

35th WEDC International Conference, Loughborough, UK, 2011

THE FUTURE OF WATER, SANITATION AND HYGIENE:
INNOVATION, ADAPTATION AND ENGAGEMENT IN A CHANGING WORLD

**Sustainable rural sanitation at scale:
results and lessons from India, Indonesia, and Tanzania**

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REFEREED PAPER 1180

This paper describes an innovative rural sanitation initiative carried out by national and local governments and the local private sector in Indonesia, India and Tanzania with support from the Water and Sanitation Program (WSP). The project has two overall objectives: to improve sanitation for 6.5 million people and to learn how to design and implement sustainable and effective large scale rural sanitation programs. To date, over 8 million people have gained access to and are using improved sanitation facilities and almost six thousand rural communities have become open defecation free. The programmatic model combines Community-Led Total Sanitation with behaviour change communication and social marketing of sanitation to trigger behaviour change and sustain the demand and supply of improved sanitation facilities. This model is being replicated by various governments and development partners. The paper discusses key components including the large scale service delivery model, the financing strategy, and lessons to date.

Rural sanitation: a forgotten issue no longer

Sanitation activists and practitioners have expanded global awareness of the critical role sanitation plays in improving human health and overall well-being. Speaking before Ministers of Finance and other government officials at the First Annual High Level Meeting of Sanitation and Water for All, held in April 2010 at the World Bank in Washington D.C., Dr. Maria Neira, Director of the Department of Public Health and Environment at the World Health Organization, stated that “the economic case for sanitation and drinking water is no longer in doubt.” They are, she said, “the key to development, human progress, and dignity.”

However, after years of effort, sanitation remains one of the developing world’s most intractable challenges: while governments and international development partners such as the World Bank do not question the need to do more sanitation, most efforts to date have been at small scale. Innovative approaches leading to evidence-based knowledge on what works to improve rural sanitation at scale is needed to make a real difference.

Program overview

In 2007, 80.75 million people living in two states in India, 29 districts in East Java, Indonesia, and 10 districts in Tanzania had no access to improved sanitation. That year, the Water and Sanitation Program (WSP) began to implement the Global Scaling Up Rural Sanitation Project with the goal of dramatically improving advancement toward the Millennium Development Goal (MDG) for sanitation. The social, economic, political, and cultural diversity of the three project areas has allowed WSP to learn how to adapt its rural sanitation strategies to a variety of contexts.

Working in partnership with local and national governments and the private sector, the project is using market-based strategies that can be sustained and replicated with minimal support from donors and governments. The purpose is two-fold: to improve sanitation for 6.5 million people and to leave a legacy of evidence-based knowledge, tools, and resources that will eventually contribute to improving sanitation access for billions of people. Over the course of project development and implementation, WSP has tested

several key innovations, using a learning-by-doing approach. While there is no magic formula—one size does not fit all—the basic lessons and approach can be applied, adapted, and replicated in a variety of contexts.

Working at scale from the start

Rural sanitation improvements have generally involved small pockets of success. Expanding on these successes to increase access at large scale has been an enduring challenge. Project outcomes often fail the sustainability test once external funding ceases, and the benefits, even if sustained, remain limited to project areas without expanding to neighboring districts and provinces. From inception, this project started big and has grown bigger. WSP has worked closely with policymakers in each country to jointly devise a strategy to start at scale and sustain improved sanitation past the project’s end date. National and local government cooperation is a fundamental component of such large-scale projects.

Programmatic model

Sanitation is not a top priority for many communities in the developing world, resulting in low demand for sanitation goods and services, few people trained to produce goods, and a lack of affordable sanitation options. To address these challenges, WSP has operated on the premise that a robust supply of and demand for latrines and related products is necessary to sustain improved sanitation and hygiene behaviors. The project combines Community-Led Total Sanitation (CLTS) to ignite a community-wide commitment to change behavior and end the practice of open defecation; behavior change communication (BCC) to sustain this behavior change over time, and social marketing of sanitation (a variation of social marketing approaches used in the public health sector) to both create household demand for improved sanitation facilities and to strengthen the build the capacity of the local private sector to supply consumer-responsive and affordable sanitation products, facilities, and services (Figure 1).

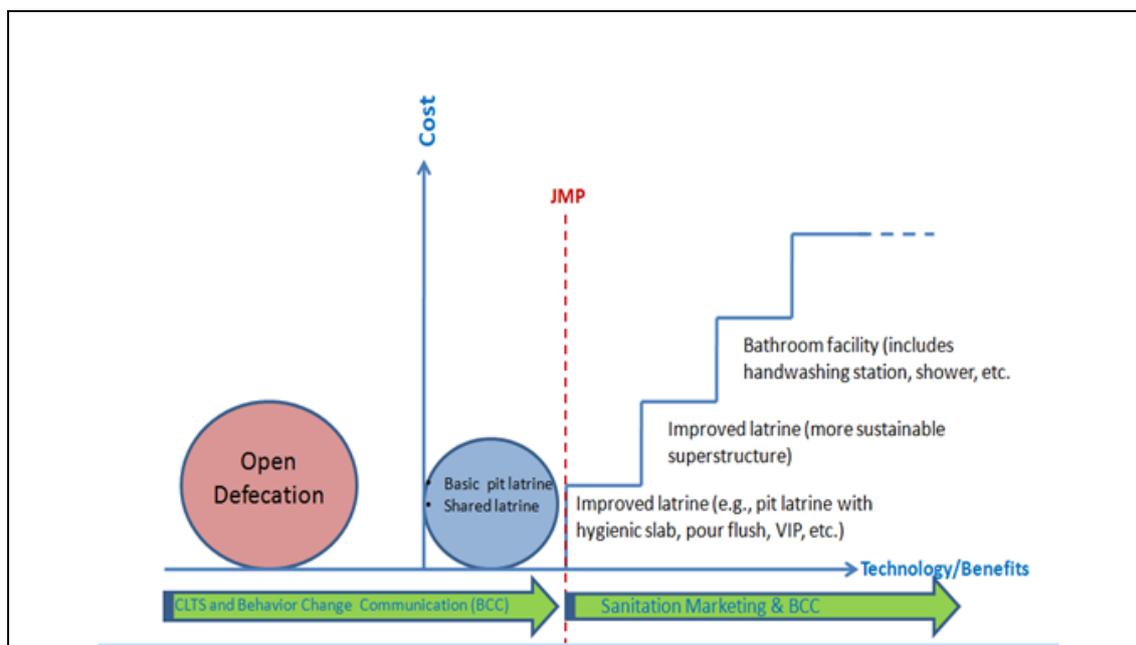


Figure 1: Programmatic Model Moves Communities Up the Sanitation Ladder

Policy and institutional reform to strengthen the enabling environment

Working within existing institutional and policy structures to strengthen the enabling environment for rural sanitation is a major feature of the project. The enabling environment is multi-faceted and includes eight closely-related dimensions: Policy, Strategy, Direction; Institutional Arrangement; Program Methodology; Implementation Capacity; Availability of Products and Tools; Financing; Cost-Effective Implementation; and Monitoring and Evaluation. Key stakeholders and the characteristics and condition of each dimension are assessed early in the project and, if needed, are strengthened to support rural sanitation improvements at large scale (Rosensweig, 2008). WSP, together with partners, works to strengthen not just a few actors or aspects of rural sanitation, but the entire ecosystem of rural sanitation stakeholders across the eight dimensions.

At-scale service delivery

WSP supports local governments to operationalize new national policies and create a complete vision of the role of local government to improve rural sanitation. Roles include facilitating CLTS triggering (whether by local government staff or by contracting local NGOs), mason training, using communications to promote sanitation and hygiene and create demand, creating an enabling environment for the local private sector, regulating and monitoring the local private sector to protect the consumer and to insure enforcement of compliance with sanitation facility and environmental standards. In addition, the local government plays a central role in monitoring the performance of the sanitation program and making adjustments and improvements as needed.

The local private sector - especially hardware storeowners and independent masons serve to introduce interested households to sanitation products that are affordable and responsive to expressed household needs. Based on the formative market research carried out by WSP, they learn how to discern the needs and benefits sought by households, to match these to appropriate products and services, to build safe sanitation facilities, and develop basic business skills (Devine, in press). Reputable and qualified service providers must also be easily accessible to customers. To strengthen the supply of quality goods and services, WSP introduced the idea of accrediting suppliers and service providers in rural areas. This strategy has increased the availability of trustworthy, competent latrine businesses. In addition to ensuring that appropriate standards are used, accreditation has opened up marketing and branding opportunities.

Financing strategy

Financing for project implementation leverages funds from three sources: government (national and local), households, and WSP (through a grant from the Bill & Melinda Gates Foundation). There are three types of project costs: *one-time upfront investment* costs such as those for formative market research or working with ad agencies to develop behavior change and marketing campaign concepts are currently paid for by WSP or the national government; costs for *sanitation facilities* are paid for by households; *sanitation promotion and monitoring and evaluation* costs are covered by local governments.

In general, households pay for all or most of the capital costs for on-site sanitation facilities. Actual costs for improved sanitation facilities vary between countries and households depending on each facility's location on the sanitation ladder, whether or not facilities are shared, and whether there are government subsidies for household sanitation facilities. WSP funds activities such as consumer research, development of marketing messages, capacity building of local governments, production of resource materials, mass media campaigns, and collection of monitoring data. In addition, WSP provides direct technical assistance, supports policy reform and advocacy efforts, analyzes monitoring data and learning, and captures and disseminates knowledge. WSP does not provide any funding for sanitation facilities, government-related labor costs, or ongoing recurrent costs to sustain project implementation.

Impact evaluation

As part of this project, WSP is carrying out a rigorous impact evaluation (IE) study to generate robust evidence on a cross-country basis, understanding how effects vary according to each country's programmatic and geographic. This will provide decision makers with a body of rigorous evidence on the effects of the project in reference to a set of relevant outcomes. The IE uses randomized controlled designs to establish causal linkages between the intervention and key outcomes. Baseline, longitudinal, and endline surveys will document the characteristics of the population exposed to the intervention and track changes in key outcomes that can be causally attributed to the intervention. The study will evaluate how sanitation improvements have affected health, developmental, social, and economic welfare in each of the project

countries. Numerous health and non-health indicators will be measured and analyzed, including: diarrhea prevalence, child growth measures including prevalence of stunting and wasting, iron deficiency anemia, parasitic infections, child cognitive and motor development, school attendance, productivity of mothers' time for household, market, and social activities; and empowerment and security of women due to safer sanitation.

In addition, economic evaluations including cost-effectiveness and net benefit studies are planned. These will analyze the costs associated with design, implementation, and take-up of the interventions from a societal perspective, to include costs borne by the household, community, and implementing agency. The analysis will account for cost savings resulting from the intervention, such as reduced expenditure on treatment for illness, caretaker productivity gains, and the value of time-saving and other intangibles such as convenience, privacy, and security, and arrive at a net benefit to the communities and households included in the project.

Results-based performance monitoring

The project has developed a global results-based performance monitoring system to provide a common language and uniform set of performance indicators. The system enables country teams to enter project information during each reporting period. With support from WSP, national and local governments use the data to track progress against planned activities, measure the delivery of actions, track progress toward achievement of targets, and check progress on behavioral determinants such as motivation, opportunity and ability that either constrain or enable behavior change. Data is also used to generate monitoring reports, inform and educate partners and stakeholders, and develop improvement plans as needed to ensure projects are on track to deliver expected results and intended outcomes.

Results to date

Using these approaches, over 8 million people have acquired access to and use improved sanitation in less than four years and over 5,000 communities have become open defecation free (ODF).

National and local government funding for rural sanitation continues to increase and policy makers are adopting the programmatic approach and service delivery model. In Indonesia, local governments have budgeted US\$650,000 to trigger over 2,600 new communities in the 29 project districts in FY10. In Tanzania, US\$300,000 has been allocated to support hygiene and sanitation activities in the 10 districts currently participating in the project. In India, as a result of project advocacy, the national government's Total Sanitation Campaign (TSC) guidelines have been revised to offer states the option of disbursing post-construction incentives to poor families only after the entire community becomes ODF.

The national governments in all three project countries have reformed or improved their national sanitation policies to become demand-responsive. Local governments have strengthened their capacity to facilitate community-led efforts to stop open defecation, and to support the local private sector to build improved sanitation facilities.

Meanwhile, replication efforts are underway. The World Bank, African Development Bank, and Asian Development Bank are financing further scale-up of the programmatic and service delivery models in Indonesia and Tanzania. Governments and development partners in Ghana, Madagascar, Bangladesh, Cambodia, and the Philippines have begun to replicate and adapt the project approach.

Lessons

Learning and improving has been an ongoing process during project implementation, but there is more to learn as project still has another six months of implementation and one year for additional learning left, including completing the impact evaluation end-line data collection, analyzing the data, and documenting lessons.

Lessons to date are largely operational and performance lessons based on the results based performance management system that the global learning project is using along with qualitative and quantitative lessons based on research in Vietnam and Bangladesh on the sustainability of sanitation marketing and CLTS as well as other joint WSP-WB research on sanitation financing and the political economy of sanitation. More data rigorous evidence and lessons will not be available until the IE end-lines are completed, analyzed and written up towards the end of 2011.

While interventions in each country differ because the existing "eco-system" of the sector in each country is different, some key globally relevant lessons have emerged across the countries:

Well-targeted subsidies can be effective in reaching poor people

Public investments of varying forms including subsidies can and have helped trigger significant increases in access to household sanitation. WSP, in partnership with the World Bank, carried out a series of case studies to assess the use of subsidies to help the poor gain access to sanitation (Tremolet, et al 2009). The case studies, focused on projects in six countries including CLTS programs in India and Bangladesh, found that well-designed subsidy programs that are affordable and sustainable by the country government are effective at helping the poor gain access to improved sanitation. The most effective approach to using hardware-related subsidies was the use of output-based approaches in which financial subsidies for improved household sanitation facilities are provided to reward a community after it has become open defecation free. However, the use of scarce public funds must be optimized in order to achieve maximum results and financing approaches should be designed at program outset. When public dollars are scarce, the biggest ‘bang for the buck’ is to finance demand creation activities such as CLTS triggering and behavior change communications. Determining who should pay for what can impact the extent to which programs can be sustained. Households are also critical investors but may require specific financing mechanisms such as access to micro-credit.

Strengthening the enabling environment at the national level is essential but not sufficient to operationalize an effective and sustainable large scale national program

National level policies provide a platform, but this needs to be reflected in local policies, strategies, and funding priorities. The commitment of local government political decision-makers is required to adopt total sanitation and sanitation marketing as a district strategy to develop rural sanitation programs and allocate adequate funds for promotional activities. Local policy and regulatory support is needed to scale up district-wide total sanitation programs and local government capacity building efforts need to be designed and implemented more systematically. Local governments also have an essential role in ensuring supervision of CLTS facilitators and private sector suppliers of sanitation products and services.

WSP has found that the management model of working through local governments (with the support of resource agencies such as local NGOs as needed) is a fundamentally sound model for reaching scale (Rosensweig and Kopitopoulos, 2010). Even though local governments lack capacity in some areas, nevertheless, they remain the only country structure in the country that has the legal mandate, the staff, and the physical infrastructure required to implement large scale rural sanitation programs. This is in stark contrast to the current rural sanitation service delivery models that rely on NGOs. But an assessment by WSP also found that local governments are not yet carrying out the full range of functions and roles needed to implement and sustain large scale rural sanitation programs. These roles include Strategy and Planning; Advocacy and Promotion; Capacity Building; Supervision; Monitoring and Evaluation; Regulation and Coordination. In WSP’s experience, local governments tend to focus on the more urgent roles related to implementation and may need support to develop strategic plans or strategies to scale up rural sanitation programs. In addition, local governments tend to make more progress in roles related to CLTS than sanitation marketing.

With respect to training and capacity building, WSP has found that a cascading, trainer-of-trainers approach is appropriate but that it needs more rigor in its application to assure quality.

Performance benchmarking and monitoring can improve performance of local governments.

In order to improve the quality of the results of efforts to scale up rural sanitation, the WSP has worked with government partners to develop a performance monitoring based benchmarking systems to strengthen outcome-based management of the rural sanitation sector (Kumar and Singh, 2009; Murkherjee, 2010). Benchmarking puts a spotlight on the efficacy of resources being invested and the corresponding results on the ground. In India and Indonesia, the system enables comparison, acting as encouragement for good performers to sustain their high rankings and as motivation to poor performers to improve. Performance indicators include a combination of input, output, process, and outcome indicators with different ranking weights. Following six months of implementation in Himachal Pradesh, India, WSP found that:

- Benchmarking improved performance, enabled districts to understand their performance and motivated them to improve. It helped flag areas of strength, areas for improvement, and linkages between them;
- The use of performance benchmarking weighted scoring enabled the state government to put heavier emphasis on achievement of outcomes (stopping open defecation);

- Benchmarking enabled policy makers to monitor performance on a rational basis and thereby channel resources and efforts on the basis of identified strengths and weaknesses;
- The comparison of performance provided an incentive to the local governments to be in the top rankings compared to peers; and
- Benchmarking linked to incentives was most effective in driving performance improvement.

Output-based rewards can be effective in creating incentives for good performance at both community and local government levels but require effective and credible verification systems

Competition schemes, incentive systems and post-ODF achievement rewards are proving to be compelling drivers for government support and community action to accelerate progress towards ODF but effective monitoring is the backbone of a successful incentive program for achievement of ODF status. This ensures that only those local governments that actually deserve an award are recognized, maintaining the integrity and prestige of an awards program. In India, WSP assessed monitoring systems used by local governments to verify ODF status and found that there has been an exponential increase in the number of applicants for a national award with each successive year (Kumar and Singh, 2010). This is a positive sign but it poses a challenge for the verification process, leading to a backlog of requests for verification. WSP found that a robust verification system is a prerequisite for an effective incentive program to motivate achievement of open defecation free status by local governments.

When effective demand for rural sanitation products and services is created at large scale, the capacity of the local private sector to scale up supply is limited

Current capacity-building efforts to strengthen the private sector's ability to meet the demand created through the global project are beginning to show their limitations, particularly in Indonesia and Tanzania. A recent external study in East Java, funded by IFC after discussions with WSP, found that all of the local entrepreneurs interviewed had backlogs of orders, the highest being about 150 latrines; one had even stopped taking orders for fear of not being able to fulfill them in a timely manner (Sijbesma, et. al, 2010). Information collected through field supervision visits in Tanzania also suggests that masons are facing a similar challenge. The concern and risk is that demand may erode if the supply continues to lag. While the IFC study identified three possible business models to scale up supply, the recommended model is to encourage district-level small and medium entrepreneurs to enter the market by offering incentives including exclusivity in operations for a period (e.g., through a concession type of arrangement). These suppliers would receive technical assistance and access to finance for working capital which has been a major constraint for entrepreneurs to grow their business.

The emergent learning from the global project is that sanitation marketing programs need to go beyond the traditional "mason model" used to date and explore "market transformation" approaches that have been used in other sectors such as energy. This will mean exploring partnerships with other organizations that can provide the necessary technical assistance. The revised strategy also recognizes that not every mason can be an entrepreneur. Capacity-building to improve the supply of sanitation products and services needs to be sustained by creating centers of excellence/training institutions, enlisting members of the public sector as custodians of quality assurance, identifying private sector champions who can lead business-to-business networking, etc. (Moise, 2009). Access to financing mechanisms is another significant obstacle small-scale private suppliers face. A more holistic approach is required to foster the development of an enabling environment in which new products and services can be developed, brought to market, financed and maintained. This encompasses much more than just the training of masons.

Community-based monitoring and self-reporting is achievable and the data generated is used by communities. However, training may be necessary to accurately record data and the manual data transfer from community maps to local government databases becomes burdensome when programs scale up.

The experience with CLTS and participatory monitoring has shown that communities are fully able and highly motivated to monitor progress towards ODF status and that they can regularly track changes in community access to improved sanitation. The data generated by the initial social mapping activity and ongoing map updates also fulfils WHO & UNICEF Joint Monitoring Program (JMP) requirements to track progress toward achieving the MDG for sanitation.

However, WSP has also found that in order to maximize the accuracy of performance monitoring, data collectors may require training on the value of performance data for decision-making and data collection

techniques (Coombes, 2010). In addition, while monitoring data is being generated regularly in the communities, much of this data has not reached sub-district, district, or higher levels for regular consolidation (WSP, 2009; Mukerjee, et al, 2010). This problem intensifies as the number of triggered communities increases. Similar experiences have been reported in Tanzania. In order to address this challenge, WSP has worked with local governments to pilot a system in which monitoring data is transmitted via SMS messaging and mobile phones into a computerized database. Early results are promising as improved data flow from the community to sub-district and higher levels.

Different countries have differences in their “readiness” to replicate/adapt the model to scale up rural sanitation

Project preparation in terms of advocacy, buy-in, capacity building and research takes time and preparation. World Bank investments, for example, often schedule a two-year preparation period. Across the three countries where the project has been implemented to date, conditions in India and Indonesia were more fully developed and more receptive to scaling up rural sanitation. Replicating this approach in another country with similar readiness levels as Tanzania would be easier and more efficient because learnings could be applied, but probably not much faster. Tanzania had to develop these conditions through advocacy, education, research, and partnership-building.

Conclusion

The Global Scaling Up Rural Sanitation project has been successful in learning about a programmatic approach, service delivery model and financing strategy that the evidence shows results in large scale sustainable rural sanitation programs that are effective in reaching the poor. These learnings are now being developed by WSP into knowledge products and tools to facilitate replication. With the existing and growing political will to improve rural sanitation and meet the MDG targets, this knowledge of how to successfully design and implement large scale programs will enable governments to increase investments and put their political will to practice. The overall model is now being adapted and replicated by various other governments such as Ethiopia, East Timor, Laos and Bangladesh and development partners such as the World Bank, African Development Bank, USAID, UNICEF, etc.

Acknowledgements

Global Scaling Up Rural Sanitation can credit its accomplishments to dedicated individuals from both the public and private sectors. This report reflects upon a successful four-year project that would not have been possible without a global team that includes WSP staff and consultants, government officials, development organizations, and resource agencies. I would like to extend thanks to the Global WSP team including Catherine Amelink, Bertha Briceno, Jason Cardosi, Claire Chase, Yolande Coombes, Jacqueline Devine, Christiane Frischmuth, Amy Grossman, Ajith Kumar, Craig Kullmann, Ian Moise, Nilanjana Mukherjee, Nat Paynter, Upneet Singh, Alex Orsola Vidal, Djoko Wartono.

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