

## CHAPTER 4

# Strengthening post-ODF programming: reviewing lessons from sub-Saharan Africa

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### Abstract

*Over 30,000 'open defecation free' or ODF communities exist across sub-Saharan Africa as a result of Community-Led Total Sanitation (CLTS) implementation. Country evaluations suggest that most ODF communities gradually 'slip' back to OD at an average rate of 10 per cent per year, suggesting significant losses over time. What is the nature of the support required to sustain ODF communities and what is known about slippage and mitigating programme innovations? This chapter discusses variations in implementation models as well as innovations in programming that have evolved in response to a limited private sector engagement in rural sub-Saharan Africa and the need to support ODF communities. The chapter also covers the issues of political prioritization of sanitation, the creation of an enabling environment, and the effective use of planning tools to allow CLTS to scale from a community approach to a national strategy for sanitation.*

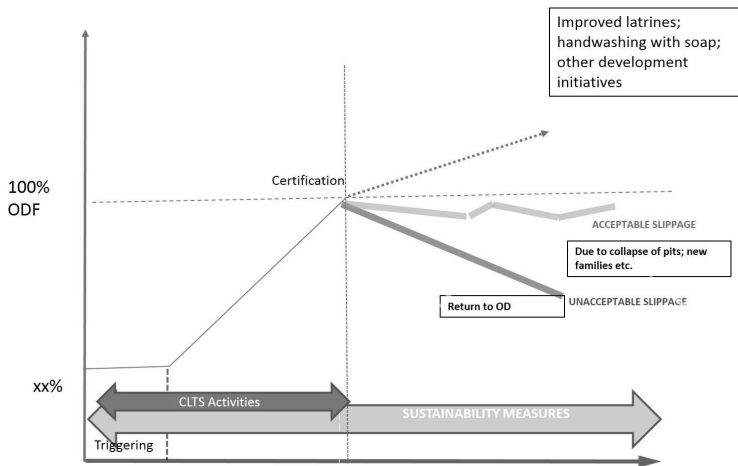
**Keywords:** Open defecation, ODF protocol, Sanitation, Sustainability, Rural sanitation, Scaling up, sub-Saharan Africa

### Introduction

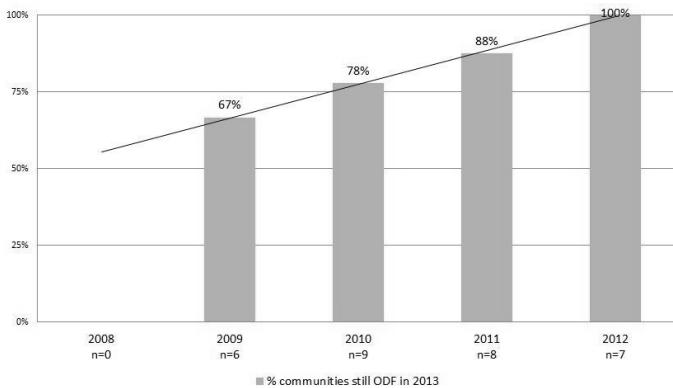
UNICEF piloted Community-Led Total Sanitation (CLTS) in Zambia in 2007, to help stop open defecation (OD) in rural communities. Quick results – communities mobilized and toilet construction – led local authorities to quickly scale the approach. Since then, CLTS spread to over 30 countries on the continent, which adopted CLTS as a primary strategy against rural OD. Over 30,000 'Open Defecation Free' or ODF communities (UNICEF, 2014a) now exist resulting from these efforts across sub-Saharan Africa. Country evaluations suggest that most ODF communities gradually 'slip' back to OD at an average rate of 10 per cent per year, suggesting significant losses over time. This chapter focuses on the nature of the support required, beginning with insights on slippage and programme design innovations from UNICEF's rural sanitation programming in the continent. The chapter then discusses the issue of political prioritization of sanitation, enabling environment, and the effective use of planning tools to allow CLTS to scale from a community approach to a national strategy for sanitation.

### Sustainability and slippage

Figure 4.1 shows a typical CLTS programme trajectory: triggering leading to sustained facilities and behaviours, and possibly other positive improvements with certification and beyond. Figure 4.2 shows the results from sustainability checks in Mozambique in 2013, which revealed a 10 per cent annual slippage rate in ODF communities. Over time, slippage can be significant, with a five year horizon leading to a 50 per cent return to OD behaviour. Slippage of this magnitude, confirmed by other studies (Tyndale-Biscoe et al., 2013) which seem to suggest similar results across the continent, indicates that ODF outcomes are not stable and require further inputs to continue on the intended trajectory.



**Figure 4.1** Timeline to ODF in a typical sanitation project cycle  
 Source: UNICEF, 2013



**Figure 4.2** Percentage of communities in Mozambique that had been declared ODF in the previous five years that remained ODF in 2013  
 Source: UNICEF Mozambique sustainability check 2013

In discussing sustainability and slippage, it's useful to understand what happens after a typical CLTS intervention. Beyond certification or beyond ODF, most communities are left on their own to improve and sustain their sanitation facilities and behaviours. Programmes typically are designed with ODF as a specific end target yet there is an expectation that the trajectory keeps moving upward (much as in Figure 4.1) toward other development gains (i.e. handwashing, general community cleanliness etc.). The reality is that construction with temporary building materials (grass, sticks, mud), low building standards (such as unlined pits, unstable squatting areas) or climate extremes (heavy rain, flooding) can confound even the best efforts to maintain ODF behaviours. Kenya's recent ODF sustainability study showed that technical issues relating to toilet construction were the primary cause of slippage in ODF communities two years post-ODF (Singh and Balfour, 2015b). So the need to upgrade and improve toilets for durability in places where services and materials are hard to come by, which is a fairly common phenomenon in rural sub-Saharan Africa, leaves communities at a serious disadvantage for improving their toilets.

Technical considerations aside, a failure to ensure sustainability of behaviours, or rather to instil a lasting social norm, has also been identified as an issue affecting sustainability of outcomes (Maule, 2013). UNICEF Kenya's ODF sustainability study showed a strong correlation between social cohesion factors and retention of ODF behaviours two years after certification but it also showed that, where children were not included as part of the sensitization and norm-building activities, children were a defining variable in post-ODF slippage (Singh and Balfour, 2015b). Post-ODF monitoring, or lack thereof, is often blamed as a primary reason for sustained ODF status. Yet, a series of studies related to a national CLTS programme in Mali with limited post-ODF monitoring and high sustainability of ODF suggest otherwise. Clearly, further studies are needed to understand more systematically what impacts sustainability.

### **Post-ODF: emerging best practice in social norms development**

The quality of facilitation and engagement with local leadership are critical factors in how well communities are mobilized and incentivized to maintain behaviours. Several countries, particularly those where remote, traditional communities are reluctant to adopt new behaviours, are turning more to the support of local authorities and community outreach mechanisms to strengthen CLTS. Similarly, countries with large-scale programmes are looking to leverage the support and influence of powerful traditional leaders to improve the performance of CLTS programmes.

#### ***Leveraging local leadership***

In Zambia and Malawi, local chiefs still command enormous respect and exercise power over their constituencies. Ensuring buy-in for CLTS from these traditional authorities has provided strong support in both countries

to ensure that communities are receptive to facilitators, to lead enforcement and follow-up of ODF status within the communities. The chiefs are able to reinforce the new 'normal' and make it acceptable to the local communities in a more meaningful and lasting way than is possible through either non-governmental organizations (NGO) or local government support teams. Further, the chiefs are able to work with the government in lobbying for resources and advocating for further investment in sanitation. However, it is important to avoid situations where people with existing power within the community drive the process, and local social-political contexts and relations are considered when champions or natural leaders are identified (Bardosh, 2015). Natural leaders, or 'key influencers' should be selected from all sections of the community (see Dooley et al., 2016, this book; Wamera, 2016, this book). This will help to ensure poorer and marginalized sections of the community are not excluded from the process.

### ***Social norms from theory to action in Madagascar***

In Madagascar, social norms theory has been translated into practical action on the ground to help move isolated, traditional communities from OD to ODF. 'Institutional triggering' is one example of a systematized process by which networks of influence are mapped and key influential stakeholders in districts are met and convinced of the CLTS approach prior to triggering communities. Public declarations or 'Shit Festivals' are a second. Public declarations and plans following the intent to abandon the behaviour of OD are used to hold communities accountable for their commitment by other villages and observers to the process. Finally, value deliberations are applied one village at a time, introducing customary laws (or *dinas*) that can support the upholding of the new social norm. The advantages of this changing behaviour include health benefits and savings in health costs (Gaya et al., 2015).

### ***Specific inclusion of children in norm-building activities***

Kenya's experience suggests that children are an important element in maintaining ODF within a community and, as such, that they should be specifically targeted both in mobilization activities (i.e. through the school and community) as well as technically speaking, in terms of toilet solutions that suit small children (Singh and Balfour, 2015b).

### **Post-ODF: emerging best practice in technical support and monitoring**

Sanitation marketing is typically the programming option of choice to upgrade toilets. Sanitation marketing relies on development of more appropriately designed toilets, engagement of the private sector and better insight into consumer motivations. In many regions of the continent it is simply unfeasible *in the short-term* to consider that the private sector will develop business models to serve remote, disparate populations. The sector, particularly in rural areas,

suffers from fragmentation, overpriced and inappropriate products, and physical inaccessibility. Affordable products are in short supply across sub-Saharan Africa, and this would be perhaps a solid medium-term venture for the development community to help stimulate the proliferation of the products and their eventual distribution much in the same way that the generic vaccines business was greatly supported (see Coombes, 2016, this book). For the short-term, more immediate solutions to support communities are evolving with less reliance on the private sector as described below.

### ***Participatory design as part of a hybrid approach to sanitation marketing***

In countries such as Malawi the high cost of cement in rural areas means that communities might have to rebuild mud-based toilets annually after rainy seasons. This presents an opportunity for relapse or 'slippage' to OD behaviours. From a programming perspective, this annual cycle has driven a process of participatory design targeted at filling the knowledge and capacity gaps for local government and entrepreneurs in durable and low-cost toilet design. This process ensures users participate in creating and selecting sanitation technologies that are appropriate and affordable for them (Cole, 2013, 2015). Furthermore, Malawi uses a hybrid sanitation marketing approach, integrating participatory design and sanitation marketing principles to create a market for low-cost, durable, and locally available products.

### ***Community coaches***

In Madagascar, where rural communities can be so physically isolated that business development is unlikely to be successful, communities are supported for a longer period post-ODF to develop improved toilets through the training and support of community coaches. The coaches are well versed in the construction of durable designs and are able to support communities in developing solid toilets from the initiation of CLTS triggering visits through to post-ODF periods. The coaches come from within the communities, and generally they are already the voluntary community health workers, so the support itself is local and easily accessible. They themselves are then provided with a mentor coach who reviews the quality of toilet construction and is able to support capacity development as needed.

### ***Triggering and follow-up by community health workers (CHWs)***

In Ethiopia and Malawi, paid community health workers are being trained to support toilet upgrading. Malawi's health workers are paid by local government and accountable to a set of villages, enabling them to provide a continuity of support; they are also a channel to local government for accessing further resources where needed. In Ethiopia, the health workers are part of a highly structured workforce for which training modules are developed related to

supporting, not only CLTS, but also sanitation marketing methods. This approach suggests better sustainability and scalability through government resourced and led programming compared with other approaches (see Box 4.1).

### ***Integration of ODF indicators as part of routine health monitoring at district level***

In Somalia, where district health programming is still in a development phase, ODF indicators have been integrated as part of routine health monitoring, allowing districts to leverage minimal staffing structures and ensure the prioritization of sanitation as part of basic health programming.

#### **Box 4.1 Comparison of CLTS implementation models in sub-Saharan Africa**

There is great variety in how CLTS programmes are implemented in sub-Saharan Africa. At the triggering and community support level, some programmes rely heavily on unpaid natural leaders, some programmes pay natural leaders, some rely on paid NGO support to communities, and others leverage paid community health workers. Understanding which models work best and are most cost-effective under what circumstances remains to be fully understood. A few lessons based on UNICEF's work in Eastern and Southern Africa, include:

- The NGO model in Mozambique which used NGO staff to lead triggering and monitoring efforts initially yielded results. However, several years later sustainability reports showed a gradual loss of ODF status and further that the political buy-in needed to continue to scale the approach did not exist either at rural or national levels. The approach was considered expensive for the results delivered. The programme had set up parallel monitoring and support mechanisms at the rural level and did not leverage existing government resources of the health sector or local authorities to increase comprehension and support for the programme.
- In Zambia, local champions have been selected to provide support and monitoring of communities. The 'professionalization' of these champions refers to training and results based payments (i.e. phone credits) intended to help keep the champions motivated and sustain support to communities on a national scale. This approach is relatively recent and its merit will be tested when external funding is lifted.
- In Malawi, health workers are paid by local government and accountable to a set of villages, enabling them to provide a continuity of support; they are also a channel to local government for accessing further resources where needed. In Ethiopia, the health workers are part of a highly structured workforce for which training modules are developed related to supporting not only CLTS but also sanitation marketing methods. A dedicated health worker, available and accountable, who makes sanitation a health priority is a strong asset for a community. They should be identified at the pre-triggering stage, and could potentially continue post-ODF follow-up as part of their existing role (see Wamera, 2016, this book). In the few countries that have well-structured paid health worker programmes, this model shows great potential for scalability.
- In Somalia, NGOs work with fledgling institutions to support local communities and structures in maintaining ODF. A central theme in this case has been one of leveraging minimal resources at community, government, and NGO levels in a difficult context. One innovation here has been the inclusion of ODF as a health indicator to be monitored by local health workers. In this case, NGOs, government, and communities have worked together to find solutions for sustained monitoring and support.

The question of which model works best is yet to be answered but certainly as the examples above illustrate, there are clues as to the right direction and getting the mix right in each context. The implementation experience in Eastern and Southern Africa provides rich learning for good programme design and for which further evaluation and comparison of costs and outcomes is needed.

### ***Political prioritization and equity***

In the last 15 years, OD has declined across sub-Saharan Africa by a quarter. However, as countries become more middle income, it's not a given that OD will improve for the bottom wealth quintile. Joint Monitoring Programme (JMP) data over a 17 year period (1995–2012) suggests that countries like Ethiopia and Mali, classified as least developed countries (LDCs), are making positive improvements in OD reduction for their poorest through investments in national sanitation programmes (WHO/UNICEF, 2015). Ethiopia made impressive gains for the WASH sector, by placing water supply at the core of its development agenda, reaching its Millennium Development Goal for water supply from 14 per cent to 57 per cent access to safe water supply between 1990 and 2015. Although water supply was the primary target, sanitation benefited from WASH being on the national agenda. There was an increase in improved sanitation from 3 per cent to 28 per cent and OD rates dropped from 93 per cent to 45 per cent (UNICEF, 2014b).

However, governments in countries such as Kenya, Cameroon, and Ghana, classified as middle income countries (MICs), are not having the same impact on their rural poor as Ethiopia, despite having national sanitation programmes. Ethiopia's annual rate of OD reduction exceeds that of more developed and well-resourced countries in sub-Saharan Africa. But what explains Ethiopia's success compared to its neighbours in the continent? Namibia provides some insight as to why some populations do not develop in tandem with the rest of the country. The apartheid system, introduced into Namibia in 1964 under South African rule, left deep social and economic divides in Namibian society. A large country with a small population, Namibia has only a tiny proportion of the population that enjoys considerable wealth and access to resources. The rest of the population, generally rural, lives in poverty. Rural WASH access rates reflect this socio-economic division. Rural OD rates are high while urban improved sanitation rates are fairly high. The implication is that the majority of Namibians live with extremely high levels of OD and regular cholera outbreaks, second only to South Sudan (see Table 4.1), despite Namibia being a middle income country. Namibia illustrates the fact that poorly progressing OD rates can be the signal for larger issues of inclusion, political prioritization, and planning, while Ethiopia illustrates that rapid change is possible with political prioritization in lesser developed countries.

### **Ensuring quality of large-scale elimination of OD: the next frontier**

Countries such as Kenya, Zambia, Ethiopia, and Malawi have declared national ODF targets, with CLTS as the primary vehicle for eliminating OD. No country has managed to achieve a national ODF target, although the declaration (and in many cases failure to achieve) of targets have led in some cases to national self-reflection and a galvanizing of the sanitation sector. It has also shed light on sloppy monitoring and data collection methods. Overall, one of the interesting side products of setting and failure to achieve

**Table 4.1.** Similarities and differences in sanitation access rates Namibia and South Sudan 2011-2015

Country	Year	Urban		Rural	
		Total Improved (%)	Open Defecation (%)	Total Improved (%)	Open Defecation (%)
Namibia	2011	55.5	18.9	15.7	74.5
	2012	55.2	19.2	16.0	74.2
	2013	55.0	19.6	16.3	73.9
	2014	54.7	19.9	16.6	73.5
	2015	54.5	20.3	16.8	73.2
South Sudan	2011	16.4	49.8	4.5	79.2
	2012	16.4	49.8	4.5	79.2
	2013	16.4	49.8	4.5	79.2
	2014	16.4	49.8	4.5	79.2
	2015	16.4	49.8	4.5	79.2

Source: wssinfo.org, accessed 18 August 2015

ODF national targets has been the more rigorous analysis of planning and investment for scale-up that have underpinned the efforts and a closer look at costing and resources required to achieve scale. Countries are increasingly interested in tools that allow them to systematically consider the human and financial resources, political buy-in and leadership, and effective monitoring and coordination that are needed to develop an effective national sanitation programme (Wijesekera and Thomas, 2015).

Providing meaningful metrics for CLTS at a mass scale is critical for evaluating and improving performance of these programmes. This goes beyond measuring ODF communities. Since CLTS requires significant investment into building political capital and leadership within government, achievements in this domain need also to be measured and considered as part of success or failure of a programme. Monitoring implementation outcomes without monitoring institutional outcomes (e.g. political will, financing etc.) would provide an incomplete picture of the national programme.

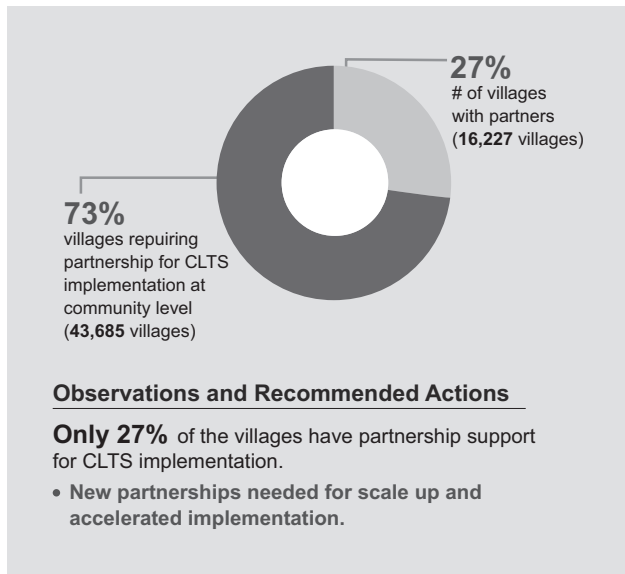
Fortunately, several tools are emerging to support an articulation of both enabling environment and implementation progress and sustainability. Although far from meeting all the needs of the sector, they represent tools which can be useful to the practitioner or government official in taking stock of progress and gaps in a national programme. Learning how to use and improve on these needs to be part of the sanitation professionals' new skillset. Following is a discussion of a selection of tools and how and when they are best used.



### **Microplanning**

Kenya recently underwent an exercise in microplanning led by UNICEF (Singh and Balfour, 2015a). This was an in-depth study looking at how a national-level policy and targets for ODF translated to implementation at the county level. Each county was comprehensively assessed in terms of human, political, and financial resources that would enable effective roll-out at sub-national level (county level). The exercise revealed serious shortcomings in budget allocation, training, and partnerships development (see Figure 4.3), to support effective scaling-up of CLTS across the country. Effectively, it also showed serious shortcomings in political buy-in at the county level, along with failures to adequately resource the national roadmap from both a financial and capacity perspective (see Musyoki, 2016, this book and Wamera, 2016, this book).

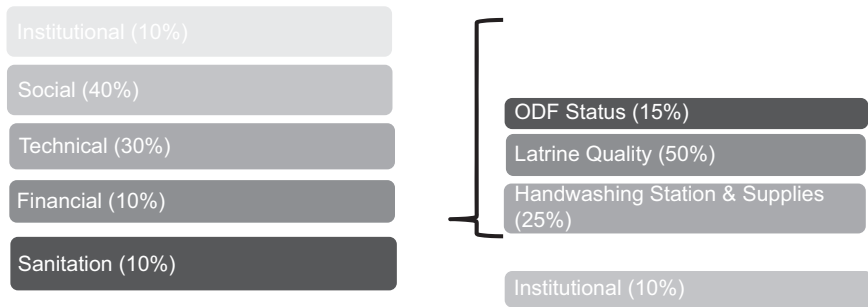
The micro-plan provides accurate financial figures needed at the county level to reach ODF and, as such, it provides a basic orientation for counties interested in truly taking on the approach. It also is an opportunity to raise the profile of sanitation within countries and counties. The tool could also be developed further to factor in post-ODF costs (Wamera, 2016, this book).



**Figure 4.3** Review of partnerships required for CLTS implementation in Kakamega County, Kenya  
*Source:* Singh and Balfour, 2015a

### **Sustainability checks**

Initially intended for water supply, sustainability checks (see Figure 4.4 for an example) have now been applied in the context of sanitation in countries



**Figure 4.4** Sustainability Check Framework, Mozambique

Source: UNICEF PowerPoint presentation

such as Mozambique, Rwanda, Malawi, and Zambia (Godfrey et al., 2009; Schweitzer et al., 2014). They are designed to support better understanding of how sanitation behaviours and facilities are maintained over time. They are a performance-oriented tool, undergoing continual adjustment to better reflect the complexity of the sanitation sector.

***CLTS Rapid Appraisal Protocol (CRAP)***

The CRAP tool (an extract of which is shown in Table 4.2), currently being tested and developed by UNICEF and the CLTS Foundation, will seek to provide support to countries undergoing a rapid expansion of CLTS programmes and those interested in ensuring quality in the scale-up process. A five to seven day participatory process, CRAP aims to support national governments in reflecting on the programmes and where adjustments may be needed to support effective scaling. The tool explores six pillars of CLTS programmes at the national, sub-national, and community level, as detailed in Table 4.2. Each pillar has two to three indicators at each level that cumulatively give a sense of where constraints may lie within the context of a national programme and helps to stimulate self-reflection by key stakeholders. The methodology for CRAP is largely focused on focus group discussions, key information interviews, and plenary debate intended to support self-directed dialogue rather than an extractive process of external-led evaluation.

**Table 4.2.** CLTS Rapid Appraisal Protocol (CRAP) dashboard

Pillars	Key questions at national and sub-national levels
Policy, roadmap and directives	<p><b>Is there strategy and political buy-in to drive CLTS?</b></p> <p>Is CLTS in the national sanitation policy along with requisite directives/guidelines?</p> <p>Is there a national roadmap with target, timelines, and milestones?</p> <p>Is there a clear lead ministry for rural sanitation?</p> <p>Is there a regional roadmap/plan with target, timelines, and milestones?</p>

**Table 4.2.** CLTS Rapid Appraisal Protocol (CRAP) dashboard

Financial planning and budgeting	<p><b>Is financial planning and resourcing of CLTS adequate/realistic?</b></p> <p>Is there a government budget line for national rural sanitation programming?</p> <p>Does the budget allocated at national level correlate to national rollout/roadmap plan?</p> <p>Is the budget allocation for rural sanitation used for CLTS activities?</p> <p>Is there a sub-national/regional plan consistent with the national plan?</p> <p>Is the sub-national/regional budget for sanitation sufficient to fund planned CLTS activities?</p>
CLTS protocol	<p><b>Is there one agreed CLTS protocol applied consistently nation-wide?</b></p> <p>Is there one national ODF protocol that has been endorsed by the national government?</p> <p>Does the protocol cover all relevant aspects including post-ODF aspects?</p> <p>Is the protocol followed by all CLTS partners in country?</p> <p>Is the national protocol (verification/certification/definition) well understood and adopted by the sub-national/regional authorities?</p> <p>Is there a clear, scalable, and accountable (i.e. third party or some such) verification and certification process in play at this level?</p>
Partnerships, capacity, and leadership	<p><b>Are there sufficient partnerships, capacity and leadership to sustain the programme?</b></p> <p>Are sufficient partnerships in place at national level to reach targeted communities across the country with CLTS?</p> <p>Is there any functional coordination mechanism among various partners to share resource/capacity?</p> <p>Are master trainers in place with requisite training materials/guidelines at national level to support training efforts?</p> <p>Is there a sufficient number of trained master facilitators to support CLTS implementation?</p>
Monitoring and coordination	<p><b>How is information captured and used for programmatic coordination?</b></p> <p>Is there a comprehensive and functional monitoring system linking local-regional-national information?</p> <p>Is there consistency between the data collected and the national CLTS protocol?</p> <p>Is monitoring data fed back into coordination platforms/other levels as applicable/available?</p> <p>Are monitoring indicators consistent with national CLTS protocol?</p>

*(Continue)*

**Table 4.2.** CLTS Rapid Appraisal Protocol (CRAP) dashboard (*Continued*)

Post-ODF sustainability	<p><b>Are mechanisms in place to ensure sustainability of behaviours and facilities post-ODF?</b></p> <p>Is post-ODF sustainability addressed as part of national ODF strategies?</p> <p>Are national level efforts being made to engage the private (formal/informal) sector in sanitation?</p> <p>Is there an institutional capacity building mechanism to support post-ODF research?</p> <p>Is there a mechanism for engagement of the private (formal/informal) sector?</p> <p>Is there an institutional system to support and monitor post-ODF actions?</p> <p>Is a process/system of participatory technology development, institutional capacity building?</p>
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#### **Box 4.2. Issues for community-level interaction for CLTS**

##### **Policy to practice**

- In the perception of community leaders, do local government authorities understand the importance of CLTS and do they ever mention achieving national ODF objectives?
- Do community leaders understand the shift from toilet construction to collective behaviour change?

##### **CLTS protocol**

- Is there a clear understanding of CLTS process and protocol by the facilitation teams?
- Is the average time between triggering to ODF under three months?
- Are communities aware of options of safe sanitation and able to access relevant information?

##### **Partnership, capacity, and leadership**

- Do target villages have assigned trained facilitators (ratio)?
- Are there formal mechanisms to engage Natural Leaders in the scaling up process?
- Are community leaders aware of the CLTS programme and do they understand its importance?
- Have traditional/clan/religious leaders been leveraged to support rollout?

##### **Monitoring**

- Is there a community-led monitoring and verification system in place to collect and feed local data into the regional/national monitoring system?
- Is there clear comprehension of monitoring requirements by the frontline staff?

##### **Post-ODF action**

- Is there evidence of leveraging collective action to move up the sanitation ladder and other development benefits?
- Is there capacity building, access to skills/information/materials and low cost design or products to support improved sanitation?
- Is there a process for engagement of traditional authorities to support/enforce ODF as a social norm?
- Is there a system of post-ODF monitoring and support system for upgrading?

*Source:* Kar et al., forthcoming

## Final thoughts: lessons to strengthen sustainability

CLTS has evolved from a community mobilization approach for sanitation into the most widely adopted strategy of national rural sanitation programmes globally. With this shift, from method to policy, comes a need to build out the approach to address core issues of sustainability: budgeting, programme design, equity and inclusion among others, to truly go to scale with quality.

We have learned that CLTS, done well, works for changing behaviours and achieving sanitation outcomes better than any other approach the sector has seen. It's also clear that sustaining behaviours is difficult and most programmes lose out on their initial efforts by not investing more resources into the factors that will ultimately sustain both behaviours and structures. *Often these factors imply complementing interventions – beyond CLTS – that will sustain behaviour change; a contextual application of interventions needed on both the demand and supply side of sanitation.* Understanding these factors and systematically applying the knowledge into programmes is a sector priority.

Putting it all together at a meaningful scale with the right investments in capacity building, local leadership, coordination, and strategy is the ultimate goal. Sector diagnostic tools are a step in the direction towards understanding what makes CLTS work at scale, and their use is becoming more ubiquitous as countries look for more evidence-based ways of making policy and decisions for the sector.

The following chapters in this book will address these dimensions with more specific cases and insights from around the world.

## About the author

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## Endnote

1. Study on willingness to pay for sanitation in CLTS villages, University of South Florida, 2011–2012 (100 households in six villages surveyed 1.5 to 2 years after CLTS triggering) (Meeks, 2012); impact evaluation of CLTS, University of La Plata/PEP network, 2011–2014 (60 intervention villages and 60 control villages surveyed before implementation and again one year after the end of programme operation, between five and 20 months after ODF certification) (Alzua et al., 2015); impact evaluation of WASH in schools, Emory University, 2011–2014 (100 intervention schools and 100 control schools surveyed before, during, and after implementation, for some schools up to 25 months after they had benefitted from the CLTS+SLTS triggering session) (Trinies et al., 2015).

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