Frontiers of CLTS: Innovations and Insights

Sustainability and CLTS: Taking Stock

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About the CLTS Knowledge Hub

IDS has been working in support of Community-Led Total Sanitation (CLTS) since its beginnings. CLTS has now become an international movement for which IDS is the recognised knowledge hub.

The Knowledge Hub is dedicated to understanding the on-the-ground realities of CLTS practice and to learn about, share and promote good practices, ideas and innovations that lead to sustainability and scale. We seek to keep the CLTS community well connected and informed and to provide space for reflection, continuous learning and knowledge exchange. We work in collaboration with practitioners, policy-makers, researchers and others working in the development, sanitation and related communities.

Ultimately, the Hub's overarching aim is to contribute to the dignity, health and wellbeing of children, women and men in the developing world who currently suffer the consequences of inadequate or no sanitation and poor hygiene.

Front cover

A WOMAN STANDS OUTSIDE OF HER CLEAN AND SANITARY LATRINE, AUE ANJARASOA, AMBALAFENO, SOAVINA, BETAFO DISTRICT, VAKINANKARATRA REGION, MADAGASCAR, FEBRUARY 2012

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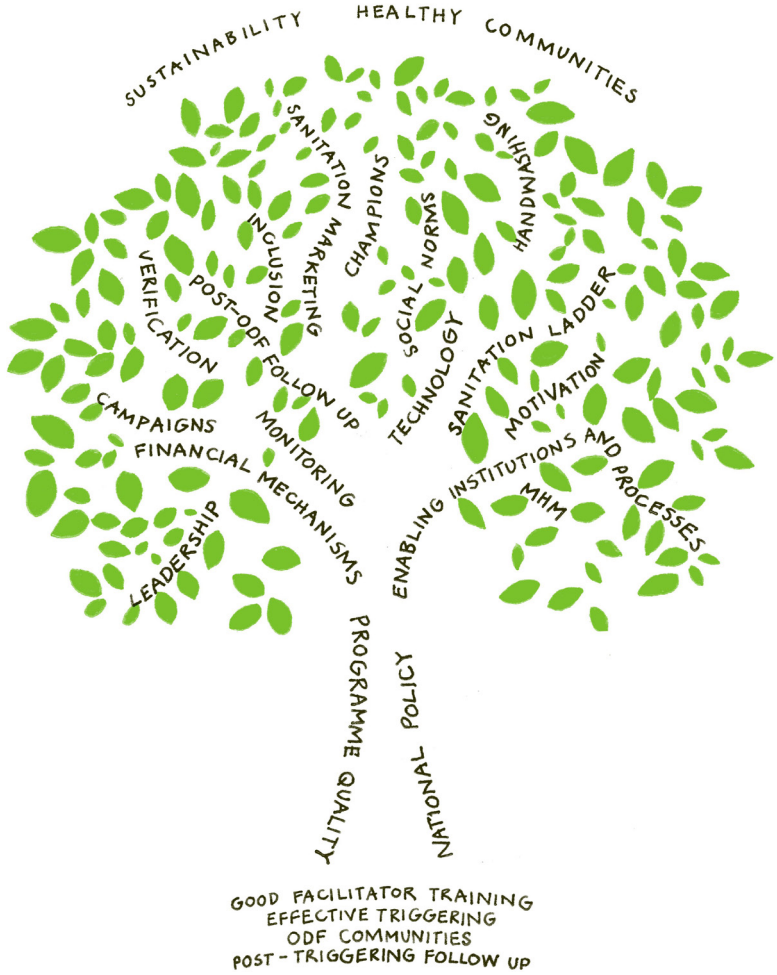

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Sustainability and CLTS: Taking Stock[1]

Context

Each of three overlapping phases in the history of CLTS has presented its own major features, preoccupations and priorities:

1. *Early growth and acceptance.* Creativity, rapid learning, credibility. Refining methods, start-ups in countries, establishing bridgeheads, facing down scepticism, resistance and rejection, finding and supporting champions.

2. *Going to scale.* Rapid national, international and organisational spread. Maintaining quality in training and performance, verification, knowing the field realities.

3. *Mature engagement.* Sustainability and scope. Post-ODF (Open Defecation Free) follow-up, marketing and the sanitation ladder, problem environments, environmental risk when pits are emptied or replaced, diversity, depth and breadth of research to refine CLTS, wider frontiers.

In recent years, sustainability of ODF conditions in rural areas has repeatedly been a top concern in workshops and conferences. Other issues of this series will explore and review wider frontiers and aspects of scope and diversity. This issue seeks to summarise and take stock of what we know about sustainability, practical implications of that knowledge, and what more we need to know.

Definitions and dimensions

What has to be sustained? For CLTS, sustainability refers to whole communities and their ODF status. Definitions and criteria for assessing ODF communities typically include the following criteria:

- Eradication of open defecation in the community.
- Household latrines which are hygienic, provide the safe containment of faeces, offer privacy, with a lid on the defecation hole and a roof to protect.
- Use of sanitation by all household members and all in the community.
- A handwashing facility nearby with water, soap or ash, and evidence of regular use.

[1] This issue of *Frontiers of CLTS* is an attempt at an up to date synthesis of where we are at the beginning of 2015. We are very aware that this is a rapidly evolving field, with changes, insights and developments emerging constantly, and would very much welcome inputs, suggestions and comments from readers.

Some countries have added other elements or a more stringent status defined as ODF + (nb. children's shit not included):

- Handwashing.
- Safe drinking water storage and handling.
- Food hygiene (elevated dish drying racks, covering of food).
- Grey water disposal.
- Solid waste management.
- Provision of institutional latrines in schools, markets and for passers-by.

Sustainability of ODF in its fullest sense would refer to the existence and maintenance of all these behaviours, conditions and facilities including the cleanliness and hygienic use of toilets by all in a community over time, and the safe management and disposal of faecal sludge. In current usage, CLTS sustainability refers to communities that have been verified as ODF (having achieved the locally required criteria) and then certified (having that status officially confirmed, usually through a third party verification) and then maintaining that status. In some cases re-verifications are carried out to confirm whether ODF status has been sustained.

Handwashing in Malawi. *Credit: Petra Bongartz.*

Statistics for sustainability are based on the assumption that communities were ODF in the first place, and fulfilled all the criteria they are being re-evaluated on (see for example the Plan study). Actual slippage can be exaggerated if the original verification and certification were of lower quality than the re-verification. This can be the case where communities 'put on a show' for the occasion or where the original criteria such as 100 per cent handwashing with soap were unrealistic or hard to verify. This is liable to happen especially when verification is inadequate or unprofessional and when there are rewards for becoming ODF. Although it varies from state to state, this has occurred with the Nirmal Gram Puraskar awards in India (for which CLTS was not used) in which many communities were never ODF in the first place (CLTS Knowledge Hub 2011, 2012). Statistics are also vulnerable to distortion if criteria used in the re-verification differ from those in the original verification. It is often not clear whether reports of slippage refer to household members reverting to OD or to numbers of communities that have failed to remain ODF or else fail to meet other ODF criteria (such as handwashing, or water protection).

Four major studies and their findings

The four studies

The sources on which we draw include four major research projects:

Plan International in Africa

Plan International Australia commissioned research, conducted in 2012-3, on ODF sustainability in Plan International's programmes in Ethiopia, Kenya, Sierra Leone and Uganda (Tyndale-Biscoe et al 2013). The study used national definitions of ODF and re-verified the ODF status of 116 communities which (with a few exceptions in Uganda) had been declared ODF two or more years earlier. Village size ranged from 6 to 138 households with an average of 43. Methods included re-verification of all 4960 households, and household participatory sanitation timelines. Headline findings were:

- The re-verification data found that 87 per cent of the 4960 households still had a functioning toilet. Of the 116 villages, 27 still had full toilet coverage, and the remaining 89 had slippage rates ranging from 2 per cent to 57 per cent.
- The CLTS programme had been very effective for building simple pit latrines but almost none of the households had moved up the sanitation ladder, which is particularly important if such toilets are not functioning or unhygienic.
- The most commonly cited reasons for the 13 per cent slippage were financial constraints, no more support from within the community, inconvenience and discomfort, rebuilding and emptying pits, and sharing.
- Other findings were that of the 4960 households in the study, 89 per cent had no visible signs of excreta in the vicinity, 37 per cent had handwashing facilities, 25 per cent had handwashing facilities and soap/ash, and 19 per cent had a lid covering the hole.

Discussing Factors, Kilifi, Kenya. *Credit: Plan International, Plan ODF Study*.

The authors note *'that the study worked on the assumption that at the time of ODF certification, all households in all villages met all these criteria – an assumption that is impossible to verify. In fact it is likely that less than perfect ODF verification processes will have let some households through that did not meet all the criteria. Thus the slippage figures presented are likely to be higher than the true figures, which on one hand means that the actual slippage is lower than indicated but on the other that the initial success at achieving ODF villages is also less than assumed'* (Tyndale-Biscoe et al 2013: 30). This is particularly true for the non-OD related criteria.

UNICEF Evaluation

UNICEF commissioned a major evaluation, carried out in 2013, of its CATS (Community Approaches to Total Sanitation) programmes (UNICEF 2014). CATS, adopted by UNICEF in 2008, shares principles and approach with CLTS. In 2014, it was being implemented in 58 countries. The many activities of the evaluation team included 10-14 day visits to India, Nepal, Mozambique, Sierra Leone and Mauritania, selected for their representative diversity. While finding CATS programmes effective and efficient, concerns were raised over sustainability in the post-ODF certification phase, notably:

- Durability of infrastructure.
- Development of the supply side, requiring experimenting with innovative financing mechanisms and stronger engagement with the private sector.
- Continuous adherence to social norms for ODF behaviour.
- Lack of subsidy, meaning there were sustainability and equity implications regarding hardest-to-reach communities and ultra-poor populations.

ODF village, Indonesia. *Credit: Water and Sanitation Program/World Bank.*

Indonesia

In 2010, WSP conducted research on sustainability in 80 CLTS-triggered communities in 20 Districts in East Java using an extensive repertoire of participatory methods (WSP 2011; Mukherjee et al 2012). Twenty communities were selected in each of four categories – quickly ODF, late ODF, not ODF but with high coverage, and not ODF with low coverage.

Findings included that:

- Quality of triggering was a significant factor, but good quality CLTS triggering alone did not guarantee ODF outcomes.
- Quickly ODF communities were the most efficient model for scaling up sustainably: 95 per cent of these had sustained their behaviour change 4 to 28 months after ODF declaration.
- Sustainability was related to social capital and support within communities, leadership, availability of desired materials, absence of subsidies, and post-ODF follow-up by external agencies together with communities.

Bangladesh

Public latrine in a bazaar, Banaripara Upazila Barisal District 2009. *Credit: Anwar Islam / Water and Sanitation Program/World Bank.*

WSP commissioned a study in Bangladesh to examine the status of 53 Union Parishads which had achieved 100 per cent toilet coverage before 2005, which was at least 4.5 years earlier (Hanchett et al 2011). 89.5 per cent of 3000 households surveyed were found to own or share a toilet that safely confined faeces. The focus was on defecation practices, physical facilities, and related services. The study compared local outcomes according to the initial campaign approach: local government only, NGOs under contract, NGOs using CLTS methods, or NGOs not emphasising CLTS methods. CLTS communities had significantly more improved toilets (including those shared by more than one household). A higher percentage (28 per cent) of toilets in CLTS areas were shared by more than two households than in other areas (11-20 per cent). Another important finding was that shared toilets were more likely to be dirty than private toilets, 65 per cent of shared toilets being found to be 'unclean' compared to 49 per cent of private toilets. OD levels in a sub-group of 13 unions were found to be no better in CLTS areas than in others perhaps because CLTS areas had more sharing. Cleanliness of toilets was a concern in all areas, especially with shared toilets. Factors in sustainability included post-ODF follow-up programmes, local leadership, assistance to poor families, and ready access to toilet parts and services. Households that received post-ODF follow-up visits were 1.4 times more likely to have improved toilets.

Other sources

We also draw on other sources including WaterAid research conducted in Bangladesh, Nepal and Nigeria in 2008-09 (WaterAid 2009; Robinson 2009), mostly quite soon after ODF verification; Mozambique's 'one million initiative' (Pendly and Obiols 2013); a GOAL programme in Sierra Leone (Boot, 2014); and other reviews for example by Eduardo Perez et al (2012) and Kathryn O'Connell (2014). We also note emerging evidence of cases where little or no difference in health outcomes has been found between OD and unimproved simple pit latrines (Quattri and Smets 2014; WSP 2014a; WSP 2014b; Beyene and Deressa 2015).

All these studies taken together point to the rarity and importance of moving up the sanitation ladder or starting above its lowest rung.

In this review we separate out three dimensions of sustainability:

- **Enabling conditions**, referring to institutions and processes.
- **Physical and technical sustainability**, referring to physical conditions, structures, the sanitation ladder and the market.
- **Social and behavioural sustainability**, referring to social and behavioural norms and dynamics within communities and cultures.

These interact and strengthen or weaken one another.

Enabling conditions of institutions and process

Enabling conditions include political priority and campaigns; quality, inclusiveness, intensity, planning and timing of activities; and post-ODF follow-up.

Government of Ende District and Plan Indonesia signed a MoU of STBM (national strategy for hygiene and sanitation using the CLTS approach) Implementation for four years. *Credit:* Nasrus Syukroni / Plan Indonesia.

Political priority and campaigns: The most successful countries in achieving ODF communities have made sanitation a high political priority.[2] National campaigns, sustained over years, with strong political and administrative leadership and national and local levels, have been prominent (for a checklist of practical actions on campaigns, see Chambers 2013). A multi-sector and multi-stakeholder approach with the support of a vibrant NGO sector has been common (Hanchett et al 2011). In Bangladesh, the 2003-2006 ODF campaign built on the foundation of earlier sanitation programmes (including the national Social Mobilisation for Sanitation campaign which ran from the mid-1980s into the mid-1990s). Households that remembered the campaign were more likely to have an improved or shared toilet.

[2] Many countries have now written national verification and certification guidelines, see www.communityledtotalsanitation.org/resource/national-protocols-and-guidelines-verification-and-certification.

Programme quality, inclusiveness and intensity: Quality of CLTS processes is fundamental for sustainable outcomes. Adequate pre-triggering preparation and successful triggering are basic. The more inclusive attendance is at triggering, the better: a target of 80 per cent of community members present is cited as a rule of thumb. The Plan study found that women's attendance at triggering was more important than men's. All community members, including people with disabilities, the elderly and the marginalised should be encouraged and supported to attend (for further details, see *Frontiers of CLTS* no 3). Days and times should be convenient for both men and women.

Women Leaders Meeting, Kilifi, Kenya. *Credit: Plan International, Plan ODF Study*.

Other significant factors are the frequency of purposeful follow-up field visits, the time and effort invested in these visits, and the role of Natural Leaders in addition to NGOs and local government staff and other champions and their continuity. Good results were achieved in UNICEF's programme in Mali with two follow-up visits per week until ODF status was achieved (Bevan 2011). Follow-up visits are essential after ODF status has been achieved.

Planning and timing of activities: This may be a factor in social sustainability. Sustainability can be planned from the start by anticipating later aspects such as the timing and phasing of marketing and services, microfinance, and post-ODF programming (see below).

Delays and backlogs in verification may demotivate communities and so risk reversion to OD (CLTS Knowledge Hub 2011) but a time lag between communities claiming of ODF and verification may engrain the habit of using a toilet (Thomas and Bevan 2013). In Nigeria, sustainability is thought to be promoted by delaying certification of ODF status until six months after verification (CLTS Knowledge Hub 2012).

Follow-up post-ODF: Follow-up and reinforcement are critical for sustainable ODF status but have been widely neglected. ODF certification has often been treated as a final event, leaving post-ODF sustainability to take care of itself. The UNICEF CATS evaluation (2014) noted that the capacity and resource needs after ODF achievement receive insufficient attention. There has rarely been a government or NGO budget for adequate post-ODF support. Many NGO budgets are time-limited with pressure to achieve targets, and terminate without provision for the longer term, especially with results-based donor funding. Both Government and NGOs tend to lack long-term institutional commitment and financial and other resources for follow-up and capacity building (Venkataramanan 2012), but there is more continuity with government staff than with NGOs.

The Sub-District and Tiwerea Village STBM Team conducted monitoring regularly to follow up STBM's 5 Pillars progress. *Credit: Nasrus Syukroni / Plan Indonesia.*

Post-ODF external support can include:

- More frequent and targeted household visits by government health workers.
- Regular re-verification programmes.
- Formalised systems of support to Natural Leaders.
- Ongoing visits by NGOs, local government staff and Natural Leaders.
- Marketing and supply of materials (see below).

The Plan study (Tyndale-Biscoe et al 2013) found that external support and encouragement influenced household decisions: OD households gave lack of support as the third most important factor in their decision to abandon their toilets. UNICEF's evaluation of CATS (2014) again highlighted the need for reinforcement activities to ensure that the new ODF behaviours are sustained. Thomas and Bevan (2013) recommend post-certification visits at least once per month during the first year. The WSP study in Bangladesh (Hanchett et al 2011) found

that the households that reported having been exposed to a follow-up program were more likely to have an improved or shared toilet than those without one. In Bangladesh, long-term sanitation programs have been established to support behaviour change, including a sanitation secretariat in government and celebrations in a sanitation month. Again and again evidence points to the conclusion that sustained ODF status is more likely with continuing external encouragement and support and where those engaged in follow-up are supportive and empathetic of communities and households rather than judgmental or lecturing.

ODF celebrations, Nepal. *Credit: Fiona Budge and Ministry of Water, Irrigation and Energy, Nepal.*

Actions that can be taken include performance contracts for health staff, mentoring and supervision, regular refresher training, and professional development to maintain the quality of interventions for behaviour change.

Good management, commitment and continuity of officials and other champions: Local government that actively promotes sanitation improvements is important. Planning at the pre-triggering phase, assessing information to improve CLTS programmes, effective information management systems and outcome indicators, and clearly defined roles for CLTS managers at district level all have contributions to make to sustainability (Maulit and Kang 2011). In Bangladesh, continuity of the Union Chair's leadership, commitment, enthusiasm, and dedication of resources was an important factor in sustainability: active Chairs improved sanitation practices in their unions, continually reminding people about the importance of hygienic toilets, supporting poor families, and reinforcing the new social norms. Passionate, committed champions, whether government officials, elected representatives, or other Natural Leaders, again and again stand out for their significant contributions to sustainability.

Financing mechanisms: For households to sustain the use of toilets, funds are usually needed for operation and maintenance, to replace or upgrade basic toilets, or to move out of shared arrangements (Hanchett et al 2011). Poor quality toilets can result from lack of household funds or low priority compared with other expenditures. Sources of funds can be a household's own savings, loans from sources like village savings groups and micro-credit, remittances, and sometimes targeted subsidies. These can increase the likelihood of sustained use of toilets.

Continuous promotion of raised standards: Once people have adopted the habit of toilet use, the expectation is that they will move up the sanitation ladder, and invest in better technologies. There is limited experience on how to encourage households to upgrade sanitation practices. In Bangladesh, moving up the ladder was associated with a follow-up programme, a local government champion and support for entrepreneurs who produced toilet parts as well as pit emptiers.

Promoters making a latrine slab, Chikompulazi village, Mzuzu, Malawi. *Credit: WaterAid/ Ernest Randriarimalala.*

Physical and technical sustainability

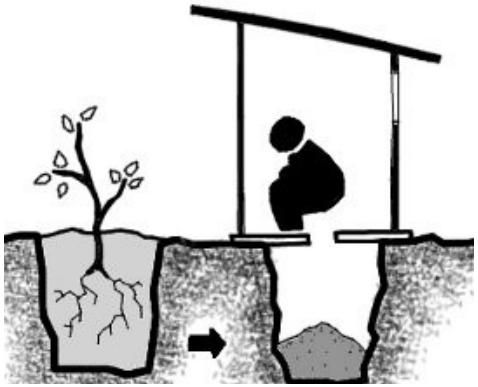
Physical conditions: Effective CLTS triggering often leads to immediate action to dig pits. The ease of doing this and their durability varies. In favourable conditions, digging is relatively easy and the pit walls stable. In sandy conditions, the walls tend to be unstable and to collapse especially in rains and floods. In hard rock conditions, quick digging is not possible, but where a reasonable sized pit can be excavated, it is stable. Frequent disasters like floods and pit collapses, as found in the Bangladesh study (Hanchett et al 2011), are discouraging and those affected may revert to OD or opt for temporary toilets of low quality. Areas affected by natural disasters (cyclones, floods, tidal surges, monsoon rains, landslides or tornados) require appropriate technical designs and often post-disaster interventions. Moreover, there tends to be a lack of guidance on pit depth: smaller pits tend to be more stable, and to become self-supporting as they fill over time, yet there are reports of pits as deep as 30 or 50 feet.

Other conditions weaken sustainability. Nearby water bodies – ponds

and lakes, and more so water that flows in streams, rivers and the sea – undermine the adoption and continued use of toilets because they provide convenient places for OD and cleansing. Lack of space to replace or dig new toilets where population is dense can also diminish sustainability, as can pollution of ground water.

Sustainability of handwashing and keeping toilets clean depends on water availability, its distance, how it is transported, and who brings it. Adverse factors are distance, hand carrying, and time and energy of those (often women) who bring it and do the cleaning. Enabling factors are proximity of water sources throughout the seasons, and transport by handcart or donkey.

Toilet quality, technical support and market supply: The Plan study (Tyndale-Biscoe et al 2013) found poor construction and materials a significant factor in the decision to abandon toilets, and that higher quality toilets were more likely to last and be maintained. Poor quality toilets without a seal or well-fitting lid are liable to smell and attract flies, deterring use and leading to abandonment. Households with access to technical support were more likely to maintain their toilets. In Bangladesh, where rains and flooding are common threats, substructure cement rings have been very widely used to prevent collapse. Rather than top-down standards or prescriptive advice, many CLTS programs leave it up to the community to design toilets. But with little previous exposure, making sustainable toilets is a struggle.



Arborloo. *Credit: SSWM Toolkit (EAWAG et al 2015).*

Pit emptying is another key factor in sustainable use. Building a toilet can be inhibited by wanting a very large and expensive pit to last longer before it fills, but larger pits tend to be less stable and increase the risk of collapse. Use of the toilet can be economised for the same reason, with some household members practising OD, especially when a pit is nearly full. Three factors can help: twin pits where one can be covered over and become good fertiliser while the other is in use; arborloos, where pits are small, covered over when full, trees planted, and another pit dug; and entrepreneurs who provide emptying services, which can raise issues of the safe disposal of faecal sludge. In South Asia, concepts of purity and pollution, and the low and excluded status of 'sweeper' castes can be a factor in toilet users of other castes wishing to postpone having to face issues of sludge disposal.

Market and service access for affordable sanitation products, goods and services can be a precondition for durable construction, moving up the sanitation ladder and sustainable use including:

- Technical innovation which reduces the costs of toilets (WaterAid 2009), including participatory design as described in *Frontiers of CLTS* no 1, and planning for what happens when the pit fills.
- Entrepreneurs who meet the market for low income consumers' needs with durable products and materials like slabs and rings or bricks for pit lining.
- Funding R&D to develop cheap and acceptable technology, for example the Selling Sanitation Initiative.[3]
- Easy ways to dig new pits.
- Masons for construction and repairs.
- Access to finance for upgrading toilets to move up the ladder.
- Pit emptiers as in Bangladesh where they can be called on their mobile phones.
- WSP have developed a simple tool (2-sides of A4) for public health workers to give guidance on pit depth, shape, lining, slabs and superstructure (to be published in 2015).

A further condition is that householders and local committees have the technical knowledge and confidence to monitor and assure quality of materials and construction.

Elifa Mwaungulu, building a latrine slab, Chikompulazi village, Mzuzu, Malawi. *Credit: WaterAid/Layton Thompson.*

Sani park, Miandrivazo, Madagascar, 2012. *Credit: WaterAid/ Anna Kari.*

[3] A joint International Finance Corporation (IFC) and the World Bank Water and Sanitation Program (WSP) initiative, see www.wsp.org/sites/wsp.org/files/publications/WSP-IFC-Brochure-Selling-Sanitation-FINAL.pdf

Zinah and her daughter, Zin, 13 years old, building their toilet. Ambohimasina village, Talatan' Angavo commune, Ankazobe district, Analamanga region, Madagascar. October 2013. *Credit: WaterAid/ Ernest Randriarimalala.*

Social and behavioural sustainability

Sustainable change in social norms: Social norms contribute to people's preference for OD or ODF. Social norms are socially accepted or agreed values, beliefs, attitudes and behaviours – reflecting what a person considers right and expected behaviour. This is related to how people think others expect them to behave, and what most other people do. CLTS triggering and processes are designed to provoke collective behaviour change, transforming social norms from OD to using a toilet with whole communities becoming ODF. In ODF communities, the social norm is then that people expect others to use toilets and hygienic behaviour and believe that others expect them to do the same.

Many triggers, tools and activities are described in the literature (e.g. in the *CLTS Handbook* (Kar with Chambers 2008)) and others are continuously being innovated. Notable among innovations is public pledging. In West Bengal, as part of CLTS processes all members of seven communities came together and individually pledged and signed in public that they would stop OD. The pledges were widely remembered two and a half years later (pers comm. Sujoy Chaudhury), contrasting with the common experience that not everyone in a community is present at a triggering and not many remember it later.

ODF is widely considered to be more sustainable in homogeneous communities or separate communities of Muslims or Hindus (Geruso and Spears 2014). Especially in heterogeneous and socially divided communities, much remains to be learnt about approaches, complexities and subtleties in transforming and sustaining changes in social norms.

Government promotion, coherence and consistency are also important influencers on social norms. In parts of Madhya Pradesh, India, the government's discourse promoting cleanliness and sanitation encouraged communities in their behaviour change, reinforced by improvements in sanitation in schools and *anganwadis* (nurseries for small children). This avoided the common mismatch of a strong push for households to build their own toilets when the government does not build their own in public buildings (Andrés Hueso, pers com.).

Motivations: Motivational factors for latrine adoption and sustaining ODF behaviour include positive social pressure like prestige, and perceived benefits – convenience, privacy, dignity, saving time spent going for OD, safety, health benefits, dissatisfaction with existing arrangements, and stigma and discrimination when OD is frowned upon. Disgust is also a motivational factor (Curtis 2013). These factors depend on geographic and religious characteristics and evolve over time

Transect walk: a boy covering his mouth in disgust, Gejeji village, Dembel district, Somali region of Ethiopia. *Credit: Ahmed Abib.*

(Allan 2003; O'Connell 2014). The WSP study in Bangladesh (Hanchett et al 2011) found that persuasion, social norms, public education and community level monitoring were more effective ways to motivate sustained ODF communities than threats, coercion, fear and force. The Plan study (Tyndale-Biscoe et al 2013) found the common motivators to be health; shame/ pride/ disgust; privacy/ security and convenience/ comfort. Marriage in South Asia is closely related to norms and family status and can be a motivational factor for adoption of ODF behaviour: there are reports of households putting in a latrine to arrange a good match for their child (see e.g. Hanchett et al 2011).

A WSP review (O'Connell 2014) found a number of motivational factors, including access to and availability of functioning latrines, sanitation products, and services; latrine product attributes (e.g. perceptions of cleanliness and durability); social norms; perceived latrine affordability; people's ability to build and maintain for themselves; and the competing priorities of other household expenditures. Emotional, social, and physical drivers were also identified, including: shame and embarrassment associated with OD; perceptions of improved social status, privacy, and convenience associated with latrine ownership and use; and contextual physical and geographical conditions (e.g. access to water and soil profile), seasonal factors, and the time of year.

Natural Leaders: The importance of Natural Leaders in the scaling up and sustainability of CLTS has long been known, along with the good will, engagement and passionate support of local leaders. Success in sustaining ODF is reported where Natural Leaders, Chiefs or other respected local persons perform home visits and door-to-door monitoring to encourage people to maintain and improve on the new behaviours, conditions and facilities. It has also been suggested that key influencers should be identified in pre-triggering and then included in the CLTS process (Maule 2013). The important part played by children and teachers has been recognised since the early days of CLTS (see e.g. the *CLTS Handbook* pp50-53), and their part in follow-up and monitoring OD is also well known. Children can become Natural Leaders.

Natural Leaders in Pateliya community. *Credit: Vijeta Rao.*

A few Natural Leader organisations are now emerging. A study assessing the potential of two of these in India has just been published (Rao 2015). In Oromia, Ethiopia, Natural Leaders have organised themselves into an association that is set up like a business, has legal status and its own bylaws. Plan has supported it through training to acquire business skills to make them profitable and sustainable. The association focuses on ODF sustainability and moving communities up the sanitation ladder, for example through producing slabs and other sanitation and hygiene materials and selling them to community members. The association also collects solid waste from the nearby rural town, composting the degradable parts and burning non-degradable waste (Jalloh et al n.d.).

Shared toilets or community toilets: Shared toilets may make ODF less sustainable through issues of:

- Cleanliness, when others mess up a toilet.
- Who is responsible for keeping it clean.
- Waiting and queuing, and so reverting to OD for personal convenience and/or to reduce waiting time for others (for instance, children getting ready for school).
- Rapid filling up and becoming full.
- Pit emptying – who can do it, who arranges it, and who pays.
- Digging a new pit when the first one is full.
- Who maintains or upgrades the facility and how labour and
- costs are shared.
- Danger and violence especially in urban conditions when lacking household toilets and having to use shared ones notably at night exposes women to risk of assault (see House et al 2014, and the forthcoming issue of *Frontiers of CLTS*).

Some people prefer open defecation: Though not CLTS-related, a survey of Sanitation Quality, Use, Access and Trends (SQUAT) in rural north India, is revealing: it found that 40 per cent of respondents preferred OD even when their household had a working toilet, and that toilet, handwashing or other hygiene practices varied substantially even

within households (Coffey et al 2014; SQUAT 2014). The Plan study (Tyndale-Biscoe et al 2013) also revealed that even in households that maintained their toilets, some household members could still be practising OD. These findings are echoed in anecdotal reports on CLTS: some people prefer OD especially if their previous experience of using a toilet was an unhappy one.

Research and experience have shown many reasons why people with toilets still prefer OD including:

- The toilet was provided for them, not something they chose.
- It can be put to other uses – storing animal fodder, fuel etc.
- To delay the toilet filling up, reserving it for some members of the family, visitors, night time and/or rainy conditions.
- To allow others to use it, for instance children getting ready to go to school.
- Toilet is dirty and/or smelly.
- OD is considered healthier and more pleasant, in the open air.
- OD is embedded as a routine and habit/ social norm.
- Fear of collapse, or danger to children.
- Superstructure does not give enough privacy.
- Social taboos (e.g. father-in-law, daughter-in-law should not use the same one).
- No toilet available when away from the dwelling, for instance when farming.

Equity and inclusion: Social sustainability has an important equity and inclusion dimension. Many people have particular needs for their access to sanitation, for example people with disabilities, the elderly, the chronically sick, low-income community members, and children. The varied nature of their needs and how they can be met has to be integrated into the CLTS process for sustainability for the whole community to be achievable (for further information, see *Frontiers of CLTS* no 3). The integration of these equity and inclusion dimensions has to start right from the training of facilitators and needs to continue to be monitored beyond ODF.

Illustration by Regina Faul-Doyle.

Sanctions against those who continue open defecation play an important part in social sustainability. Stigma is a deterrent. Questions of justice and rights can be raised (e.g. Stangl and Trasi 2011). Opinions differ about how far sanctions should go and when they should be introduced. They fall into two categories: those decided and exercised by communities and community WASH committees; and those imposed administratively or legally. Sanctions within communities include waiting before dawn to intercept and discourage open defecators with anything from polite requests to singing songs and blowing whistles; and deciding on community fines (which however seem to be rarely imposed). Schools and school children often play a part. Administrative and legal actions are usually part of general campaigns of which CLTS may or may not be a part: refusing licences for those without toilets, withholding and delaying entitlement payments, or threatening to do these; and even in rare cases taking or threatening to take photographs or videos. Some of these sanctions may be valid while others are questionable. A forthcoming issue of *Frontiers of CLTS* will explore CLTS and human rights.

The evidence on whether use of a toilet and sustainability are associated with age, gender, livelihood, educational level, marital status, having children, as well as residence (urban, rural), is mixed, although female-headed households have been found more likely to use a toilet (Hanchett et al 2011). Wealth is generally the most important predictor of having an improved toilet, though in CLTS poorer households may dig simple pits while some richer households delay because they aspire to a higher standard of toilet or because they feel less subject to social pressures.

Sanitation and hygiene practices can vary within a household and also change over a life cycle, for example:

- Men may not want to share a toilet with a wife/partner or daughter who is menstruating – for fear of contact with polluting fluids – and so revert to OD at these times or else the woman is excluded from using the toilet.
- Disposal of infant and child faeces depends on adults. It depends on what caregivers choose to provide or encourage as well as awareness by carers of the contamination risk from infant excreta. If children do not want to use toilets for whatever reasons this can affect the willingness of the caregiver to insist the child uses the toilet (Hueso 2014).

The changes in behaviour and thinking required to firmly accept and embed ODF and hygienic practices as social norms are rarely sudden and universal. They usually require time, patience and determination.

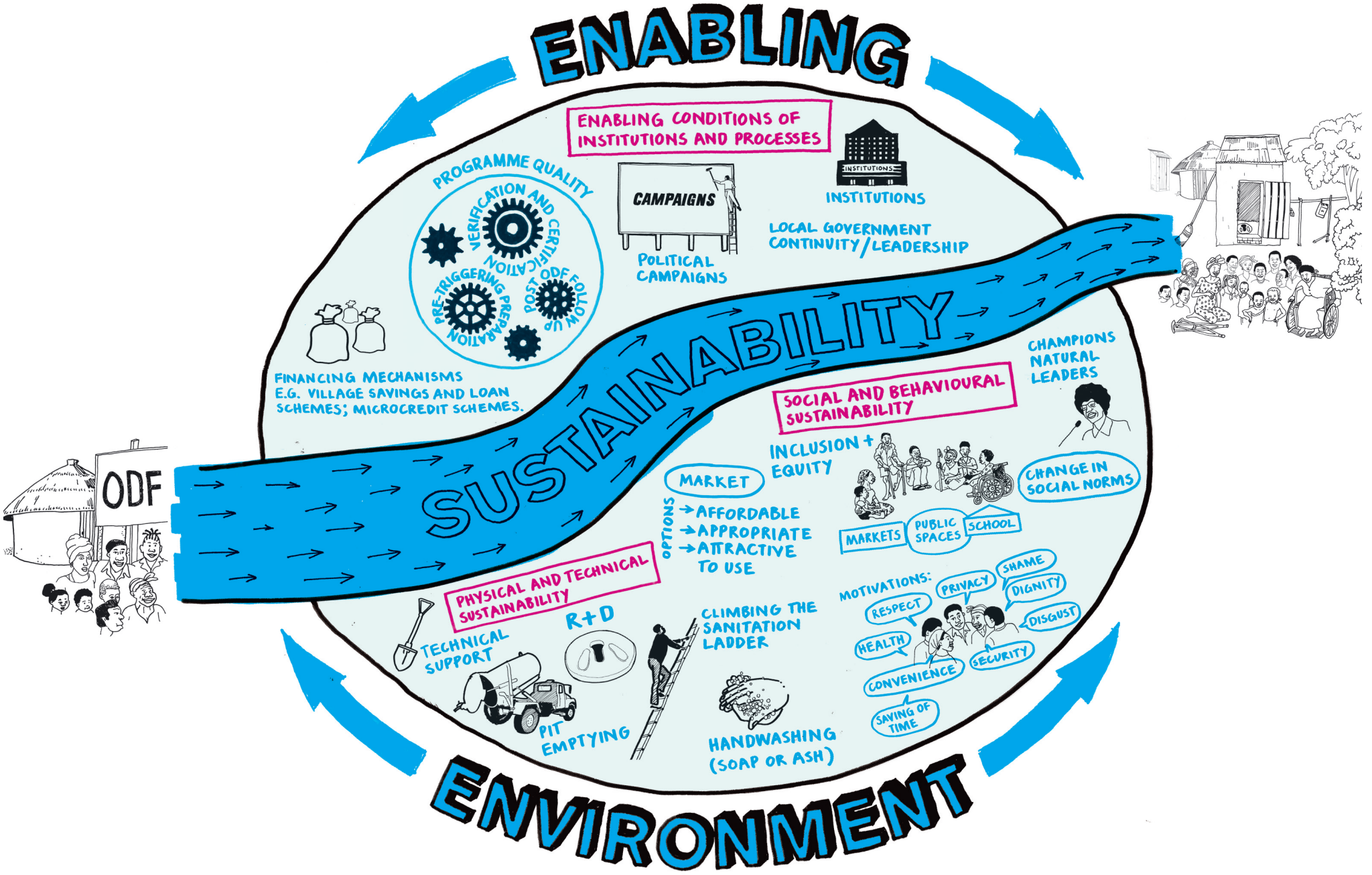


Illustration by Barney Haward

Future frontiers for action and research

Other reviews have generated agendas for action and research (e.g. Perez et al 2012). Drawing on those, and from the evidence reviewed here, five key critical areas beyond ODF for sustainability-related action and research stand out. Each deserves to be a *Frontier* in its own right and much remains to be learned about how to do better.

1. How and when to phase in sanitation marketing

Promoters making a latrine slab, Chikompulazi village, Mzuzu, Malawi. *Credit: WaterAid/ Layton Thompson.*

Pre-ODF there may be a trade-off between speedy construction (often a simple pit) and slower progress with more durable technology (such as rings for pits). Post-ODF there is a common expectation that households will climb the 'sanitation ladder', investing in higher levels of technology to provide more comfort, convenience and durability. Experience shows there is no guarantee that this will happen. Sanitation marketing has been seen by some as a means to generate demand for sanitation products and services. However, expensive and prestigious technology and structures can be premature, setting standards which inhibit self-help and leave out the poorest, those with the highest disease burden, and also those most likely to revert to OD. Ineffective implementing sanitation marketing programmes can delay households completing toilets.

On the other hand, lack of promotion and supply of appropriate materials can perpetuate unstable and unhygienic structures and frustrate those who wish to upgrade. The challenge in each setting is to know what technologies and materials should be available, at what stage to optimise and promote self-help, ownership and sustainability. Also key is how technical advice can be used effectively to help poor households to upgrade and improve their toilets at minimum cost.

There is a lot that can be done for poor households without the need for private sector interventions, for example carrying out community-level interventions that identify durability and hygiene risks of existing toilets, and provide information on low-cost options to improve these weaknesses; prolonging the life of the toilet and making it more hygienic.

Elements in solutions have included:

- Formative research to learn what people want including human centred design – working with communities to design products they want and aspire to but at a price point they can afford.
- Identifying appropriate technology and materials.
- Providing access to microfinance services.
- Encouraging local entrepreneurs to recognise, develop and supply the potential market.
- Government or NGO sanimarts or sanitation demonstration centres to promote toilet options for problem conditions such as high ground water tables, unstable soils, and congested urban or village areas with space limitations. Such sanimarts and centres have, however, had an often disappointing record.

The phasing in of appropriate supply through the market to meet demand generated by CLTS presents many challenges. Despite the importance of durable toilets and market supply, we need to know more about how and when to phase in a sanitation marketing programme. A case by case approach may be best. The WaterAid study in Nigeria (Robinson 2009) recommends introducing a second-phase intervention a year after the initial CLTS intervention to review the sanitation outcomes and use a sanitation marketing approach to upgrade facilities.

Collection and analysis of experiences and action research are needed to help agencies to learn how to:

- Identify, and if necessary facilitate the development of, appropriately durable and affordable technologies.
- Optimally trade-off between speed of achieving ODF, and the level, durability and cost of technology.
- Optimise the phasing-in of sanitation marketing with CLTS processes.
- Encourage and support entrepreneurs to supply the sanitation market effectively.
- Monitor the effectiveness of sanitation marketing and whether it reaches poorer, vulnerable and disadvantaged households (as they are rarely the ones who buy the goods and services marketed – it tends to be the middle income group within rural communities).

2. Post-ODF engagement of governments, NGOS, donors and others

Verification in Zambia. *Credit: Petra Bongartz.*

Sustainability post-ODF should be planned for from the start. Implementing agencies and their funders do not typically have a strategy for continued improvements post-ODF or for countering slippage. Such a strategy requires early planning by Governments, NGOs and funding agencies to include monitoring and programme actions, together with budget allocations and accountability for sustained results.

There is little documentation on post-ODF follow-up or training individuals and NGOs to carry out third party verification and thus to increase the pool of certifiers. Exceptions include guidelines for post-triggering follow-up in Malawi (EWB 2010) and a *Community Follow-Up Workshop Facilitation Guide: For Orientation of Community Leaders* (InterAide and EWB 2012). As with other CLTS activities, government action and responsibility will almost everywhere be the key. Where NGOs are involved, this demands a closer collaboration with governments at the initial stages of the intervention.

Effective monitoring, backstopping and engagement over an extended period of time post-triggering requires a better understanding of:

- What activities will be most cost-effective and over how long?
- Which organisations – mainly Government Ministries but also NGOs, should be responsible for carrying the activities out, and appropriate institutional arrangements?
- How to provide adequate staff time (often given competing activities) and incentives.
- Levels and duration of funding for these activities.
- How to ensure a sustained institutional enabling environment and sustained priority for post-ODF activities.

3. How to ensure equity and inclusion

ODF conditions require that all in a community have access to sanitation and adopt hygienic practices. For some this is very difficult or impossible without support. The most disadvantaged may be the destitute or very poor, without relatives to help, physically weak, chronically sick, those living with HIV/AIDS, widows, the aged, or others with physical or mental disabilities (see *Frontiers of CLTS* no 3). Other groups requiring consideration are migrant labourers and the homeless. For all of these, consistent hygienic behaviour is a challenge (Hanchett et al 2011; UNICEF 2014). In CLTS, triggering and follow-up are meant to encourage solidarity in the common interest, with those who are better off supporting those with special needs. Many cases of this are reported but it may often not be enough. Disaggregated, systematic and large-scale monitoring is required to check outcomes amongst the most disadvantaged so that decision-makers (and funders) can take appropriate action.

One solution could be a more resource-intensive approach to CLTS, to address inequalities and ensure more equitable outcomes, but this would risk undermining CLTS self-help. The question remains: what approaches can deliver permanent change for those most disadvantaged? More needs to be known about:

- How much, by whom and for whom, can be done by community members themselves individually or collectively, and how much should come in support from outside.
- How such actions can be phased and facilitated.
- How flexibility for the content, scale and intensity of CLTS can fit people's specific needs.
- How sustainability of such support can be assured.
- Should there be targeted subsidies for the poorest and how would this be done?

4. How to transform social norms

Social norms are key to sustainability. A high level of social capital and/or strong sanctions can increase willingness to invest collectively in creating an ODF community. The new social norms are more likely to be upheld when sanitation and hygiene practices can be easily integrated into daily routines, when the majority of people are convinced of the need for sanitation and hygiene, and when friends or neighbours have positive experiences and views of sanitation. Social networks can also

reinforce the expectation that others will follow new social norms for sanitation and hygiene behaviour. Dedicated efforts are also required to target key groups and influencers in setting and changing social norms. In Bangladesh and elsewhere, major shifts in women's status and empowerment, and the influence of widespread women's groups may well have been a factor in sustainability. A significant influence is also the coherence and consistency of Government and institutional practices, for instance with toilets in offices and schools.

There is much that needs to be further investigated with regard to social norms and their sustainable transformation. Questions include:

- What are the social norms being created? How do they vary by context, community and culture?
- Is it useful to identify and work with key influencers even before triggering?
- What triggers, pressures, sanctions and other influences lead to and sustain changes in behaviour?
- What impedes change in norms and behaviour or leads to reversion – forgetfulness, laziness, force of habit, convenience (e.g. if living near water), need to be relieve oneself as quickly as possible, defecation unpleasant in a small space and so on).
- What are the social dynamics – and intra-community and intra-household dynamics – that contribute to maintaining ODF conditions, and of reversion to OD?
- The impact on ODF behaviour of men's concerns about contact with menstrual blood.

5. Monitoring, learning and changing

It is assumed (and even asserted) that more stringent monitoring lies at the heart of post-ODF sustainability. This might be true but only up to a point (Thomas and Bevan 2013). For reasons not least of coverage, governments have the major responsibility for monitoring. Participatory monitoring has been used to ensure that community members are aware of what is monitored and reported and can ensure the accuracy of data as well as the sustained success of programmes post-ODF. NGOs can also be involved, and there can be combinations of Government, NGOs and communities as in East Java.

Monitoring can identify slippage but is unlikely to give insights into the underlying reasons. It can give early warnings and raise questions but to answer these and enhance institutional, physical and social sustainability will often require research for deeper learning and then remedial change.

Monitoring can contribute to the sustainability of ODF. There are questions about how it works and can be effective, for example:

- Who monitors, who learns and who changes as a result?
- The optimal duration and intensity of monitoring.
- How to link monitoring to a wider framework to improve sanitation and hygiene, with targets beyond ODF (which then encourage follow-up, and encourage monitoring towards higher level verifications).
- The most appropriate tools for monitoring.
- How to monitor vital but difficult areas like who reverts to OD, and sanitation marketing.
- How to use monitoring data to improve implementation.
- The effectiveness and cost effectiveness of monitoring for feedback and action.
- The potential of community and peer support groups to monitor and promote sustained maintenance, improvement and use of toilets.

A last word

Much remains to be learnt. The challenges of achieving sustainability are multiple and complex. Habits are hard to break and so sustainability of behaviour change will remain a major preoccupation. The CLTS and WASH communities need to continue to share learning and insights and to draw practical conclusions which lead to better practice. Action learning is a way forward. Grounding in field realities, open-mindedness, mutual respect, and sharing are fundamental. The open accessibility of the four evaluations in the opening pages of this *Frontiers* sets a good precedent. For the future, we need more and more feedback, focused and up-to-date, on what is really happening on the ground. Practitioners can share more of their experience in meetings and conferences, and do more to help others learn, so that together all of us in the sector can do better. The last word is that there will be no last word on sustainability, only continuous learning and changing.

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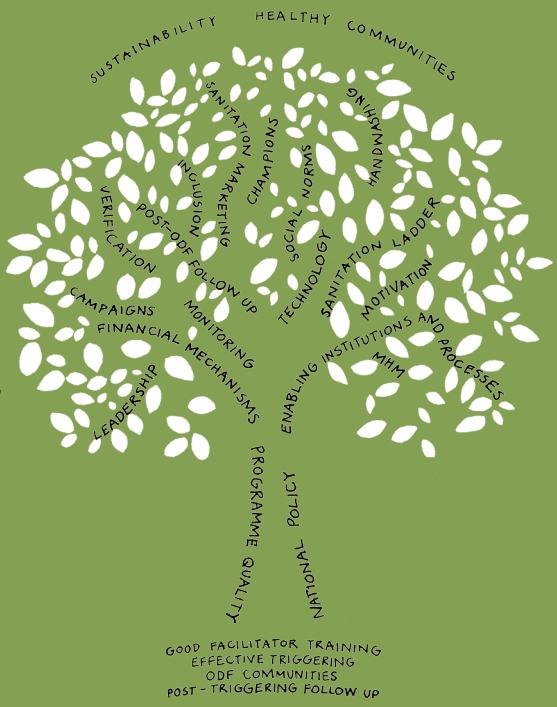
Sustainability and CLTS: Taking Stock

Sustainability is without doubt one of the most burning subject matters that subsumes many of the issues that we are seeing in CLTS and wider WASH practice. There have been several useful studies on sustainability that have highlighted some of the different aspects as well as the complexities involved. However, it is unclear how much of the learning from these studies has been built into current and future programming and practice. Based on existing research and our own understanding, this issue of *Frontiers of CLTS* is an attempt at an up to date synthesis of where we are at the beginning of 2015. In the issue, we identify some priority areas for learning: How to phase in sanitation marketing; Post-ODF engagement of government, NGOS, donors and others; How to ensure equity and inclusion; How to transform social norms; Monitoring, learning, changing.



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