poor would facilitate sales to base of pyramid (BoP) consumers; they are exploring how to use existing Government of India financing schemes into a more efficient sanitation marketplace and with better targeting of the poor.
- **WSP and IFC** in Kenya are working with MFIs to develop and test financing mechanisms that can enable more consumers gain access to new products. Mechanisms may include water, sanitation or housing loans, or working capital loans to sanitation entrepreneurs who can in turn pass on terms of credit to consumers.

These findings point to better ways of supporting sanitation investment, especially by poor households, than those used in the subsidy and hardware-driven programs of the 1990s and early 2000s. Where findings can be translated into clear program- or policy guidance, BDS grantees will be strongly encouraged to publish and share such guidance. Effective uptake in the sector should then lead to adaptation of these improvements to new countries and environments, for further replication and scaling.

Ensuring political support and Government

capacity still requires attention—particularly regarding policy harmonization, operational planning, sector coordination, financial contributions, and efficiency of expenditure. Capacity building efforts also must be better coordinated and institutionalized. There has been a lot of progress on this in the past ten years, but there is still a long way to go. Experience from BDS grantees (especially WSP) suggests that these tasks can be accomplished, but that it will take time, significant levels of investment, and a government prepared to lead.

Improving sanitation business models requires new and better sales approaches, simplifying the purchase process, and improving the range and type of products and services sold. These innovations need to continue, and the most effective models scaled up. BDS partners have been making great strides in this arena, including at-scale efforts by iDE's SMSU project in Cambodia,⁴¹ PSI's 3SI project in Bihar, WSP & IFC's Selling Sanitation project in Kenya, and others.

Making sanitation more affordable. The cost of hygienic toilets that appeal to consumers has been brought down in many places, but are still generally out of the reach of the poorest. BDS partners who are working on making sanitation options less expensive include:



Early consumer testing of ASB products in Africa showed a 'sitting option' for latrines to be popular in some countries.

- **American Standard Brands** whose Bangladesh-based “Sato Pan” project improved upon the design of inexpensive but poor-quality pour-flush pans sold there. Having succeeded with at-scale sales in Bangladesh (over 700,000 sold), the Foundation is now supporting ASB to develop and trial similar and new types of pans in Sub-Saharan Africa, in partnership with iDE.
- **WSP & IFC** used Human Centered Design to develop a range of plastic latrine slabs which are affordable (\$17 - \$55, ex-factory), can be easily transported and stored, and which are an attractive and durable alternative to masonry products. Over 620,000 units have already been sold.
- **iDE Cambodia**, also using Human Centered Design, developed the Easy Latrine (prior to the Foundation-supported SMSU project). The Easy Latrine, priced at around \$50, cost a fraction of what consumers typically paid for made-to-order masonry latrines. Over 140,000 have been sold through the SMSU project.
- **PSI** in Bihar found that existing toilet options cost \$400 or more, and were complex to purchase. Design and production efficiencies have brought this price down significantly, but additional cost efficiencies are still being sought. Over 6,000 of these lower-cost toilets have been sold by sanitation enterprises trained and supported by the project.

Integrating supply-side and demand-generating projects has the potential to ensure sustainable sanitation outcomes. Supply-side and demand-generating approaches each face challenges (e.g., CLTS campaigns at scale often fail to result in hygienic, user-friendly sanitation facilities; and

sanitation marketing at scale may only reach early adopters and the better off, without reaching ODF). On-going work under the BDS portfolio will need to strengthen efforts to integrate these two powerful, yet distinct programmatic approaches—which in the past have typically worked in relative isolation from each other. BRAC, iDE, WSP, and East Meets West have made great strides by improving the supply of affordable sanitation options, reaching the poor through targeted sanitation financing supports, as well as promoting adoption of sanitation throughout entire communities. WaterAid is also working on this challenging problem in Nigeria.

Fecal sludge management solutions are needed now, or in the near future, for the solids accumulating in on-site sanitation. Additional work is needed to establish pit emptying services that are hygienic, environmentally sound, and affordable, as well as improving sanitation services such as repair, maintenance, and upgrades. Water for People, in partnership with PSI, are working to develop more efficient ways of emptying fecal sludge in slums and poor communities. The Foundation’s Urban Sanitation Markets (USM) and Transformative Technologies (TT) portfolios are also working extensively on the FSM issue, from a markets/business model and technology development perspective respectively.

Health implications of poor sanitation. Research conducted by the Research Institute for Compassionate Economics (r.i.c.e.) has demonstrated a strong correlation between OD and stunting in India and several other countries in Asia and Africa. This information has been incredibly helpful to the WASH sector (e.g. in arguing for more attention and investment, given the broad impacts on health) but arguably the biggest impact so far has been on the nutrition sector. Large funders and implementers (such as USAID and UNICEF) have begun to consider integrated Nutrition and WASH programs. The CEDLAS study of UNICEF’s CLTS program in Mali demonstrated how decreases in OD can lead to reduced stunting and other positive health outcomes. At the same time, Emory University’s study of the Indian Government’s Total Sanitation Campaign in Orissa State found increased latrine coverage but did not identify any reduction in the reported prevalence of diarrheal diseases in children. The findings of these three research efforts highlight the challenges in understanding the health impacts of WASH interventions, and the significant remaining unknowns.

The results of the two impact evaluations (Orissa and Mali) are particularly interesting, as their results seem quite different. In Mali, a focused and well-orchestrated CLTS campaign with strong Government support was found to reduce adult OD rates by 70% (child OD fell by 46%), and access to latrines increased from 35% to 65%. CLTS intervention households also had cleaner latrines and improved hygiene. It also is worth noting that the early phase of the research (i.e., baseline study) was

used to help the field implementers to focus their CLTS effort on the most critical aspects of the intervention, to improve their mobilization strategy, and to sharpen their monitoring program.

The most significant health findings from Mali were that stunting was reduced by 17%, and severe stunting in children under 2 years was reduced by 23%. There also was a 57% reduction in diarrhea-related under-five mortality. However, there was no significant impact on child diarrheal disease morbidity or respiratory illness.

Interpreting the results of the Mali study, the following were concluded:

- The Mali implementation team used the research opportunity to improve their overall program implementation.⁴²
- A highly successful CLTS campaign (96% of communities declared ODF) led to reduced stunting and other positive health effects in children within a period of less than two years.
- There was no significant impact on child diarrheal disease morbidity.
- The intervention had no discernable impact on household water quality, hand hygiene, or the cleanliness around houses. The impact on children's health was not through these pathways.
- Health impact appears to have resulted from increased (individual) latrine use and reduced OD.
- There was no indication that access to sanitation was declining over time.

In Orissa, access to latrines increased dramatically—from less than 10% to around 63% in the intervention area. However, there were no observed changes in diarrheal disease morbidity

among children, or impacts on stunting. And while the outcome in terms of increased sanitation coverage was dramatic, no communities achieved ODF status, and latrine usage was only around 36% by the end of the effort. Intervention area hand hygiene did not noticeably improve, nor did household water quality.⁴³ Why did this intervention, which was at least partially successful in reducing OD and increasing access to latrines, not result in any detectable child health improvements? Possible reasons for this include:

- The level of latrine coverage and/or latrine use achieved were too low to have a significant health impact.
- The intervention did not impact enough transmission pathways (e.g., hands after defecation, child feces) or sources of exposure.
- Environmental pathogens were persistent, and the 21-month follow up period was too short to see any impact.
- The intervention did not adequately contain excreta.

Comparing the outcomes of these two research studies, two of the main conclusions that can be drawn are:

- Sanitation interventions need to achieve very high use of improved sanitation (as opposed to high coverage) to produce better health outcomes. Striving to achieve ODF status (or nearly so) is important.
- As multiple routes of exposure to pathogens exist, improving hygiene behavior, drinking water quality, and management of child feces are critically important for WASH interventions.

The BDS program and its research partners will continue to work on interpreting these findings, and disseminating the results. With reference to the Orissa study, future work will include studies to assess the determinants of latrine uptake and use; microbial source tracking, and dissemination of the findings in India and discussion of their policy implications.

Knowledge Management and Research Needs

IMPROVEMENTS IN LEARNING AND KNOWLEDGE MANAGEMENT

The BDS portfolio has invested in an 18-month Knowledge Sharing and Learning project. In this section we recap on the BDS Knowledge Management (KM) work-stream and describe how the project contributed to the 2015 annual convening which aimed to integrate Knowledge and Learning activities throughout the event. Designed after consultations with grantees in 2014, the BDS KM project has six activity areas, addressing the two principal aims in the project's Terms of Reference:

1. Improve BDS portfolio's knowledge sharing and uptake of effective approaches by grantees;
2. Improve management of, and access to, WSH information.

Curation

A key requirement from the 2014 consultation was to “increase the signal to noise ratio” of content that floods across desks and email inboxes. A related grantee recommendation was for a curated, online collection of WSH/BDS relevant material, formally organized as in a traditional database, and with features such as user ratings to make the material more accessible and dynamic. Accordingly two sets of activities focus on content curation.

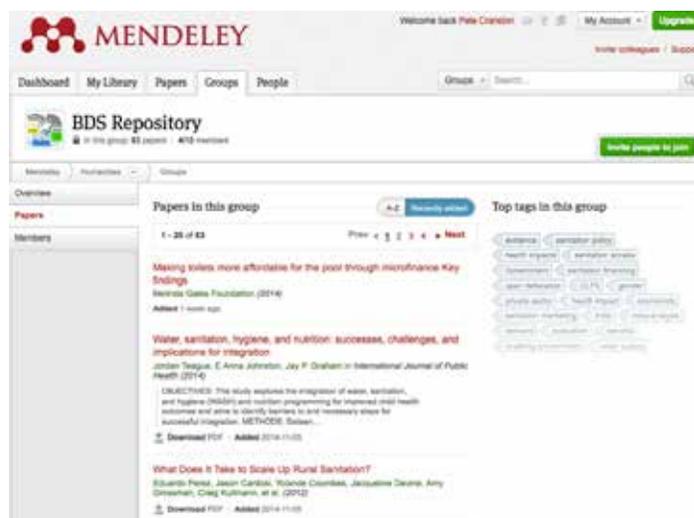
Curated Updates

Two curators from grantee organizations were engaged to review and select a small number of current WSH documents, accompanied by a one or two sentence synthesis of each. The monthly email digest goes to all grantees, and others who are recommended or ask to join the list. Driven by peer recommendations the list had grown to 130 recipients by the sixth issue (January 2015). Platform statistics show that the mailing's open and 'click' rates are consistently higher than the industry (not-for-profit) average. The generally positive reactions from recipients were confirmed at the 2015 convening, although non-recipients questioned the value of 'yet another information service'. Following the convening feedback the remaining issues will be slightly shorter (four rather than five recommendations), bias grantees own publications, maintain the focus on relevant themes, and increase multimedia content. While the case is demonstrated that a useful service can be

provided economically (approximately 4-5 person days per month) such a curation service depends on recommendations from within the recipient network, which are not coming forward sufficiently; another constraint is the paywall barrier blocking access to many current publications.

Curated Repository

This stream aims to provide a working prototype of a curated database of core WSH digital content, comprising both Foundation and other information. A prototype was prepared for demonstration at the 2015 convening, to gauge reactions and enroll grantees interested in testing the prototype. The prototype uses the Mendeley platform. Before opting for a discrete repository the project reviewed the major existing WASH databases against criteria including the utility of their classification and search capabilities; the transparency of their curation processes; facilities to upload documents; user ranking and comment functions; and whether the material could be accessed offline. The well-structured WSSCC database was judged the closest match to BDS grantee focus in terms of content but none of those reviewed provided offline capabilities. After a review of the options, Mendeley.com was chosen as the easiest to use and well featured of the platforms that could be accessed across systems (Windows, Android, iOS) and devices (tablets, phones lap- or desktop computers) with automatic on- and offline synchronization of content.



The content in the prototype is a sample selection of 60 current and influential content items uploaded into a Mendeley group and tagged according to a classification structure developed in consultation with the BDS KM Technical Advisory Group. The sample comprises both materials produced by the Foundation's programs and other publicly available material. Questions about how a more comprehensive collection could be chosen and what processes could be established to maintain and update it will need to be addressed if a workable model of a curated database can be demonstrated. It would be a sizeable task, since there is currently no easily identifiable and accessible collection of Foundation WASH materials.

The prototype will be tested by a group of volunteers over the next three months.

Connect

The target is to increase engagement and knowledge sharing between grantees using digital platforms. These include public social networks like LinkedIn and Twitter; specialist, public online communities such as SuSanA.org, the WSSCC LinkedIn group⁴⁴; and platforms private to the grantees. The latter are intended to encourage more open conversations than might occur in a fully public space. We are currently using Dgroups.org for an email list and a private blog space.⁴⁵ An objective of the first phase of the KM project was to build a greater sense of a BDS identity within the grantee network. While the visibility of (and appreciation for) the KM activities within BDS has grown during the project, developing a strong sense of a BDS community would take longer than the 18-month project timespan. We will continue using private spaces to encourage exchanges between grantees and we will also be engaging more actively in KM activities on the public SuSanA.org platform as we transition to the end of the KM project.

Learning Events

This work-stream aims to focus on and harvest the knowledge sharing and learning that occur during events, both face-to-face and online, experimenting with different ways to improve learning and knowledge sharing within the BDS portfolio. "Designing effective learning events" was the theme of one of two sessions at the 2015 convening which specifically focused on KM.

"Reflection and Learning are allocated small amounts of time" was the unsurprising conclusion of our initial exercise with workshop participants. A subsequent exercise revealed that the majority of grantees still don't engage with each other between convenings, a huge lost opportunity. The session also focused on surfacing examples of good practice in shared learning. Following examples from two participants about how difficult it is to share learning unless it is face to face, we zeroed in on stories as one of the most effective ways to capture attention,

Figure 5: Ideas generated by participants during the "learning events" session

WHAT MAKES A GOOD LEARNING EVENT?

- Being outside our familiar context helps to challenge your thoughts and ideology
- Exposure to a good example helps to define strategy
- Ensure the right people and mix of people participate in the learning process
- "Seeing is believing"
- Learning is a journey which takes time and needs space for reflection
- Learning comes through 'friction', dig below the surface and be open and frank about failures.

bring alive learning points and leave behind hooks for memory, often provided by the Punch Line – or what is the point of your story? In the session participants reflected on and shared examples – stories of successful learning experiences or events. In plenary we summarized some of the critical success factors.

Participants were then invited to apply for small grants in support of learning exchange visits between grantees whose aim is both to continue the kind of deep-dive knowledge exchange that occurs during face-to-face events like convenings and to reflect openly about learning and sharing processes. Five blogs from a recent visit by the KM team to East Meets West⁴⁶ and a Learning Workshop at WEDC conference were presented as an example of an open reflective learning journal, using digital media to en-liven the material.

BDS Processes

The aim of this stream is to help in the development of a Learning Culture within BDS, working with BDS program staff to advance and model a way of working that maximizes opportunities for learning and knowledge sharing across the portfolio. One of the central arguments of the BDSKM program is that, in common with other development sectors, there is an over-emphasis on *knowledge products and outputs*, and not enough emphasis on the *reflection and learning processes* that produce sustainable change within projects and organizations.⁴⁷ This work stream is central to such a reorientation. BDS management has been testing out different ways to encourage and model processes that encourage reflection and learning, including quarterly 'open-agenda' regional teleconferences with grantees and the posting of questions about long-standing 'knotty problems' on the Dgroups email group. As described below, BDS management extended this approach into the 2015 convening, leading activities designed to encourage reflection and sharing.

Learning about Learning

This overarching workstream aims to encourage reflections on the learning process during the project and to develop recommendations on how to create and foster a stronger learning environment. The approach is to constantly ask questions and communicate about learning and exchange processes. The most complete model to date is the set of blogs referred to above from the 2014 exploration of the East Meets West program but it was also a central theme of the 2015 convening.

SHARING EXPERIENCE AND LEARNING AT THE 2015 HANOI CONVENING

Knowledge and Learning were central to the design of the convening, which aimed to enable grantees

- To share, “the most exciting new and emerging results from (their) work”;
- To have “open and candid conversation amongst grantees and between grantees and Foundation staff”;
- To “examine important technical issues and challenges of mutual interest (and to seek solutions with fresh points of view)”;
- And to “identify opportunities for knowledge sharing, research, and other types of follow-up”.

Annual convenings are, of course, Learning Events and the BDS KM team worked with the Foundation team to construct an agenda which maximized opportunities for learning and knowledge sharing. The agenda was designed to balance different modes of knowledge sharing and learning, including:

- Sharing information and updates from projects using posters⁴⁸, with a whole afternoon for grantees to review and engage with each other around the posters
- Field visits and session to share learning and a 90-minute reflection session on the following morning
- Traditional presentation sessions, tightly chaired, to provide ‘TED’ style rapid, detailed input, with time for Q&A (two topics)
- Fishbowl format discussions for whole-group conversations about two key topics, Rural Sanitation Financing and Subsidies and Rural Hygiene and Sanitation Behavior Change (see also this blog on the fishbowl formats⁴⁹)

UNANTICIPATED OUTCOMES

High on the list of priorities that emerged from the January 2014 grantee consultation was ‘learning from failure’. For the Hanoi convening we were keen to explore how organizations and projects respond to unanticipated outcomes, which included runaway successes as well as failures. We were aware of the sensitivity involved in sharing publicly stories of failure, especially in a workshop organized by the donor organization. So we structured the session to encourage and allow frank exchanges within small groups. Participants were asked to tell a story about a situation where there was an unanticipated outcome, involving success or failure. The groups then had to share only one story in plenary, along with the lessons learned from the whole collection of stories. While photos of the flipcharts recording the lessons are available from the KM OneDrive⁵⁰ we believe that sharing and story-telling with others was the more important process, which intended to normalize the idea that failures are common, sharing is useful and valuable learning can emerge from that sharing.

LEARNING ABOUT LEARNING DURING THE CONVENING

Building on that work we introduced activities to encourage reflection and sharing between participants, based on the ‘art form conversations’ methodology⁵¹, at key moments during the event, including at the end of the day, before lunch-breaks and also as part of agenda sessions. This spirit continued after the event, with at least five blogs reflecting on the convening published soon after the event, as well as notes being shared and circulated among some of the grantees.



Participants discussed project updates using poster presentations.

The Way Forward

FOUNDATION VISION

The Foundation's vision for the WSH sector is simple but ambitious: the adoption and use of sustainable sanitation services for all. To contribute to this outcome, we make investments, forge partnerships, and advocate for opportunities that have the potential to make quality sanitation technologies and services safe and affordable for everyone. The Foundation's co-chairs are 'bullish' on sanitation and see the Foundation's role as a sector catalyst to make high-risk (and potentially high-impact) investments that would not otherwise happen.

As explained earlier, the WSH program has evolved since its inception as a learning initiative in 2005 to focus on two fundamental challenges:

1. Expanding and improving sanitation without central sewers, because this is (and will be) the most common type of sanitation service used by the poor;
2. Making sanitation safe and sustainable by establishing more effective fecal waste management systems.

Our strategic focus is on the science, technologies, market approaches, processes, and tools that will transform these aspects of the sanitation sector. We believe the focus on non-piped sanitation makes good sense, because establishing water-based sewage systems and wastewater treatment plants will be too costly for the foreseeable future in most developing market scenarios. Along with the focus on transforming on-site sanitation, the WSH program as a whole has tilted towards urban sanitation. Development of new on-site sanitation approaches and technologies could accelerate the adoption of improved sanitation services—and the Foundation believes that improved products and services will first become economical in more densely populated urban environments. Further supporting our focus on urban areas is the fact that the population of urban residents lacking sanitation has increased by nearly 40% since 1990, whereas the rural population lacking sanitation has dropped by 18% over the same time period.⁵²

Note that this does not mean the Foundation considers rural sanitation a low priority for the sector. With over 70% of those lacking adequate sanitation living in rural areas and an even greater majority of the deaths from diarrheal disease occurring in rural areas, rural sanitation is central to meeting global WSH and related health, nutrition, and education targets. We are acutely aware that rural residents who lack improved sanitation outnumber their urban area counterparts by one billion.

The BDS portfolio's contribution to the Foundation's overall vision for the WSH sector focuses on several key aspects of the challenge:

- Strengthening individual and collective demand for sanitation
- Working to sustainably end OD and promoting adoption of improved sanitation services
- Increasing the use of evidence-based practices

The BDS program also hopes to substantially impact sector progress on the ground:

- Contribute to at least 30 million people living in Open Defecation Free (ODF) communities
- Increase adoption of evidence-based practices in rural and urban sanitation
- Explore better ways to drive adoption of hygienic sanitation practices

BDS grantees have made great strides in addressing the need to strengthen both rural and urban demand generation and the effective collection and use of program evidence; these accomplishments (and ongoing work) were summarized in the Portfolio Progress section above. As the Foundation shifts more of its implementation resources to urban environments, we expect to make no major new investments in BDS implementation grants, though we will continue our focus on BDS learning and research, knowledge management, and integrating BDS learning with Urban Sanitation Markets and Transformative Technology initiatives.

NEXT STEPS FOR THE BDS PORTFOLIO

During 2015 and beyond, the Foundation will continue to pursue ways of accelerating the scale-up of sanitation demand-generating approaches and programs. Many of the projects mentioned in this report are ongoing, and results from those efforts are still forthcoming. However, some projects have been completed, and there are preliminary results from several of the ongoing efforts. The BDS Knowledge Management initiative will gain prominence as the Foundation seeks to share information within the portfolio, and disseminate it to other agencies, experts, and countries. New projects which have recently, or are soon to come on line—should benefit from the greater focus on KM and the lessons learned by mature and completed projects. The Foundation also will increasingly seek ways of integrating the knowledge generated by the BDS portfolio with its other sanitation initiatives, especially the Urban Sanitation Markets effort.

India is already an important focus of the BDS effort, and this will only increase in the future. New investment in India will grow substantially from 2015, and will be supported by a dedicated WSH team based at the Foundation's office in New Delhi. Efforts to reach the marginalized (i.e., through the work of RGMVP, CInI, and others) and improve market and Government sanitation program efficiencies (PSI, CInI) will continue, with more results from these projects expected during 2015-16. R.i.c.e. will continue and expand its research efforts on the Indian sanitation challenge; furthering its work on latrine preferences and related cultural influences include analysis of cultural links to the Infant Mortality Rate, and possible links between sanitation and anemia. R.i.c.e (and others) also will support the Government of India to examine the growing body of sanitation program evidence and address these issues at the policy level.

Work in Bangladesh will continue, with the EPRC research project on the effectiveness of female local Government members set to deliver results later in 2015. Innovations for Poverty Action will continue its research (led by Mushfiq Mobarak) on the effectiveness of different sanitation behavior change tools and approaches. BRAC plans to continue expanding its work on rural WASH (independent of foundation funding) and discussions about a partnership with the foundation WSH team to start tackling sanitation for the urban poor are ongoing.

New investments currently under development demonstrate a continued focus on generating, disseminating and applying

evidence. Work underway with WHO includes the development of official Guidelines on Sanitation and Health, as well as the development of new monitoring guidelines and tools for application by the Joint Monitoring Program (JMP) once the new Sustainable Development Goals (SDG) have been adopted (the SDGs are expected to include a much stronger focus on the full sanitation chain, including fecal sludge management and treatment, than the MDGs did). Also in support of the SDGs is the work ongoing at the Water Institute at the University of North Carolina: a proof of concept on how to estimate the amount of untreated human waste which is returned to the environment at the country level.

The BDS initiative remains focused on developing a better understanding of demand for sanitation, including CLTS as a demand generation method that has been widely adopted by governments and organizations. A new research effort on CLTS will be carried out by Eawag, focusing on how the various aspects of this method work in terms of the behavior change mechanisms at work, and the relative effectiveness of its various components. Plan and UNC will complete their detailed assessment of the effectiveness of internal actors in the CLTS process, as well as conducting an analysis of cost effectiveness. Plan and UNC also will carry out a number of internal and external learning and dissemination efforts as the project winds up later in 2015.

The BDS effort also will continue its efforts to integrate with other parts of the Foundation's WSH program, namely the Urban Sanitation Markets (USM) and Transformative Technologies (TT) initiatives. Sanitation market interventions and product development efforts being carried out by Fundacion In Terris, IFC & WSP Africa, American Standard Brands, iDE, PSI, and CInI are all making important contributions that should provide useful products, implementation "business models" and insights that are relevant for both rural and urban settings, and which hopefully can be carried forward to scale.

Related to this "blurring of the lines" between the different WSH initiatives is a new direction which the BDS initiative will add to its currently strongly rural focus: to develop a better understanding of the urban environment, including questions of demand generation and service provision. Starting from 2015, this focus will be further developed and will progressively become part of the results reported by the BDS initiative.

Appendix

FOOTNOTES

- ¹ Previous meetings were held in Nairobi (2012), Phnom Penh (2013), and Nairobi (2014). The BDS portfolio was called “Sanitation Delivery Models” until 2013.
- ² Economic Impacts of Inadequate Sanitation in India; Water and Sanitation Program (2011).
- ³ Progress on Drinking Water and Sanitation, 2014 Update. WHO and UNICEF, 2014.
- ⁴ Ibid.
- ⁵ Rigorous evidence not only tells us what happens as the result of a specific intervention, it also tells us what would have happened in the absence of the intervention. This allows researchers to make strong causal connections (“result “X” happened because of activity A”). For increased confidence in the results, such research requires a control group (which does not receive the project intervention), randomized assignments of who will receive the project intervention, and a carefully computed (often large) sample size.
- ⁶ The Centre for the Evaluation of Development Policies.
- ⁷ This research project also includes a significant, at-scale implementation component (supported by USAID).
- ⁸ Also known as “Thrive Networks”.
- ⁹ ASB is now part of the Lixil Corporation of Japan.
- ¹⁰ Selling Sanitation partners include: Manufacturers SIL Africa Limited and Kentainers Limited; Kenya Ministry of Public Health and Sanitation, AMREF, FHI 360, KWAHO, Plan International Kenya, PSK, Red Cross, SNV, WSSCC, World Vision, and UNICEF.
- ¹¹ Collaborators: A.J. Pickering, Stanford University; H. Djebbari, Aix-Marseille University; J.C. Cardenas, University of the Andes; and M.A. Lopera, Université Laval. Implementers: N. Osbert, UNICEF and M. Coulibaly, Government of Mali (National Directorate of Sanitation).
- ¹² These are social behaviors that benefit others or society as a whole, such as helping, sharing or cooperating.
- ¹³ Long-Term Sustainability of Improved Sanitation in Rural Bangladesh. WSP Technical Paper (2011).
- ¹⁴ Union Parishads (Union Councils) are the lowest level of local government in Bangladesh. A Union is comprised of nine Wards or villages; the ‘UP’ has responsibility for economic and social development of the Union.
- ¹⁵ Co-researchers: Raymond Guiteras and Shyamal Chowdhury.
- ¹⁶ Campaigns comprised a latrine promotion program (a CLTS-type of approach); 75% latrine purchase subsidies for the poorest population segment; and sanitation ‘supply agents’ who helped arrange latrine purchases and help with installations.
- ¹⁷ The provision of incentives for seasonal migration were part of a larger and unrelated study about seasonal migration of agricultural workers to cities.
- ¹⁸ Bihar, Haryana, Madhya Pradesh, Rajasthan, and Uttar Pradesh states.
- ¹⁹ R.i.c.e. also received financial support from India Globalization Capital for the Switching Study.
- ²⁰ Participatory Hygiene and Sanitation Transformation.
- ²¹ An Upazila is the second lowest tier of regional administration in Bangladesh. The structure consists of Divisions (7), Districts (64), Upazilas (488), and Union Parishads (UPs), of which there are over 4,500.
- ²² Households with less than 10 decimals (400 m²) of land, no productive assets, children of school-going age who are working, and no active adult male present.
- ²³ Although tests on organic fertilizer were carried out and approvals were obtained, the efforts to establish small businesses selling it were largely abandoned as demand is very low and chemical fertilizer is heavily subsidized.
- ²⁴ Including training of more than 5,600 Rural Sanitation Centre owners.
- ²⁵ Monthly women’s cluster meetings comprised of women from 10 households; cluster meetings for adolescent girls from 45 households. Menstrual hygiene messages are covered during these meetings.
- ²⁶ Now part of Thrive Networks.
- ²⁷ SMSU saw a 16% increase in coverage in project areas over 2.5 years between the baseline and endline, meaning a 6.4% annual rate of increase in sanitation coverage. According to the WHO/UNICEF JMP Report for Water Supply and Sanitation from March 2010, the average rate of increase in sanitation for Cambodia was 0.923%. $6.4/0.923 = 6.93$
- ²⁸ If relevant and available.
- ²⁹ By the end of Period 3, 90% of active businesses were profitable with an average operating profit of \$0.26 per dollar of sales. At this time, there were 138 Active LBOs (defined as having made a sale in the previous 6 months as of Oct. 2014)
- ³⁰ Conducted by Monitor Inclusive Markets (now Monitor FSG).
- ³¹ During menstruation, instead of using sanitary napkins, women use homemade pads made from old cloth. They often reuse these without proper cleaning as they feel shy to take care of these needs openly. Women also generally have no access to safe toilets or bathing spaces.

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- ³² An imprecise term, but one generally used to mean the number of villages which achieve ODF status per the number of villages triggered using CLTS/CATS.
- ³³ Progress on Drinking Water and Sanitation, 2014 Update (2012 data).
- ³⁴ Indonesia's Sanitasi Total Berbasis Masyarakat (STBM) campaign is comprised of 5 elements: 1. Stopping Open Defecation; 2. Handwashing with soap; 3. Household Drinking Water and Food Management; 4. Household Waste Management; and 5. Household Liquid Waste Management.
- ³⁵ Progress on Drinking Water and Sanitation, 2014 Update (2012 data).
- ³⁶ IDS is no longer working under a Foundation grant, but the Knowledge Hub continues to promote and document CLTS experience.
- ³⁷ Participatory Rural Appraisal. PRA methods used by BRAC include transect walks and social mapping.
- ³⁸ Subsidy or self-respect? Participatory total community sanitation in Bangladesh (IDS Working Paper 184). K. Kar 2003.
- ³⁹ See the discussion of IPA research on "Inter-Linkages in Sanitation Demand Across Households" in Bangladesh.
- ⁴⁰ iDE is considering ways of developing an in-house microfinance capacity to address this challenge.
- ⁴¹ Including the "CLEAR" sales approach introduced by PATH.
- ⁴² While the UNICEF/Government of Mali implementation team used baseline findings to improve their CLTS pro-gram, their access to these data did not in any way compromise the integrity of the RCT research methodology.
- ⁴³ No significant difference between intervention and control household water quality over time; although water quality in both areas did generally improve during the course of the study.
- ⁴⁴ Community of Practice on Sanitation and Hygiene in Developing Countries
- ⁴⁵ <http://www.bdkm.net/online-spaces/km-talks/>
- ⁴⁶ <http://www.euforicervices.com/search/label/oba>
- ⁴⁷ From blog about Learning Event in Hanoi with East Meets West <http://bit.ly/ZmbmTe>
- ⁴⁸ <http://tinyurl.com/mup6tw>
- ⁴⁹ <http://bit.ly/1BQETe>
- ⁵⁰ See <http://1drv.ms/19sgwCl>
- ⁵¹ Described in this post-convening blogpost <http://bit.ly/1LjO3PN>
- ⁵² Joint Monitoring Program (2014).

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