Testing CLTS Approaches for Scalability

Systematic Literature Review

(Grey Literature)

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About Plan International USA

Plan International USA is part of the Plan International Federation, a global organization that works side by side with communities in 50 developing countries to end the cycle of poverty for children and their families. Plan works at the community level to develop customized solutions and ensure long-term sustainability. Our solutions are designed up-front to be owned by communities for generations to come and range from clean water and healthcare programs to education projects and child protection initiatives. For more information, please visit www.PlanUSA.org.

About the Project

The project, *Testing CLTS Approaches for Scalability,* evaluates through a rigorous research program three distinctive strategies to enhance the roles of local actors in CLTS interventions in Kenya, Ghana and Ethiopia. The project aims to learn, capture and share reliable and unbiased information on CLTS approaches and scalability.

About the Authors

Vidya Venkataramanan is a graduate student at the University of North Carolina at Chapel Hill (UNC).

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Abbreviations and Acronyms

BMGF   Bill & Melinda Gates Foundation

CATS   Community Approaches to Total Sanitation

CLTS   Community-led Total Sanitation

IDS   Institute of Development Studies (University of Brighton, UK)

ODF   Open Defecation-free

PHAST   Participatory Hygiene and Sanitation Transformation

SSHE   School Sanitation and Hygiene Education

SLTS   School-led Total Sanitation

TCAS   Testing CLTS Approaches for Scalability

UNC   University of North Carolina

UNICEF   United Nations Children's Fund

WEDC   Water Engineering and Development Centre (University of Loughbrough, UK)

WHO   World Health Organization

WSP   Water and Sanitation Program (of the World Bank)

1.   Executive Summary

This report presents findings from a systematic literature review conducted by The Water Institute at UNC as part of the Plan International USA project: "Testing Community-led Total Sanitation (CLTS) Approaches for Scalability" (TCAS). The report is a result of a sub-agreement to UNC from Plan International USA, the recipient of a grant from the Bill & Melinda Gates Foundation (BMGF). The scope of the systematic literature review included both peer-reviewed literature and grey literature. However this document presents only the findings of the review of the grey literature. The findings of the review of peer-reviewed literature are being prepared for publication in due course.

Despite widespread implementation of CLTS and many claims of success, no systematic review has been carried out on the effectiveness and impact of CLTS programs. The objectives of the systematic review of the grey literature were to characterize the breadth of grey literature on CLTS and to describe the role of key internal actors—natural leaders, teachers, and local government—on sanitation and hygiene outcomes.

Peer-reviewed studies are generally published in scientific journals and reviewed by a group of experts in the field prior to publication. Grey literature is defined as documents not found in peer-reviewed publications, with less control over the quality of publication. In general, results from peer-reviewed studies tend to be interpreted as rigorous evidence, while it may be more difficult to ascertain the validity of findings from grey literature. However, grey literature tends to be more extensive and is accessed more frequently by practitioners, making it an important addition to a systematic review (Higgins et al. 2009).

One hundred and fifteen grey literature documents were selected from searches of websites of eleven organizations working on CLTS. The grey literature on CLTS focused more on processes, such as triggering, rather than outcomes, and occasionally on the role of key actors in implementation. Documents in the grey literature expressed the need for rigorous and systematic evaluation of CLTS, which was confirmed by the absence of such studies in the scientific literature. The grey literature reported conclusions about the outcomes of CLTS programs that were not always appropriate given the basic monitoring data used to draw these conclusions. Examples from the grey literature were more relevant for highlighting case studies of CLTS successes and, in a few cases, examples of CLTS failures, primarily measured by the number of communities triggered and declared ODF. Anecdotal qualitative findings featured community-reported improvements in their physical environment, household standing, and health outcomes.

CLTS practitioners may be more likely to refer to grey literature than to scientific literature for two reasons: a) grey literature focuses on processes and implementation, and b) grey literature is easy and free to access compared to paid scientific journals. In this manner, grey literature has the potential to be an important decision-making tool for CLTS practitioners—from local facilitators to policy makers to donors. In future work, it would therefore be important to develop a metric to progressively assess the quality of CLTS grey literature to better gauge the rigor and generalizability of this material.

The following conclusions were found consistently across grey literature that we reviewed:

- The absence of external peer review in the grey literature indicates the need for a quality assessment framework, which would allow the CLTS practitioner community to progress through a continuum of increasing rigor in the strength of findings found in grey literature.
- The importance of structured monitoring and evaluation mechanisms, especially to sustain behavior change and the scale-up of CLTS activities, was emphasized in most documents.
- Structured follow-up activities following triggering were reported to have helped communities eliminate open defecation. Follow-up visits by outsiders were considered to be effective motivators for community members to stop open defecation.
- A harmonized approach between international, national, and local organizations, framed by a national CLTS strategy, was reported as important to scale-up CLTS in any given country.
- The effect of behavioral techniques used during the triggering process on sustained behavior change was not explored by CLTS agencies.
- Key actors of interest in the TCAS study—natural leaders, teachers and schools, and local government actors—were all referenced as important players in CLTS implementation across the grey literature, but no evaluations were found of their role in achieving CLTS outcomes.

The findings presented in this report demonstrate the value of characterizing the breadth of the grey literature and its contribution to the CLTS evidence base. The review also consolidated the future research and evaluation needs expressed by the CLTS practitioner community, which is of importance to funding agencies, other practitioners, researchers, and governments.

2. Introduction

2.1   Community-Led Total Sanitation

Community-led total sanitation (CLTS), an approach that emerged in 2000 in Bangladesh, focuses on eradicating open defecation by generating change in sanitation behavior at a community-wide level and stimulating demand for latrines. CLTS has grown in popularity in the past decade and has been adopted by many countries across South Asia, Latin America, and the African continent. Governments are looking to scale-up CLTS activities to achieve improvements in their countries' sanitation situation.

2.2   Testing CLTS Approaches for Scalability

The "Testing CLTS Approaches for Scalability" (TCAS) study, funded by the Bill & Melinda Gates Foundation (BMGF), aims to improve the cost-effectiveness and scalability of certain CLTS innovations, focusing on three African countries where Plan International is implementing CLTS programs: Ghana, Kenya, and Ethiopia. The project will collect, evaluate, and disseminate practical lessons learned about overcoming common challenges to implementing CLTS at scale. The study aims to test identified strategies that can enhance the roles of internal actors, including facilitators, communities, and the government, in various aspects of CLTS implementation.

2.3   Systematic Review

This is the first systematic review on the effectiveness and impact of CLTS programs and aims to inform the TCAS study on existing best practices in CLTS and the role of internal actors in sanitation and hygiene interventions. Dissemination of findings from this review will also inform the broader evidence base on sanitation and hygiene interventions in order to scale-up appropriate and effective interventions.

3.   Objectives

The two primary objectives of this systematic literature review are to:

1.   Characterize the breadth of grey literature focusing on CLTS.
2.   Describe the role of key internal actors on sanitation and hygiene.

3.1   Definitions

The CLTS approach follows a process of pre-triggering, triggering, and post-triggering. Pre-triggering is the introduction and rapport building period prior to introducing CLTS in a community. Triggering consists of a variety of activities that stimulate a community-level sense of disgust about open defecation, inciting a community to change its sanitation situation. Post-triggering efforts relate to follow-up activities by CLTS facilitators to ensure that a community follows through on eradicating open defecation (Kar et al. 2008).

"Natural leaders" or spontaneous leaders are those who "emerge and take the lead during CLTS processes" (Kar et al. 2008). These people do not have to be elected leaders or village chiefs. They can include, for example, religious leaders and school-going children, or specifically focus on female members of the community. We define "district/local government actors" as those who are hired by the government, including district and local medical or health officers, administrative officials, and community health workers.

Peer-reviewed studies are generally published in scientific journals and reviewed by a group of experts in the field prior to publication. Grey literature is defined as documents not found in peer-reviewed publications, with less control over the quality of publication. Results from peer-reviewed studies are generally interpreted as rigorous evidence, while it is more difficult to ascertain the quality of findings from grey literature (Higgins et al. 2009).

For this systematic review of the grey literature, we focused only on CLTS and School-led Total Sanitation (SLTS) interventions. Documents on approaches such as UNICEF's Community Approaches to Total Sanitation (CATS) and India's Total Sanitation Campaign (TSC) were included only if they referred to CLTS. Sanitation marketing is an emerging approach which is starting to be added on to CLTS activities as a "post-trigger" or appears on its own in pilot studies. We only included documents on sanitation marketing that also mentioned CLTS.

While the systematic review of grey literature is not exhaustive, we believe it is illustrative of the larger body of CLTS grey literature and captures the key findings relevant to future CLTS work and the TCAS study. Section 4.1 discusses the methods used to search and select grey literature for this review.

4. Systematic Review of Grey Literature

4.1 Methods

Search Strategy

Table 1 lists the 11 international organizations and sanitation knowledge hubs that were searched based on their involvement in CLTS projects or their ability to document grey literature on CLTS. The IDS Knowledge Hub on CLTS contained literature from multiple organizations in addition to the ones selected in this search and was therefore a comprehensive resource on CLTS grey literature. Search terms were limited to "community led total sanitation" and "CLTS" in light of the large number of available grey literature documents on the topic. Additional relevant articles not found in these searches were also recommended by experts in the field.

Table 1. Databases and websites used for review of grey literature

Organization/Database	URL
Bill & Melinda Gates Foundation (BMGF)	http://www.gatesfoundation.org/Pages/home.aspx
Plan International	http://plan-international.org/
Institute of Development Studies (IDS) – Univ. of Brighton, UK	http://www.communityledtotalsanitation.org
IRC International Water and Sanitation Centre	http://www.irc.nl/
SNV World	http://www.snvworld.org/
United Nations Children's Fund (UNICEF)	http://www.unicef.org/
CARE	http://www.care.org/
WaterAid	http://www.wateraidamerica.org/
Water Engineering and Development Centre (WEDC) Knowledge Base – Univ. of Loughbrough, UK	https://wedc-knowledge.lboro.ac.uk/
Water and Sanitation Program of the World Bank (WSP)	http://www.wsp.org/
World Health Organization (WHO)	http://www.who.int/

Inclusion/Exclusion Criteria

We restricted our search to documents posted on these online databases or provided to us by experts prior to November 9, 2012. The primary inclusion criteria for this review were reports, field notes, and case studies on CLTS in English. Although manuals and guidebooks often represent an accumulation of experiences and evidence on a topic, they were excluded from this review as the focus here was on experiences from specific projects. PowerPoint presentations, conference proceedings, blogs, news articles, and press releases on websites were also excluded from this review to limit duplication of information from reports, field notes, and case studies. Documents not written in English were also excluded.

Documents pertaining to other community-based approaches similar to CLTS, including TSC and CATS were included if they also referred to CLTS. Multiple documents that referred to the same data sources (e.g., technical reports, learning notes, and research briefs from the same study or project) were included as separate sources, but results were only used once during analysis.

Screening Process

Two researchers reviewed titles of all records identified through the 11 databases. Records relevant to CLTS based on the inclusion and exclusion criteria were selected. Abstracts or full texts were reviewed if the relevance of the record could not be determined based on the title alone. The researchers performed a full-text review of selected documents using Atlas.ti, a qualitative data analysis program, for identification of major themes. Figure 1 details the screening process.
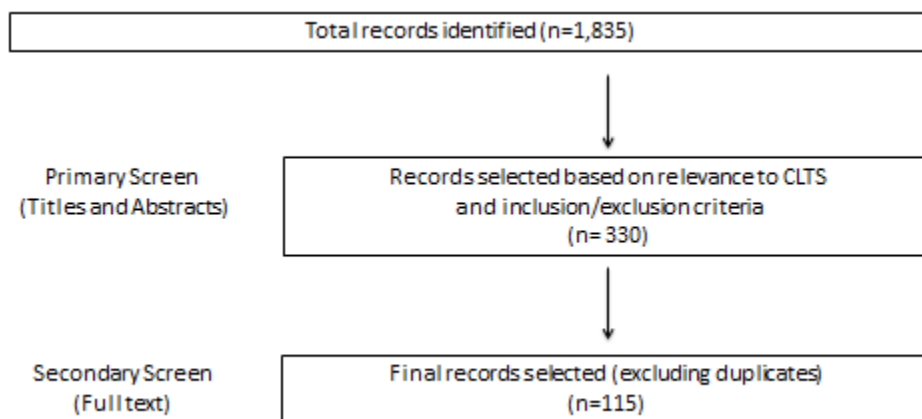
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┌─────────────────────────────────────────────────────────────────┐
│              Total records identified (n=1,835)                   │
└─────────────────────────────────────────────────────────────────┘
                                │
                                ▼
Primary Screen        ┌─────────────────────────────────────────────┐
(Titles and Abstracts)│ Records selected based on relevance to CLTS  │
                      │        and inclusion/exclusion criteria       │
                      │                  (n= 330)                     │
                      └─────────────────────────────────────────────┘
                                │
                                ▼
Secondary Screen      ┌─────────────────────────────────────────────┐
(Full text)           │ Final records selected (excluding duplicates)│
                      │                  (n=115)                      │
                      └─────────────────────────────────────────────┘
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Figure 1. Screening process for grey literature

4.2 Results

Description of Grey Literature

A total of 115 documents were selected for review (refer to Appendix 3 for a full list of documents and references). All documents for which dates were known were published in 2005 or later, with almost half (45%) published between 2010 and 2012. The majority of documents were based in rural areas, while four documents discussed experiences with CLTS in urban areas (Sierra Leone, Ghana, Zambia, and India). Figure 2 shows the geographic distribution of the search; experiences from 32 countries were represented, almost entirely from Asia and Africa. 50 percent of documents were published in or by organizations based in the United States, United Kingdom, Canada, and Ireland, 8% in the Netherlands, 23% in Africa, 18% in Asia, and one document each from Australia and Papua New Guinea.

Table 2 presents the number of documents by organization (or grouping) and type of document. The majority of results were technical reports, followed by case studies and learning notes or briefs. Twenty-percent of documents were either produced by IDS or posted on their CLTS Knowledge Base (www.communityledtotalsanitation.org) without another organizational affiliation. Plan International, WaterAid, IDS, UNICEF, and WSP were responsible for two thirds (66%) of all grey literature found through this review.
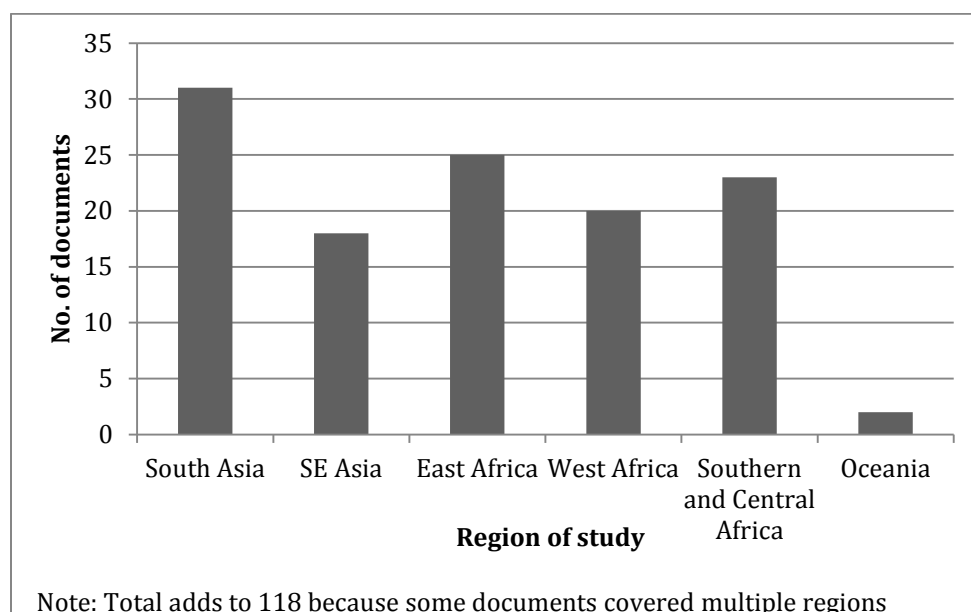
Note: Total adds to 118 because some documents covered multiple regions

Figure 2. Geographic distribution of selected documents

Table 2. Documents organized by type and organization

Organization	Technical Reports	Individual Case Studies	Learning Notes and Briefs	Working Papers	Annual Reports	Total
WSP	15	1				16
IDS	3	2	9	8		22
Plan	5	4	4		2	15
WaterAid	8	1	2			11
UNICEF	3	3	3		3	12
SNV	2	3				5
Other Int'l NGOs	9		2	2		13
Local CBO/Research Orgs.	8	4	1			13
Governments	3	2				5
Academic Institutions	3					3
Total	**59**	**20**	**21**	**10**	**5**	**115**

Indicators used to monitor or evaluate CLTS

Evidence on the process and outcomes of CLTS is not viable for meta-analysis of effect size as information was presented in varying formats, from evaluations to case studies to anecdotes from villagers. Some indicators such as latrine use and number of triggered communities were explicitly stated and measured in some reports, while many indicators such as incorporation of CLTS into a district health plan and improvement in health outcomes were presented indirectly as evidence or factors for success or failure of CLTS projects. The only uniform data available from the grey literature was on number of triggered communities and number of communities declared open

defecation-free (ODF). A few reports presented evaluation data, such as an impact evaluation of CATS in Mozambique, which reported a 13.6% increase in latrine ownership due to CATS, but found that only 1.4% of households in CATS communities had latrines that qualified as safe sanitation according to Mozambique's national standards (UNICEF 2011). Data from Ethiopia on a CLTS plus hygiene promotion intervention also showed an increase in latrine coverage (from 5% to 100%) and a decrease in open defecation from 64% to 40% from 2005 to 2009 (Faris et al. 2011).

The indicators in Table 3 were commonly seen across the grey literature and could be categorized into eight categories: costs, triggering and follow-up, access, ODF, sanitation/hygiene behavior, perceived impact, structural/institutional, and health outcomes. They could also be grouped into the levels of inputs, process, outputs and outcomes. However, there was some inconsistency in the latter grouping of indicators. For example, triggering-related indicators were referred to as process indicators in some documents and as output indicators in other documents. ODF indicators were considered to be output indicators in some documents, whereas other documents referred to them as outcome indicators.

Table 3. Aggregated list of CLTS indicators from grey literature

Type of Indicator	Indicator	Category
Inputs	Program cost ($/person or $/household)	Costs
Process/Output	No. of communities triggered	Triggering and Follow-up
Process/Output	No of follow-up visits till ODF achieved	Triggering and Follow-up
Output/Outcome	No. of people with access to latrines in community	Access
Output/Outcome	No. of people using latrines in community	Access
Output/Outcome	No. of toilets : no. of households in community	Access
Output/Outcome	No. of communities declared ODF	ODF
Output/Outcome	No. of people living in ODF environment	ODF
Output/Outcome	No. of communities regularly monitoring ODF status	ODF
Output/Outcome	No. of people washing hands at appropriate times	Sanitation/hygiene behavior
Output/Outcome	No. of households disposing child feces in latrine	Sanitation/hygiene behavior
Output/Outcome	No. of people aware of good sanitation/hygiene behavior	Sanitation/hygiene behavior
Output/Outcome	Spread of CLTS to neighboring communities	Perceived impact (qualitative)
Output/Outcome	Individual sense of security from owning latrine	Perceived impact (qualitative)
Output/Outcome	Ability to defecate at any time of day	Perceived impact (qualitative)
Output/Outcome	Reported odor level in community	Perceived impact (qualitative)
Output/Outcome	Reported presence of flies in community	Perceived impact (qualitative)
Output/Outcome	No. of people trained in CLTS	Structural/ Institutional
Output/Outcome	Local government expenditure on sanitation	Structural/ Institutional
Output/Outcome	No. of communities with sanitation committees	Structural/ Institutional

Output/Outcome	CLTS incorporated into District Action Plan (p4)	Structural/ Institutional
Output/Outcome	No. of cases of diarrheal disease	Health outcomes
Output/Outcome	Household health expenditure on diarrheal disease	Health outcomes

The following excerpts exemplify the nature of qualitative indicators reported in the literature:

- "Members of the local water and sanitation committee report that health among the villagers in Dadin Sarki has improved. … Health records testify to the success of CLTS in reducing sanitation and water-related diseases. Within just one month of engaging the community to end open defecation, the incidence of diarrhoeal diseases dropped to almost zero" ("Young Child Survival" 2011).
- "Evidence of increased awareness post CLTS has emerged, in particular through legal enforcement activities. In many cases, people are now demanding for sanitation and hand washing for instance at Health Centres … and there are now examples where the public has brought orders against Local Authorities, bars, restaurants or schools to construct sanitation facilities. There are now several radio programmes, where people call in and report or complain against institutions that do not have sanitation facilities" (Zulu n.d.).

Importance of monitoring and evaluation

Expressed in the literature was a widespread need for standardized monitoring mechanisms, rigorously evaluating CLTS projects, and appropriately using data that is already being collected. It was evident that data collection is on-going in all CLTS projects, but differences in indicators and reporting structures, along with decentralization of data management, challenge the appropriate use of data for decision making. Based on its experience with CLTS in Indonesia, WSP recommended that "post-triggering processes should be given a verifiable structure by establishing and periodically checking for desired progress quality indicators/milestones for success in triggered communities in order to improve institutional accountability for and the quality of follow-up. Institutional adoption of a structured follow-up process also makes it more likely to be adequately funded" (Mukherjee 2012). This need for a reporting structure was echoed in reports from Kenya (Tiwari 2011) and Ghana (Magala et al. 2009) among others. Furthermore, community-level monitoring was often described as the key to sustainability in monitoring CLTS. The only working example from the grey literature was of community-based registers in Tanzania, which were found to be vastly under-used (Coombes et al. 2011). The need to generate value for collecting monitoring data and using it to improve CLTS outcomes was also expressed frequently (Coombes et al. 2011; Tiwari 2011). A successful example of overcoming this obstacle was presented by practitioners in Kenya, who reported that participatory workshops at the district level allowed teams to analyze their data and learn how to improve their progress through discussions with their peers, thereby increasing the value of monitoring data and subsequently, the quality of the data as well (Tiwari 2011).

Importance of triggering and follow-up

All documents in this review discussed experiences with pre-triggering, triggering, and follow-up activities. The importance of follow-up was highlighted as a crucial step in achieving and sustaining ODF status. Sixteen documents specifically wrote of experiences with pre-triggering activities, which

in CLTS literature is the introduction and rapport building period. Most documents mentioned the importance of pre-triggering efforts in order to have a successful triggering experience, but the location of pre-triggering varied across projects. A CLTS project in Zimbabwe, for example, described the pre-triggering exercise as a meeting with the District Water and Sanitation Sub-committee, while projects in India, Mozambique, Ghana, and Uganda focused pre-triggering activities at the village level. Key elements of pre-triggering were rapport-building, "understanding power relationships and leadership in the local context," and conducting baseline surveys (Zulu n.d.).

In Vietnam, a key short-coming identified in a CLTS project was the lack of pre-triggering and baseline surveys: "important indications of influential people to be harnessed and included in the triggering event were unaccounted for" (Brown 2009). WSP's recommended from its Indonesian CLTS experience that pre-triggering and triggering should be conducted by local organizations rather than the WSP or larger facilitating organizations. Furthermore, their report concluded that triggering should only occur where village leaders express a demand for CLTS during the pre-triggering process (Mukherjee 2012). With regard to the benefits of pre-triggering, an evaluation of CLTS in Ghana found that participatory data collection during the pre-triggering process was a successful factor in a) allowing community members who participated in pre-triggering "to do some 'soul searching' prior to triggering" and b) helping facilitation teams develop strategies based on valuable baseline data on sanitation behavior and where communities fell on the sanitation ladder (Magala et al. 2009).

Various triggering techniques were described in the grey literature, often a direct reflection of CLTS training documents and manuals. Some documents referred to adaptations of traditional triggering efforts, such as "cluster triggering" in Liberia, which involved triggering a cluster of communities to encourage competition between the communities and accelerate the pace of change (Phillips n.d.).

Only one study assessed the impact of triggering on CLTS outcomes; WSP reported that in Ethiopia, "the chances of owning a latrine were about nine times higher in households located in villages that participated in a walk of shame" than those that did not participate in this triggering activity (Faris et al. 2011). However, a qualitative study on social norms with CLTS in India found "little evidence to support the claim that the 'triggering' strategy, by itself, is sufficient for establishing perceived or collective norms [or for leading] to collective action that culminates in changing sanitation behaviours in a community" (Dyalchand et al. 2009). The researchers found early adopters (natural leaders) were more important for "communicating" and persuading the remaining members of the community over a period of six months, thereby establishing a "collective norm" (Dyalchand et al. 2009).

Timing of triggering activities was another factor identified by various organizations for success or failure of CLTS in a community. A few documents mentioned triggering during or immediately after harvest time, when people had the most disposable income ("Shit in emergencies" n.d.), while in Kenya, it was suggested that triggering coincide with the availability of natural resources required for latrine construction, for example, choosing coconut harvesting time for coconut palm poles for latrine flooring (Chambers 2009).

Plan Uganda wrote that triggering without adequate follow-up for two years after declaring a community as ODF was seen as counterproductive, "undermining CLTS results." The focus, they argued, should be on ODF and not on triggering. In communities where other hygiene interventions

exist, Plan Uganda also suggested that CLTS could act as a "post-trigger." Nevertheless, they cautioned that triggering itself should not be mixed with other approaches, suggesting that PHAST could be used as a pre-trigger or baseline, CLTS used for triggering, and sanitation marketing used as a post-trigger ("Good Practices" 2011).

With regard to follow-up activities, there was a widespread emphasis on the need for regular and systematic follow-up mechanisms. In Malawi, "it was observed that villages with fewer follow-ups have slower progression of CLTS and higher percentage of natural leader inactivity, as compared to those with frequent follow-ups" (Hockin 2011). An assessment from Kenya reported that across six districts, each triggered village needed an average of five follow-up visits before it could be declared ODF (Tiwari 2011). A report from India on the Total Sanitation Campaign also noted that three to five follow-up visits were required after triggering activities to achieve ODF status (Mehta n.d.).

However, the lack of adequate resources for follow-up activities was repeatedly highlighted as a challenge facing CLTS practitioners. This resource gap took the form of staff shortages, poorly trained staff, and little to no budget for follow-up activities. Limited follow-up was especially problematic in monitoring maintenance of ODF status once communities were declared ODF ("Uganda-Situational Analysis" 2009).

A recommendation from Malawi suggested creativity in addressing challenges with follow-up. For example, training natural leaders to identify only those households that were lagging behind would reduce the burden on those external actors in charge of follow-up activities so that they could efficiently concentrate their time on the slowest adopters in the community (Redick 2011). Another recommendation included training and using local health extension workers for follow-up activities with natural leaders to ensure that natural leaders' needs are understood and that they are doing the CLTS-related work to which they have committed (Hockin 2011).

Follow-up visits by outsiders were seen largely as a positive motivator in communities. In Ethiopia and Kenya, these visits reinforced and "sustained" shame at open defecation sites and "retriggered" communities to end open defecation (Otieno n.d.). Furthermore, these visits established a sense of pride in communities as they were "eager to show the positive change they make" (Tsegaye et al. 2009). In Madagascar, frequent visits by outsiders "significantly boosted community motivation, with a public 'walk of praise' increasing the esteem of those households in the process of building their latrines" (Azafady 2011). The Ethiopian experience concluded that even though CLTS is a community-led process, it requires outsiders to sustain shame and motivate change in the community (Tsegaye et al. 2009).

Harmonized approach
In order to scale-up CLTS at the national level, a number of documents emphasized the need for a harmonized approach across implementing organizations and with the government. A 2009 meeting of the East Africa units of organizations such as BMGF, IDS, IRC, Plan, UNICEF, WaterAid, WSP and WSSCC agreed that not harmonizing their sanitation efforts would duplicate work and lead to reduced joint impact. A WSP study on sustainability in Vietnam also concluded that the larger organization, UNICEF, had to coordinate its rural sanitation strategy with other NGOs working in the area to achieve maximum impact (Sijbesma et al. 2010). Lessons from Plan Uganda's CLTS experience specifically focused on getting commitment from all actors to not use subsidies or incentives to

attain ODF ("Good Practices" 2011). Nepal's experience with CATS, for example, found "significant variation between organizations regarding subsidies for household latrine construction; this makes building the momentum for community-led sanitation more difficult" ("CATS" 2011). Furthermore, in Zimbabwe, "the exercise of rallying the community behind the CLTS program was made difficult because neighboring communities were being assisted by Plan International in the construction of toilets" (Sigauke 2009), while the community under study was left on their own per CLTS guidelines.

Behavioral techniques

Behavior change techniques used in CLTS are meant to ignite "a sense of disgust and shame" in the community about open defecation practices. The review found that these techniques were almost always described as effective in the grey literature. In schools in Bangladesh, disgust was reported as the most effective motivator for children, and in Uganda, community mapping, the walk of shame, and photographs of "shit eaters" were effective tools in igniting action during the triggering process. In Indonesia, competition among communities led to those lagging behind being shamed by neighboring communities, who offered to help them dig holes.

However, an anthropological study of CLTS in Vietnam found a generational difference in the effect that shaming and embarrassment had on changing people's behavior, with young people more easily embarrassed about open defecation, and old people more stuck to their ways. The author recommended identifying "other motivating factors besides embarrassment, which has been found to be a relatively weak motivator, hampering (but not stopping) the practice of open defecation" (Brown 2009).

Where market research has been conducted prior to CLTS (such as with sanitation marketing approaches), WSP's Indonesian experience suggests that facilitators should adjust their triggering approach based on people's "motivations, abilities, and opportunities to change" (Mukherjee 2012). There was no evidence from the literature review of examples where triggering approaches were specifically modified based on a prior researched understanding of the local context; however, this absence of documentation does not imply lack of adaptation.

Sustaining behavior change

Although shaming was often used to trigger communities to change their behavior, post-triggering incentives and motivators for behavior change most often rested on praising people and capitalizing on the pride felt by communities that succeeded in ending open defecation. In Nepal, the SLTS approach used a "praise walk" to counter the "shame walk" used in triggering activities, in order to motivate communities to build more latrines ("CATS" 2011). Similarly, in Zimbabwe, community members cited visits by outsiders where they were able to get their respect and praise as a key benefit of CLTS (Sigauke 2009). In Malawi, it was observed that "sanitation leaders often become more motivated when they present the progress of their village to authority figures and they can be praised for their hard work" (Hockin 2011).

CLTS aims to move from latrine building to sustained hygiene and sanitation behavior change. However, few projects described in the grey literature provided evidence of measuring sustained changes in behavior. An evaluation report from Mozambique highlighted the need for much more evidence on "CLTS-induced behavior," namely understanding the effect that CLTS techniques have on behavior change (UNICEF 2011). Furthermore, the focus on achieving ODF may fail to recognize

other factors required for sustained behavior change. As expressed by Kamal Kar, a leader of CLTS: "Often declarations and certifications of 'open defecation-free' (ODF) status are seen as an endpoint instead of the start of a new process. After the initial momentum dies out, some people can slip back to old patterns of open defecation, defying the component of 'total' in CLTS. Thus, it is important to both understand post-ODF dynamics in CLTS communities and how and whether communities have moved up the sanitation ladder" (Kar 2012).

Children as natural leaders

Most documents that discussed natural leaders mentioned the important role that children play in mobilizing communities toward behavior change and ending open defecation. There was limited discussion on measured impact of using children as natural leaders, but anecdotes of children taunting, shaming, and blowing whistles at people defecating in the open were widespread. For example, Plan Nepal described how children monitored progress towards ODF in one village: "Child club members monitored open defecation places in the early morning. When they caught anyone red-handed, they whistled, clapped or shined their torch lights, forcing the offender to run away in shame. Afraid of being detected and humiliated, people stopped defecating in the open" ("Evaluation of CLTS" 2007).

However, in some countries, the involvement of children as natural leaders for CLTS had to be reconsidered based on local context:

"Children in Uganda culturally do not have voices to speak out publicly and there is a lot to be done to have meaningful participation of children. There is the challenge of child rights advocates who state that the language used is not appropriate for children especially in the Ugandan context and may create disrespect among parents when children start using 'bad' words openly. The suggestion is that there was need to carry out a risk assessment before starting to use such words among children" ("Uganda-Situational Analysis" 2009).

Women as natural leaders

A number of documents referred to the importance of training women as natural leaders, while three documents in particular provided relevant examples. A village in West Sumatra in Indonesia only had female natural leaders who visited each household to conduct triggering exercises instead of a collective community-level triggering process (Jamasy et al. 2008), while in Uganda, it was reported that although men and women emerged as natural leaders, women were more effective natural leaders because open defecation reportedly played a more important role in their lives. Finally, in Kenya women were specifically empowered by Ministry of Public Health staff, leading to their prominent role in triggering and leading the CLTS process (Tiwari 2011).

However, a cautionary message from Bangladesh also emphasized that female participation in triggering does not always lead to their empowerment. Plan Bangladesh reported that even if women participated in triggering, they did not often have control over toilet construction. Furthermore, use of a pour-flush toilet increased women's workload because they would have to bring more water home for latrine use (Mahbub 2008). A project in India also reported that it was a challenge to involve women because their families would not allow them to participate in CLTS activities.

Role of teachers and schools

SLTS, a variant of CLTS started in Nepal in 2005, places schools at the center of sanitation behavior change in communities. The approach combines UNICEF's School Sanitation and Hygiene Education (SSHE) programme, participatory techniques of CLTS, and reward/recognition approaches ("CATS" 2011). SLTS was frequently referred to in conjunction with CLTS and was mentioned in nearly 30% of documents selected for review. An IRC concept note suggested that schools were an appropriate "alternative entry point" for CLTS in complex social situations, with the initial goal of making the home villages of the school children ODF ("CLTS-Plus" 2008). However, Kar and Milward (2011)worried that SLTS might create a more "watered-down" approach to CLTS, limiting opportunities for other natural leaders to emerge (apart from teachers) and missing "the potential for total community behaviour change" by only focusing on children in schools.

It was not possible to ascertain any reported differences between CLTS and SLTS in the grey literature. There was no discussion about the specific nature of triggering campaigns through SLTS (e.g., number and frequency of school triggering activities, age of students, number and frequency of triggering activities in nearby communities). A Plan International Pan-African CLTS project report even referred repeatedly to "CLTS/SLTS," implying that the two approaches were closely related (Singeling et al. 2011).Therefore, SLTS experiences that were found in the selected grey literature are reported below with the caveat that SLTS can differ substantially from a traditional CLTS approach which focuses on the entire community.

Three documents presented some data on progress with SLTS, but did not comment on impact on sanitation and hygiene outcomes ("CATS" 2011; Wicken et al. 2008; Singeling et al. 2011).

One document on the SLTS experience in Nepal reported 90,000 households and 300 schools reached, 730 child health clubs formed, and over 1,000 school teachers and headmasters trained on SLTS ("CATS" 2011). Another document described teachers as "barefooted consultants" in Azad Jammu and Kashmir, who were given Rs.5000 (US$50) for each village they converted to ODF status. While hailing these teachers and their School Management Committees for their achievements, the document highlighted the need for more training and capacity building of these barefooted consultants in order to improve their effectiveness at mobilizing change (Wicken et al. 2008).

Plan Ethiopia and Plan Zambia's SLTS projects were highlighted in a document discussing experiences from the Pan-African CLTS project, where using school teachers as facilitators reportedly increased the number and improved the quality of triggering and facilitation. Plan Ethiopia reported that villages reached ODF status faster when they used teachers for facilitation and monitoring versus the standard CLTS approach, but did not provide relevant evidence to support this claim. Plan Zambia provided schools with building material for latrines in exchange for labor and remaining construction materials, but reported that budget and transport issues dominated their experience with school sanitation. By involving the government (Department of Education), they decided to "improve coordination and arrange for some funding," and this also gave teachers a greater role in coordination because SLTS was now officially approved by the government (Singeling et al. 2011).

Two documents from the same country held opposing viewpoints on the role of teachers in the triggering process of school sanitation. In India, one CLTS project observed that in SLTS, keeping teachers out of the triggering process "enhances the quality of children's involvement" (Mehta n.d.).

However, another example from India observed the contrary, and that success in SLTS depended on the "understanding and knowledge of teachers." This project recommended triggering teachers and children simultaneously so that teachers could then "effectively inspire enough confidence in the children or community at large to mobilize them to take action" (Verma 2010). Oxfam Uganda also expressed concerns with ownership of the process by both teachers and students (Sanchez 2011).

Role of local government actors

As governments adopt CLTS into their national sanitation plans, district health officials take on a greater role not only for facilitating CLTS but also for monitoring progress towards ODF. Therefore, many CLTS projects have reported training district health officials as trainers for other facilitators. In Sierra Leone, Plan reported that training district councils and NGO partners on CLTS allowed them to lead the process of triggering and monitoring. District health officials were noted as a "link" between communities and the Ministry of Health and Sanitation in Sierra Leone, which increased their ability to serve as advocates for CLTS ("CATS" 2011). There was no evidence from the literature on the impact that training local governmental actors on CLTS has on sanitation or hygiene outcomes. There was also no discussion on the potential conflict of interest that could emerge from using governmental actors for implementation and monitoring CLTS progress.

Decentralization, such as in Indonesia, places increased power at the district and local levels, which means that district health officials' ability to petition their superiors influences funding for CLTS (Mukherjee et al. 2008). However, Plan Uganda reported that in a more centralized environment, coordination between national governmental actors, district actors, and NGOs was necessary but lacking when it came to implementation. Districts not only required more training on CLTS, but also required a larger budget to implement CLTS ("Good Practices" 2011). In this instance, Plan Uganda worked directly with sub-county staff and bypassed the District Health Inspector.

4.3 Conclusions from Grey Literature

This systematic review characterized the extent and diversity of grey literature on CLTS. However, most documents contained reports and case studies from agencies describing their own experiences with CLTS. A few external evaluation reports were also produced jointly with the implementing agencies. The only evidence of peer-review was in WSP products, which were also reviewed by internal staff. Therefore, interpretation of findings from the grey literature must be made with the understanding that there was largely no evidence of external review, as is the case with peer-reviewed literature.

This report presented an aggregated list of indicators that were referred to in the grey literature as one way to start addressing the expressed need for structured and consistent monitoring and evaluation mechanisms. The importance of monitoring and evaluation, especially to sustain behavior change and scale-up CLTS activities, was emphasized in most documents selected for review. Triggering in the absence of a detailed plan, budget, and resources for structured follow-up activities was discouraged. Frequent follow-up visits by outsiders were also considered as effective motivators for people to stop open defecation.

As multiple international, national, and local organizations work on total sanitation in a given country, the grey literature also frequently cited the need for a harmonized approach across these

organizations. The approach was expected to be framed by a national CLTS strategy in order to scale-up the impact of CLTS in a given country.

Behavioral techniques used during the triggering process—primarily shaming and inciting disgust to trigger change—were described largely as effective tools to motivate communities to end open defecation, but not necessarily to sustain behavior change. An evaluation report from Mozambique highlighted the need for more evidence on "CLTS-induced behavior," namely understanding the effect that CLTS techniques have on behavior change. A commentary by Bartram et al. (2012) also highlighted the lack of self-critical reflection in the grey literature on the effect of these techniques, and emphasized the need for more systematic evaluation (discussed in Part 1 of this report).

With regard to the role of key actors, children emerged as the most cited natural leaders, mobilizers, and change agents, especially with regard to post-triggering monitoring of communities. Evidence was scarce on the impact of using children for these activities on sustained behavior change. Teachers were viewed as key community leaders for CLTS, but were primarily used in the process of SLTS. Their role appeared to be to facilitate action by children and spread the message of CLTS across the community. There were no reports of the specific impact of training teachers on CLTS outcomes. Finally, local government actors such as district health officials had an increasingly important role to play, especially in decentralized institutions. Training of these actors in CLTS was emphasized across the majority of documents so that they could advocate for additional resources, adequately train facilitators, and ensure routine and structured follow-up and monitoring of ODF communities. There were no reports on the impact of training local government actors on CLTS outcomes.

5. List of Grey Literature

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