

Scaling Up Rural Sanitation

Factors Associated with Achieving and Sustaining Open Defecation Free Communities: Learning from East Java

September 2011

INTRODUCTION

What does it take to bring about sustainable sanitation behavior change, cost-effectively, and at scale? The search for answers has intensified in the rural sanitation sector in Indonesia, where access to improved sanitation has grown much too slowly from 22 percent in 1990 to just 36 percent in 2008,¹ and the Millennium Development Goal target for rural sanitation seems well beyond reach. Meanwhile economic losses from poor sanitation and hygiene are costing Indonesia US\$6.3 billion or 2.3 percent of its GDP per year.²

The Water and Sanitation Program's (WSP) Global Scaling Up Rural Sanitation Project, a learning-by-doing initiative implemented in partnership with local and national governments in Indonesia, India, and Tanzania,³ sought answers by working at scale from the beginning and by testing a combination of two relatively new and promising approaches: Community-Led Total Sanitation (CLTS) and sanitation marketing.

The subsidy-free CLTS⁴ approach is one that Indonesia field-trialed in 2005 with such positive results that by mid-2006, the Ministry of Health had changed ongoing national water and sanitation project strategies mid-stream, making CLTS the principal vehicle for scaling up rural sanitation in Indonesia. Simultaneously, in Bangladesh, Vietnam and some African countries, subsidy-free, market-based sanitation programs were showing encouraging results in scaling up access to sanitation in poor rural populations. In Indonesia, sanitation marketing was seen as complementary to CLTS, and two projects combining CLTS with sanitation marketing emerged: the World Bank-supported Third Water and Sanitation for Low-Income Communities Project (PAMSIMAS) in 2006 and WSP's Global Scaling Up

KEY FINDINGS

- QUICKLY Open Defecation Free (ODF) communities represent the most efficient model for scaling up sustainably.
- ODF outcomes that materialize late, after many months of triggering, should be subject to intensive verification and periodic rechecks.
- Sanitation behavior change is difficult to ignite in river-bank and waterfront communities and special strategies are needed.
- Poor quality Community-Led Total Sanitation (CLTS) triggering is invariably associated with lack of ODF achievement, but good quality CLTS triggering alone does not guarantee ODF outcomes.
- Provided CLTS triggering is of sufficient quality, ODF achievement and sustainability are hastened by:
 - a) community's social capital and the involvement of leadership in the change process,
 - b) local availability and affordability of latrine attributes desired by poor and non-poor consumers,
 - c) absence of externally provided subsidies to a few households, and
 - d) post-triggering monitoring and follow-up by external agencies together with communities.

¹ WHO-UNICEF. 2010. *Progress on Sanitation and Drinking Water: 2010 Update*, and www.wssinfo.org

² Water and Sanitation Program—East Asia and Pacific. 2008. *Economic Impacts of Sanitation in Indonesia: A Five country study under the Economics of Sanitation Initiative (ESI)*, Research Report.

³ With fund support from the Bill and Melinda Gates Foundation. For more information see www.wsp.org/scalingupsanitation.

⁴ "CLTS is an integrated approach to achieving and sustaining open defecation free status. It entails facilitation of the community's analysis of their sanitation practices and their consequences, leading to collective action to become ODF"—*Handbook on CLTS*, IDS-PLAN, 2008.

Rural Sanitation Project, which was launched in the East Java province of Indonesia in January 2007.

PROBLEM STATEMENT

At project inception, East Java was home to 20 percent of the country's poor and had a total population of 37.4 million (exceeding the population of a of mid-size country such as Poland or Algeria), of whom 32.35 million lived in rural areas.⁵

By early 2010, the fourth and final year of project implementation in East Java, with nearly 2,000 communities triggered using the CLTS approach, over 700,000 people had gained access to improved sanitation and 35 percent of all triggered communities had become ODF. But the percentage becoming ODF in different districts varied widely between 10–95 percent, raising policymakers' concerns about scaling up, and the urgency to better understand what influenced triggered-to-ODF conversion rates, as well as what sustained ODF outcomes, once achieved.

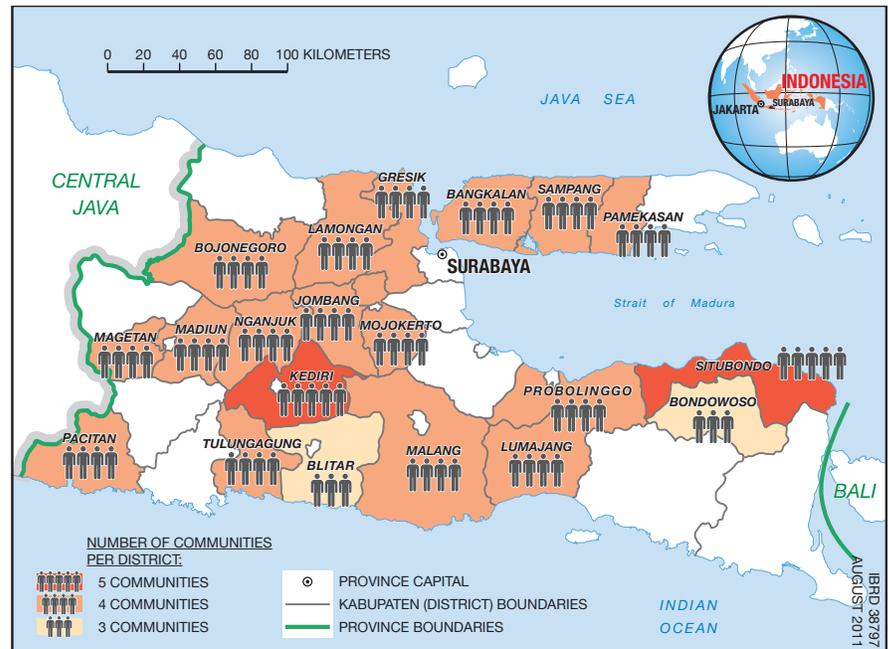
WSP and all stakeholders agreed to study this issue through action research to bring the voices and perspectives of project communities into the search for answers. In 2010, WSP conducted action research in East Java communities that had received CLTS triggering through the project, to better understand the triggering processes and their consequences from the perspective of the people who had experienced them. Exploration included community perceptions of the triggering process; results of post-triggering monitoring and follow up; community views on what helped or hindered collective behavior change; what sanitation improvements the poor and non-poor have invested in since triggering and why; motivations underlying current open defecation and sharing practices; abilities, opportunities and motivations of open defecators and sharers to change sanitation behavior; school sanitation and hygiene facilities in the communities; current institutional roles and capacity to support rural sanitation development; and implications regarding institutional capacity and incentives needed to support scaling up in light of the study results. This Research Brief is based on a full report (in press).

RESEARCH GOALS AND METHODOLOGY

The study goals were, first, to identify the factors that influence the achievement and sustainability of collective behavior change by communities to become ODF; and second, to understand what these findings might imply for improving program implementation effectiveness at scale. All of the project districts were approached with the opportunity to participate, with 20 out of the 29 districts electing to participate (see Illustration 1).

Eighty communities were selected from twenty districts using randomization from the universe of all triggered communities grouped in four categories. WSP's field team used qualitative and participatory research methods⁶ to consult community members. Research methods and tools included:

Illustration 1: Action Research Sites in Twenty Districts in East Java



- Eighty focus group discussions (FGDs) with community-based men and women's groups, including community sanitation committee members.
- Forty FGDs with open defecator and sharer household members.
- Participatory analysis tools including timelines, welfare classification, transect walk, and diagramming for fecal contamination routes.
- Observation of 574 latrines in poor, rich and in-between households in 80 communities and interviews with latrine owners.
- Demonstration of the *Informed Choice Catalogue* of improved sanitation facilities with open defecators and sharers in 40 NOT ODF communities.
- Environmental observation with checklists.
- Checking of community maps/records of monitoring sanitation access and ownership of improved/unimproved sanitation in 80 communities.

KEY FINDINGS

1. QUICKLY ODF communities represent the most efficient model for scaling up sustainably.

Communities that achieved ODF status within two months of triggering achieved markedly faster and higher access gains and remained ODF more often than communities that took many months to achieve ODF status (see Tables 1 and 2). The pace of change may indicate the extent of 'community ignition' achieved.

⁵ National Socioeconomic Survey (SUSENAS) 2005, conducted by the Statistical Center (Badan Pusat Statistik) of the Government of Indonesia.

⁶ For additional details please see the full report available at www.wsp.org/scalingupsanitation.

Table 1: Category Definitions and Sampling Rationale*

	Definition	Sampling rationale
QUICKLY ODF	Self-declared ODF within two months of CLTS triggering, even if verified at a later date.	Communities would represent the best-case scenario, whereby factors influencing collective behavior change positively could best be studied.
LATE ODF	Self-declared ODF during 7–12 months of triggering, even if verified at a later date.	Communities would show factors that tend to inhibit collective change and delay ODF outcomes.
NOT ODF (High coverage)	Failed to become ODF even one year after triggering, but have high sanitation coverage, i.e., over 80 percent of households.	Communities would illustrate situations where change starts but fails to proceed to full ODF achievement.
NOT ODF (Low coverage)	Failed to become ODF even one year after triggering, and have low sanitation coverage, i.e., less than 50 percent of households.	Communities would show situations where the collective change process fails to take off.

Table 2: Rate and Change in Access to Improved Sanitation by Category*

	Average time to become ODF	Average time since triggering	Increase in % households gaining access	Additional households gaining access	Additional persons gaining access
QUICKLY ODF	57 days	N/A	52 → 97	1,916	7,016
LATE ODF	230 days	N/A	63 → 100	1,160	3,878
NOT ODF (High coverage)	N/A	555 days	67 → 88	1,341	5,034
NOT ODF (Low coverage)	N/A	534 days	28 → 36	313	1,112
Total				4,727	17,040

*Community social maps and registers verified by local governments; N = 20 communities per category

Progress monitoring systems and records in 80 communities showed that QUICKLY ODF communities also bested all other categories at behavior monitoring, detecting and sanctioning violators of community commitment to stop open defecation. The sanitation facilities built for becoming QUICKLY ODF satisfied the requirements of “improved sanitation” by JMP definitions, but were of lower cost and quality than in LATE ODF and NOT ODF communities (as observed in 574 homes in 80 communities).

95 percent of the QUICKLY ODF communities had sustained their behavior change 4–28 months after ODF declaration, as evidenced from environmental observation, latrine ownership records, reported usage and observation of maintenance of facilities.

2. ODF outcomes that materialize after many months should be subject to periodic rechecks.

Only 80 percent LATE ODF communities reported remaining ODF. Because sanctions against open defecation (particularly defecation into rivers) were rarely enforced, the actual percentage that remains ODF could be even lower. Possibly, 20 percent of the LATE ODF communities had never really achieved ODF status, although 100 percent households had gained access to improved sanitation. LATE ODF communities had focused on monitoring la-

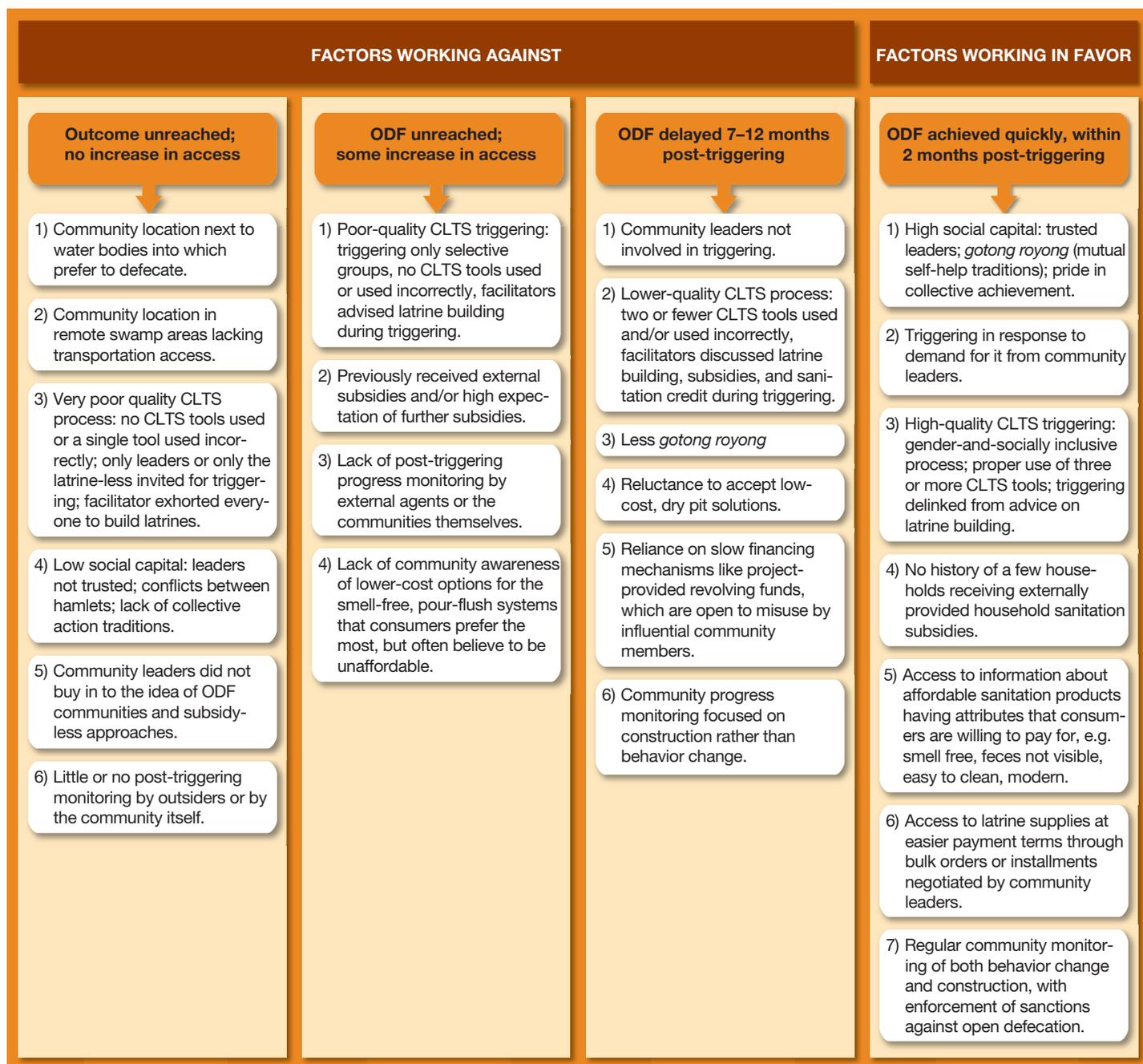
trine ownership rather than on behavior change to eliminate open defecation.

3. Implementing agencies can effectively influence most factors associated with achievement and sustainability of ODF outcomes for scaling up rural sanitation.

Factors associated with lower or higher ODF achievement rates and sustainability of ODF outcomes were grouped. While the research identified a number of factors that can be associated with ODF outcome achievement and sustainability, no single factor of those listed guaranteed ODF achievement and it is not possible to rank factors in terms of importance—although some factors are associated and reinforce each other (see Tables 3 and 4).

While local governments have no control over a few of these factors (such as high social capital in a village), they can directly influence most of other factors—from triggering in response to community demand and quality of triggering to improving consumers’ access to information about affordable latrines—and they can support factors such as access to easier payment terms and regular community monitoring, in order to cumulatively enhance the rate of ODF outcomes.

Table 3: Factors Associated with Achievement of ODF Outcomes



4. ODF and NOT ODF communities were significantly different in terms of proximity to water bodies.

They were not significantly different in terms of topography (hills, plains, coastal regions), soil types (sandy, rocky, swampy), or proximity to forests and access to markets for sanitation supplies. Nor were notable differences found in terms of exposure to behavior change communication messages, which were reportedly seen or heard in less than 10 percent of all communities. ODF and NOT ODF communities were however significantly different in terms of

proximity to water bodies (see Figure 1). In all 20 districts, riverbank, beach, or lakeshore communities had the lowest sanitation access rates and were significantly less likely to achieve ODF status. This could be due to a strong preference for defecation into water bodies, a practice recalled in focus group sessions as “clean, hygienic, pleasant, convenient, free of cost” and one that has been a socially accepted tradition for many generations “without problems.” Even latrine owners defecate into water bodies from time to time (see Figure 2).

Table 4: Factors Associated with Sustainability of ODF Outcomes

FACTORS WORKING AGAINST	FACTORS WORKING IN FAVOR
1) Absence of behavior and access monitoring after ODF declaration, by both community and external agencies.	1) Continued behavior monitoring by both community and external agency after ODF declaration.
2) Very low-cost and no-cost solutions chosen by households or community leaders to become ODF, some of which did not endure and were not repaired or replaced.	2) Functioning community-devised systems for detection and sanctioning of open defecators.
3) Lack of information available in communities about low-cost and progressively upgradable improved sanitation options.	3) Households enabled (by communities themselves) to acquire low-cost, but some-what durable sanitation solutions in the drive to become ODF.
4) Sharing arrangements breaking down, or sharers continuing with open defecation along with sharing others' latrines.	

5. Open defecator households in rural East Java have the ability and opportunities, but often lack the motivation to acquire and use latrines.

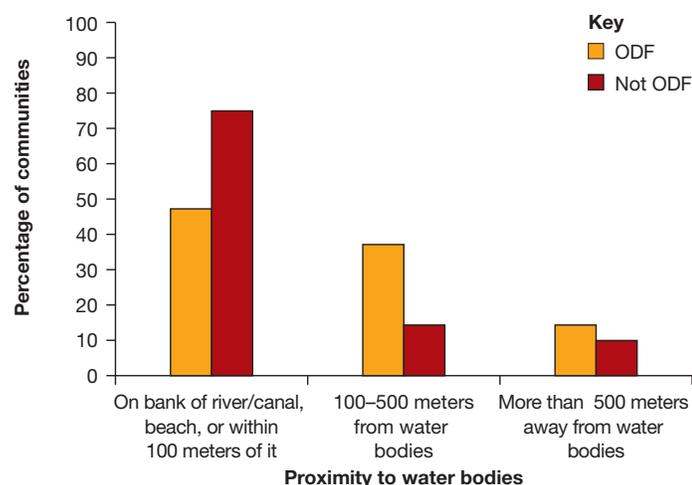
Open defecator and sharer households in all 40 NOT ODF communities reported that they had easy access to markets for sanitation products and services, and that they commonly owned permanent or semi-permanent homes, color television sets, either bicycles or motorbikes, and more recently cell phones. Some of these assets, costing much more than basic models of improved latrines, were acquired through installment credit or deferred payment arrangements matched with seasonal surpluses in income. In ODF communities the poorest had invested up to Rp. 300,000 (US\$33) in building their starter level permanent latrine, and Rp. 750,000 (US\$82) for pour-flush systems offered on installment credit. Thus, improved sanitation facilities do not appear to be beyond the means of the rural poor in East Java. If

sanitation improvement can be made into a higher household priority and offered on easier payment terms, open defecator and sharer households have the economic ability to acquire it in the same way.

6. Externally provided subsidies were associated with lack of ODF outcomes but community-provided subsidies were instrumental in ODF achievement.

Subsidies for household sanitation are still being provided in almost all districts despite the Health Ministry's 2008 STBM⁸ strategy banning them. Although the Ministry of Health no longer provides them, subsidies are still available from local government programs and national projects for community development and poverty alleviation, as well as from the private sector's corporate social responsibility funds. In communities where a few households had received subsidy packages, collective action to become ODF was reportedly

Figure 1: Sample Distribution by Community Category and Proximity to Water Bodies⁷



“Shit is not something to be kept in or near home. The river takes it away.”

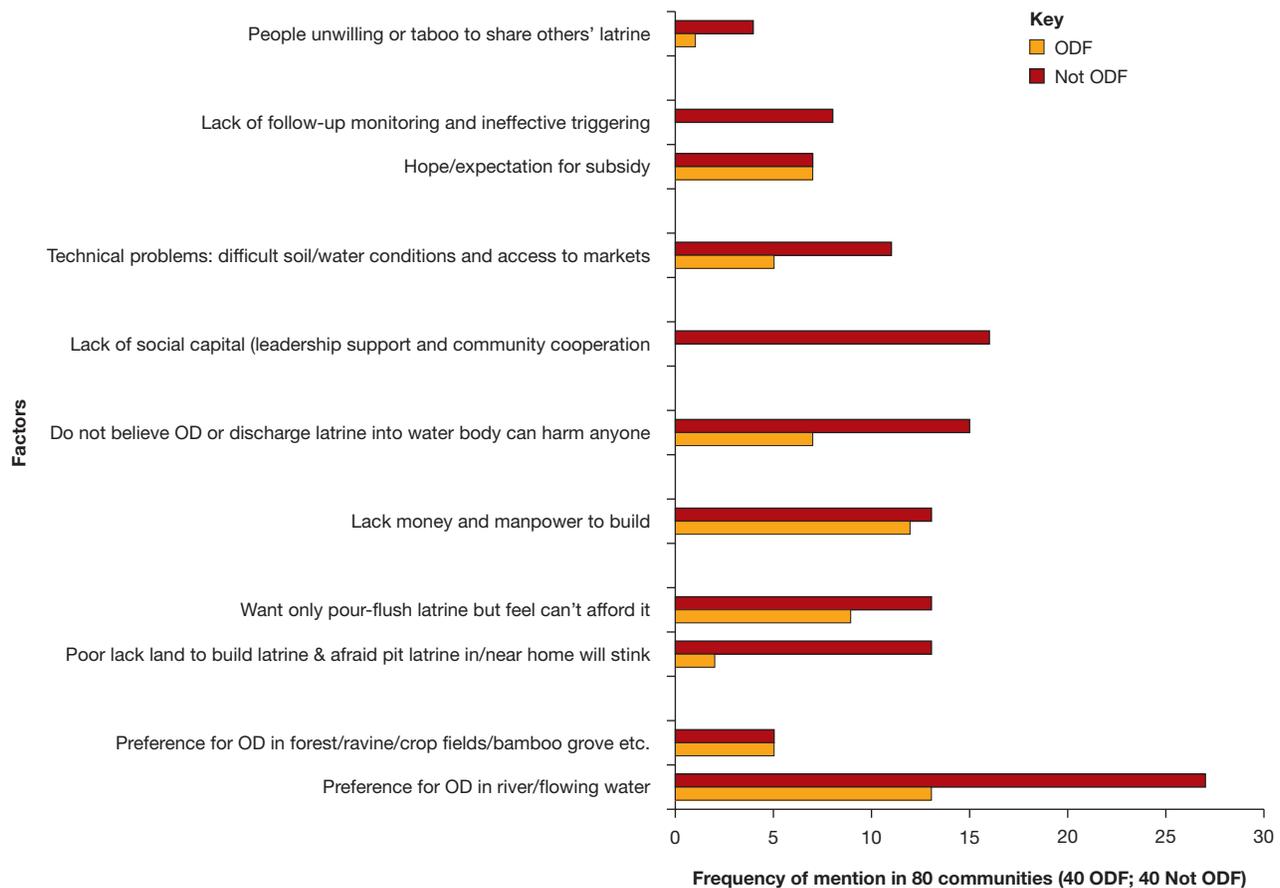
“We enjoy defecating in running water. It is also convenient, and free of cost.”

“As long as rivers flow, why spend money and time to build latrines?”

—Focus Group Discussions

⁷ Chi-square = 6.797, df = 2, Significant at .05 level. Communities close to water bodies significantly less likely to become ODF.

⁸ Sanitasi Total Berbasis Masyarakat or the Community-based Total Sanitation Strategy, launched as a ministerial decree in August 2008.

Figure 2: What Hindered Collective Behavior Change (Villagers' Opinions)

hampered by the expectations raised among the rest of more such packages becoming available, resulting in their inaction. External subsidies were never available for all households that might have warranted them, and thus had a socially divisive effect. All communities in the sample that had received external subsidy packages in any form, during or before the project period, did not become ODF, and were, in fact, still not ODF at the time of observation.

In contrast, community leaders' initiatives to enable all households to acquire the means to stop open defecation directly contributed to ODF outcomes. Examples include providing durable pit covers or low-cost latrine pans or cement from village development funds to those lacking latrines, or mutual self-help (*gotong royong*) drives to build latrines for all. The internally provided subsidies were precisely targeted, covered *all* whose behaviors needed to change, and were provided as a social solidarity measure to achieve a collective goal. The receivers reported that they felt accountable to their larger community for making the behavior change desired of them.

7. When CLTS ignited demand for improved sanitation in study communities, local markets failed to meet expectations of poor consumers.

A smell-free and easy to clean pour-flush water-seal latrine with ceramic pan is what the poor consumers said they really want, but found unaffordable as it costs upwards of Rp.1 million (US\$108). They were able to invest up to Rp. 300,000 (US\$38) on a starter level improved

latrine, the dry pit *cemplung*, which was highly affordable but smelly and not desirable. Dry pit owners saw them as temporary measures not worth sustaining over long-term. Many non-owners of latrines reported putting off constructing a latrine (and continuing with open defecation presumably) until they can afford the desired type.

In only nine percent of the sample communities the desired model was found to cost much less, around Rp. 750,000 (US\$82), where project-trained masons had offered several reduced-cost options of the facility, and installment payment options. All poor customers in those communities had gone directly for pour-flush systems as their starter models and entrepreneurs offering such options were overwhelmed with orders. In the remaining 91 percent communities no one had seen the *Informed Choice Catalogue* of low-cost options developed by the project. Locally resident masons in the communities, who were the principal source of information to consumers, had generally missed out on project-provided training on lower-cost sanitation options and were not promoting them.

These anomalies arose out of the long delay in delivering the sanitation marketing component of the project implementation. Sanitation market research results were unavailable until two years into project implementation. The marketing strategy was developed by early 2009 and local supply capacity improvement interventions began only by mid-2009, whereas demand creation through CLTS had been ongoing since November 2007. Findings from this study suggest that reversing the sequence, (that is, first understanding consumer preferences

and supply capacity of local markets using market research, secondly developing pro-poor marketing strategies in response, and then using CLTS and behavior change communication (BCC) interventions to generate demand while simultaneously helping local supply capacity to grow), might better accelerate sustainable behavior change. Doing this would enable both poor and non-poor consumers to invest in what they really desire, at prices they can afford, and make better informed choices for sanitation improvement. All three factors are likely to produce more sustainable outcomes.

INSIGHTS FOR PROGRAMMING TO SCALE UP ACHIEVEMENT OF “SUSTAINABLY ODF” COMMUNITIES

Indonesia’s continuing challenge is a persistently large rural sanitation access gap. The WHO-UNICEF Joint Monitoring Program’s 2010 Update states that over 58 million people currently practice open defecation,⁹ of which nearly 40 million are in rural areas. Another 51 million people share others’ latrines or use unimproved facilities, of which 31 million live in rural areas. There is as yet no national rural sanitation program as seen in some South Asian countries.¹⁰ Among all stakeholders there is both concern about progress not being on track to achieve the MDG target, and keen interest in learning about what will accelerate progress towards ODF communities *at scale*—which translates into rapid gains in access to sanitation.

Based on the action research findings, the following insights are offered for consideration by policymakers, implementation agencies, and rural sanitation program financiers.

To provide the basis for planning effective behavior change interventions at scale, it is worth investing into market research before starting demand generation. In future initiatives, it could be more productive to schedule CLTS triggering after provincial¹¹ market research results are used to:

- Identify a *pro-poor marketing strategy* for the province, namely: a) sanitation improvement options that best match consumer preferences, b) prices and payment terms that will be affordable by all consumer classes c) the principal provider/s of sanitation advice and services to poor consumers, who need to be equipped to promote and deliver the chosen product options to them.
- Identify gaps between what poor consumers want and what local markets are providing. Specific program interventions can then start to improve local supply capacity *before* demand creation begins, for optimal conversion of the generated demand into sustainable sanitation improvement.
- Sharpen the focus of demand generation strategies (CLTS and BCC) with reliable information about the target population’s motivations underlying existing sanitation and hygiene behaviors, and their abilities and opportunities to improve those behaviors.

Districts hoping to scale up sanitation access sustainably need a ‘subsidy funds management strategy’ that prevents subsidies from hampering the growth of both consumer demand and local supply capacity. The unregulated and practically

untargeted inflows of funds for sanitation subsidies to households from several public and private sector sources, as observed in many study communities, are a serious threat to the effectiveness of the new rural sanitation approaches. Political leaders such as *Bupatis* (Head of district) and district legislators are of key importance for resolving this problem as they have the power to regulate the use of all local funds. Strategic, evidence-based advocacy with them before starting with initiatives based on project interventions in a district can lead to a *district subsidy funds management strategy* supportive of, or at least not detrimental to, approaches to achieve collective community outcomes.

For cost-efficient scaling up, districts need to plan rural sanitation interventions by zoning, clustering and phasing communities in response to specific conditions The study found evidence that CLTS triggering, follow up support, and monitoring strategies need to be adjusted to both specific locations and conditions that affect open defecation practices and to the factors that motivate people to continue such practices, such as: riverbank and beach communities; swamp regions with high water tables, little dry land and transportation problems; or water scarce regions. Using these criteria to plan interventions by segmenting, zoning, and phasing sub-districts or clusters of villages, would make for more cost-efficient logistics for demand creation, follow up, monitoring, and supply improvement facilitation.

CLTS interventions can be provided in response to expressed demand from village leadership, to improve community response to triggering. The study identified demand-responsive CLTS triggering as a key to success. Focus groups in ODF villages emphasized that community leaders who want their villages to become ODF tend to mobilize all community sub-groups to participate in triggering, reinforce the triggering effects through community institutions and events thereafter, and monitor progress effectively. In the post-triggering period, they also ensured that all households changed their OD practices and did not slip back into them. On the other hand, uninterested and uninvolved village leaders were found mostly in the NOT ODF communities. It is therefore recommended that:

- Sub-district government functionaries utilize available institutional mechanisms for generating a competitive spirit among village leaders and raise demand from them for interventions to help make their villages sustainably ODF.
- Triggering interventions be made conditional to formally expressed demand from village leaders.
- Sub-district offices or *Puskemas* (community health centers) draw up annual plans and budgets for triggering and follow-up by aggregating the expressed demand.

Improve triggering outcomes at scale based on study findings about what helped and what hindered collective behavior change. This is a task for a national sanitation strategy guidance authority, e.g., the Health Ministry’s STBM Secretariat in Indonesia.

CLTS facilitators’ training currently being provided can be improved in the following ways:

- Review training being provided by various government agencies and NGOs and establish quality standards for training delivery.

⁹ Open Defecation (OD) means defecating in the open and leaving the feces exposed so as to spread environmental contamination further. The feces may be left exposed to the air or into water bodies.

¹⁰ For example, Government of Bangladesh’s National Sanitation Campaign (2003–06) or India’s ongoing Total Sanitation Campaign.

¹¹ Province level market research and strategy in Indonesia; may be applicable for country level in smaller countries.

- In operation manuals and training guidelines emphasize the need to de-link CLTS triggering from advice/information about latrine construction, and make triggering fully gender- and socially inclusive.
- Sensitize facilitators to the need to adjust triggering and follow-up strategies to community characteristics that determine people's ability and motivations to change behavior. Market research findings on open defecators' and sharers' motivations, abilities, and opportunities to change behavior should be discussed in CLTS facilitators' training.
- Training needs to include how to encourage reliable progress monitoring by communities.
- Training should include clarification of an adequately structured post-triggering follow-up process.
- Local governments should allocate annual budgets for learning exchange events and refresher training of CLTS facilitators with the goal of continuing to improve triggering, follow-up, and monitoring processes.

Post-triggering follow-up can be improved in the following ways:

- To improve institutional accountability for and the quality of follow-up, post-triggering processes should be given a verifiable structure by establishing and periodically checking for desired process quality indicators/milestones¹² for success in triggered communities. Institutional adoption of a structured

follow-up process also makes it more likely to be adequately funded.

- To incentivize the quality of triggering and follow-up, district governments should reward facilitators for ODF outcomes. This reward could be linked with independent ODF verification systems.
- Set up institutional monitoring systems to periodically check whether ODF status is sustained in already verified ODF communities. The results should lead to sanctions like withdrawal of ODF status when communities fail to keep up ODF conditions.

Open defecators and sharers can be targeted for behavior change more effectively by segmenting them. Open defecators and sharers in forty East Java villages in twenty districts reported no major constraints in terms of their ability and opportunities to change their defecation practices. However, motivations to change behavior were weak, and open defecators and sharers had different motivations for continuing their existing practice. Open defecators *into water bodies* were generally happy with their practice, whereas sharers were frequently embarrassed and unsatisfied about sharing,¹³ but continued sharing because they lack awareness of affordable options or land to build their own facilities. In the post-triggering phase, behavior change communications to open defecators and sharers could be more effective if messages targeted them differently by segmenting them according to their underlying motivations for continuing the current practice.

—By Nilanjana Mukherjee

¹² An example of a *Process Quality Indicators Checklist* is included in the full report, available at www.wsp.org/scalingupsanitation.

¹³ *Total Sanitation—Sanitation Marketing Research in East Java* (Nielsen, 2009) reported a similar conclusion among a section of sharers.

WSP is a multi-donor partnership created in 1978 and administered by the World Bank to support poor people in obtaining affordable, safe, and sustainable access to water and sanitation services. WSP's donors include Australia, Austria, Canada, Denmark, Finland, France, the Bill & Melinda Gates Foundation, Ireland, Luxembourg, Netherlands, Norway, Sweden, Switzerland, United Kingdom, United States, and the World Bank.

The findings, interpretations, and conclusions expressed herein are entirely those of the author and should not be attributed to the World Bank or its affiliated organizations, or to members of the Board of Executive Directors of the World Bank or the governments they represent.

Full Report

For the complete report please see *Achieving and Sustaining ODF Communities: Learning from Action Research in East Java, Indonesia* (in press).

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About the Program

Today, 2.6 billion people live without access to improved sanitation. Of these, 75 percent live in rural communities. To address this challenge, WSP is working with governments and local private sectors to build capacity and strengthen performance monitoring, policy, financing, and other components needed to develop and institutionalize large scale, sustainable rural sanitation programs. With a focus on building a rigorous evidence base to support replication, WSP combines Community-Led Total Sanitation, behavior change communication, and sanitation marketing to generate sanitation demand and strengthen the supply of sanitation products and services, leading to improved health for people in rural areas. For more information, please visit www.wsp.org/scalingupsanitation.

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