

CHAPTER 1

Going beyond open defecation free

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Abstract

Sustainability is currently one of the key challenges in Community-Led Total Sanitation (CLTS) and wider water, sanitation, and hygiene (WASH) practice, subsuming issues such as behaviour change, equity and inclusion, physical sustainability and sanitation marketing, monitoring and verification, engagement of governments, NGOs and donors, particularly after open defecation free (ODF) status is reached. Achievement of ODF status is now recognized as only the first stage in a long process of change and sanitation improvement, with new challenges emerging every step of the way, such as how to stimulate progress up the sanitation ladder, how to ensure the poorest and marginalized are reached, or how to maintain and embed behaviour change. This chapter outlines the rationale and central themes of the book, highlighting key issues raised, the dimensions of sustainability that are addressed, and proposes ways forward if we are to achieve the ambitious aim of the Sustainable Development Goals (SDGs) of universal access to improved sanitation by 2030.

Keywords: SDGs, Sustainability, WASH, Sanitation ladder, Equity and inclusion, Financing, Behaviour change, Governments/leadership, Slippage

Introduction

Sustainability is one of the key words of our times, whether it is in terms of lifestyles, methods of production, energy, agriculture, or infrastructure. We need to look closely and critically at the ways in which we live, work, eat, and interact with our environment if we wish for life on the planet to be sustained for future generations. Sanitation is no exception. Initially, the challenge was to get sanitation onto the development agenda and make it a political and funding priority for governments, and a programming priority for NGOs and funders. Despite some real achievements and progress in some countries towards the Millennium Development Goal of reducing by half the proportion of people without access to adequate sanitation, there are still an alarmingly large number of people without access to the types of sanitation and hygiene facilities that they need to manage their basic bodily processes safely, with ease and dignity. In many countries, communities have made progress in achieving better sanitation in terms of becoming open defecation free (ODF) communities and/or upgrading facilities. However, recent experience and

research has shown that current approaches and policies aimed at improving access and changing behaviour, have – and still do – fall short of doing so sustainably (Tyndale-Biscoe et al., 2013; UNICEF, 2014; Pasteur, 2014).

And yet, as recognized more and more by policy-makers, practitioners, and funders alike, the need to achieve sustainable sanitation for all is an urgent one: 2.4 billion people still use unimproved sanitation facilities, of whom 1 billion practise open defecation (OD). Nine out of 10 people defecating in the open live in rural areas (WHO/UNICEF, 2015). More research evidence has brought to light the many wide-ranging negative effects of a lack of, or inadequacy of, sanitation facilities. There is a growing understanding that sanitation impacts on many interrelated human rights (Musembi and Musyoki, 2016). The realization that ‘shit stunts’, that OD, faecally transmitted infections (FTIs), poverty, and undernutrition reinforce each other, is gradually being acknowledged (Humphrey, 2009; Chambers and von Medeazza, 2014; Quattri and Smets, 2014; Spears, 2014). Research is also showing that poor sanitation is related to psychological stress (Sahoo et al., 2015; Steinmann et al., 2015), and can increase women’s vulnerabilities to water, sanitation, and hygiene (WASH)-related violence (House and Cavill, 2015). A lack of suitable facilities for menstrual hygiene management can result in girls regularly missing days at school (Roose et al., 2015). The growing recognition of the central role of sanitation for all aspects of human development has been mirrored in a UN General Assembly resolution which, in December 2015,¹ defined water and sanitation as two separate rights for the first time, as well as in the Sustainable Development Goals (SDGs), which include the ambitious aim of universal access to improved sanitation by 2030, with targets that include the elimination of OD (UN, 2015).

Many countries are making sanitation a political priority,² and some have set ambitious targets for creating ODF nations, some with detailed roadmaps of how to get there.³ While the recognition of the huge potential of sanitation for improving health, wellbeing, and child development provide important fuel for the drive to sustainable sanitation for all, achieving this goal is going to need significant and rapid change within the sector, particularly in relation to reaching the poorest, where progress has been by far the slowest. The 2015 Joint Monitoring Programme (JMP) report predicts, ‘At current rates of reduction, open defecation will not be eliminated among the poorest in rural areas by 2030’ (WHO/UNICEF, 2015: 24). So the question now is, how do we harness the political momentum, commitments, money, promising innovations, and new technologies that have appeared in the sanitation landscape? We also need to ask, what will it take to turn them into effective long-term solutions?

The CLTS approach

Arguably one of the most promising approaches in sanitation in the last decade has been Community-Led Total Sanitation (CLTS), an innovative methodology for mobilizing communities to completely eliminate OD. It was pioneered in 2000 in Bangladesh by Kamal Kar together with VERC (Village Education Resource

Centre), a partner of WaterAid Bangladesh, while evaluating a traditionally subsidized sanitation programme. Communities are facilitated to conduct their own appraisal and analysis of OD and take their own action to become ODF. Merely providing toilets does not guarantee their use, nor does it result in improved sanitation and hygiene. CLTS focuses on the behavioural change needed to ensure real and sustainable improvements. One of the achievements of CLTS has been to change thinking about sanitation from a focus on individual households to whole communities becoming ODF, and from a focus on supplying hardware or technology to looking at how to create collective behaviour change. However, CLTS is not a silver bullet and much depends on the quality of training, facilitation, follow-up, and support, as well as on the social, political, cultural, and geographical context of its implementation.

CLTS has followed a similar trajectory to that of PRA (Participatory Rural Appraisal) from which it sprang:

In the 1990s, PRA behaviours, approaches and methods, spread with astonishing speed, and were innovated, adopted, adapted and renamed. There was a great deal of bad practice as PRA was adopted by donors and governments and taken precipitately to scale. All of this has happened too with CLTS. There has been a lot of bad practice, often in good faith. CLTS triggering and follow-up require rather special aptitudes, behaviours and attitudes. Many second and third generation challenges have arisen. Maturity has been indicated by different emphases and by renaming. (CLTS Knowledge Hub, 2013)

Over the last 15 years the approach has evolved significantly, with various spin-offs emerging.⁴ Alongside efforts to refine overall quality, this new landscape of CLTS at scale, in many cases led by national governments, brings with it new challenges. Foremost among them, and encompassing many of them, is sustainability. Research and programme experience highlighted throughout this book shows that we need to be open to further adaptation and flexibility if we are to achieve long-term sustainability. CLTS is increasingly being combined with other approaches such as sanitation marketing (Coombes, 2016, this book; Munkhondia et al., 2016, this book), and there is a growing awareness of the need for technical support and financing mechanisms to encourage progression up the sanitation ladder, particularly for the poorest.

The sustainability challenge

Acknowledging that CLTS operates within a complex and unequal world and is not a one-size-fits-all solution which will solve all global sanitation and wider societal problems, it nevertheless provides a good starting point. Programme experience has shown that there are a number of things which need to be in place for ODF status to be maintained, and for people to progress up the sanitation ladder. These are explored in this book. Recent studies on sustainability have pointed to the fact that progression up the sanitation ladder

has been slow or non-existent, or that slippage from ODF status was common (Hanchett et al., 2011; WSP, 2011; Mukherjee et al., 2012; Tyndale-Biscoe et al., 2013; UNICEF, 2014). Many reasons for reversion have been identified, such as collapsing or disrepair of toilets caused, for example, by flooding, inability to afford ongoing costs of upgrading, repairs, or maintenance. Behaviour change not being sufficiently embedded can also lead to reversion (UNICEF, 2014). Future challenges such as climate change and increased conflict and displacement will only add to the uncertainty and challenge of sustainability.

Background to the book

This book emerged out of a desire to investigate in more depth the questions of a) how sustainable current CLTS practices and their outcomes are; and b) what makes CLTS and WASH sustainable. Over the last few years, the focus has gradually changed, from the target of reaching ODF status, to a realization that, in fact, this is just the first step on a long process of change and sanitation improvement. Achievement of ODF status is only the beginning; maintaining it is the real challenge: new households will form, others will break up; natural disasters will occur; pits will fill up; materials and structures will deteriorate; populations will migrate; leaders will move on; budgets will fluctuate.

Thus, the CLTS Knowledge Hub at the Institute of Development Studies is interested in exploring the emerging second and third generation problems, and in finding out if the initial progress and rush to change make sustainable ODF communities or not. Our first exploration of this topic led us to review the latest research on the subject and resulted in 'Sustainability and CLTS: Taking Stock' (Cavill et al., 2015), a synthesis of lessons from research and practice and a first attempt at defining the challenges and gaps. To take this one step further, we sent out a call for abstracts on the key themes identified in the synthesis, and convened a week-long writeshop with selected participants from a broad range of countries, institutions, and actors within the WASH sector, in Kenya in April 2015. During the week, the authors shared the intended focus of their chapters, discussed sustainability issues, exchanged experiences, fed into each other's chapters and received support in developing their writing.

The book maps out the landscape of sanitation sustainability as we currently know it from research, and on-the-ground experience, and it then takes a look at the different dimensions of sustainability that need to be considered. Drawing on a wide range of country and organizational experiences and the latest research, it asks what we know about what works, what are the major obstacles, as well as the most promising innovations and practical solutions, on the road to sustainable sanitation. It identifies common themes and success factors, as well as gaps in knowledge, and it suggests a future research agenda that will help to ensure that all these efforts really reach everyone and for good.

But as a starting point it is useful to consider and define what we mean by sustainability and to delineate the aspects we consider in this book.

What is sustainable/sustainability?

What do we mean by sustainability? In relation to CLTS, sustainability refers to whole communities and their achievement and maintenance of ODF status. Definitions for assessing ODF communities vary, but often include the following (Cavill et al., 2015):

- Eradication of open defecation in the community.
- Household toilets 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.

Some countries include additional elements, or a second stage (sometimes defined as ODF +), which may include (Cavill et al., 2015):

- 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.

Communities are verified as ODF, and are then certified, sometimes through a third party verification system (Sara, 2016, this book). Re-verification of ODF status is sometimes carried out to confirm if ODF status has been maintained. Statistics on sustainability, and indeed on ODF status, can be misleading, for example if the original verification was not rigorous enough (i.e. the community was not ODF to begin with), unprofessional, or if there are rewards for becoming, or verifying ODF status (CLTS Knowledge Hub, 2011; 2012). Re-verification is based on the assumption that a community was ODF in the first place, which may not always be the case (Tyndale-Biscoe et al., 2013; Cavill et al., 2015). In other situations, criteria for re-verification could differ from the original criteria for achieving ODF status. Whether, or how, a community can ever be truly certified as 100 per cent ODF, 100 per cent of the time, is also a critical question. What and how to measure is also crucial, counting toilets does not necessarily prove their actual use. With the inclusion of the elimination of OD in the SDG target (UN, 2015), country goals and targets may be able to be defined more in behavioural terms (Mukherjee, 2016, this book).

The three dimensions of sustainability

Three dimensions of sustainability have been identified (Cavill et al., 2015):

Enabling conditions: referring to institutions and processes, and including political priority and campaigns; programme quality, inclusiveness and intensity; and post-ODF follow-up.

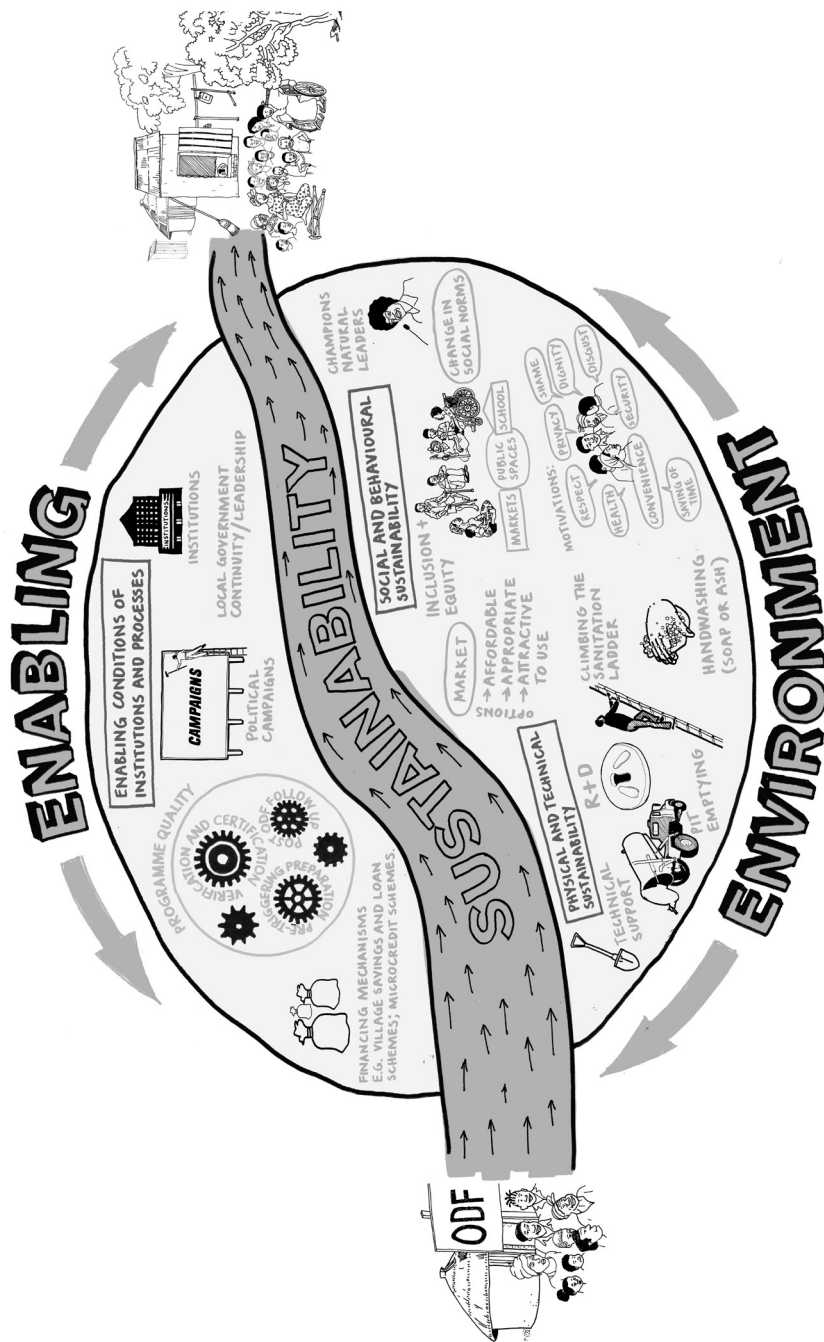


Figure 1.1 Creating an enabling environment for CLTS sustainability

Source: CLTS Knowledge Hub. Illustration by Barney Haward

Physical and technical sustainability: referring to physical conditions, structures, the sanitation ladder, the market, sanitation services.

Social and behavioural sustainability: referring to sustainable change in social and behavioural norms, motivations and preferences for OD, and dynamics within communities and cultures, including equity and inclusion, and meeting the varied needs of people.

Figure 1.1 elaborates on this in more depth.

Using these three dimensions, we identified priority areas for learning, which the book is broadly structured around: physical sustainability; post-ODF sustainability and monitoring; equity and inclusion; and social norms. The following section outlines the key issues identified by the chapters in the book according to these areas. However, the themes are of course all interconnected and support and reinforce each other.

Enabling conditions

Government engagement and public investment

Government leadership, commitment, and efficient public investment, have been shown as central to achieving sustained sanitation for all, and are subjects of many of the chapters in this book (e.g. Musyoki, 2016; Mukherjee, 2016; Thomas, 2016; Hanchett, 2016; Robinson and Gnilo, 2016, Chapter 9). Sector institutions and government systems are the only channels through which whole-country populations can be reached (Mukherjee, 2016, this book) and long-term follow-up can be provided. However, a lack of planning and investment for scaling-up is a challenge to sustainability, with ambitious targets potentially leading to compromises in quality, inclusion, and sustainability (Thomas, 2016, this book). For the SDG target to be met, better advocacy is needed from the development community to make the case to governments that investing in sanitation is cost-effective, with high returns due to the impact on health, education, dignity, security, and gender issues (Evans et al., 2004; Bartram, 2008; Trémolet and Mansour, 2013; Musyoki, 2016, this book). More and more evidence is emerging of the economic losses due to poor sanitation (Hutton et al., 2009; WSP, 2012; WHO, 2014; UN, 2014), and the terrible health impacts, such as malnutrition and stunting of children (Humphrey, 2009; Chambers and von Medeazza, 2014; Quattri and Smets, 2014; Spears, 2014). These are powerful advocacy messages. There are many initiatives to help stimulate increased government commitment, for example policy initiatives such as Sanitation and Water for All and the eThekweni Declaration, which call for greater public investment and high level political commitment. Regional sanitation conferences such as AfricaSan and SACOSAN and the resulting declarations also leverage political leadership on sanitation. National sanitation campaigns, which involve many stakeholders and sectors, for example in Bangladesh and Nepal, have proved successful (see Hanchett, 2016, this book; Regmi, 2016, this book).⁵ However, more is needed to leverage long-term investment.

Due to its zero household subsidy approach, CLTS is often seen as a 'cheap option' and a way of governments shirking the responsibility of investing in sanitation; however, there are many costs, both short and long term, that are involved. But where and how to invest is critical. There are many cases of misguided investment in sanitation. For example, in India, despite decades of investment in construction of toilets, corruption, lack of demand, and an increase in population resulted in the number of rural households without toilets increasing by over 8 million between 2001 and 2011 (Hueso and Bell, 2013; Gupta et al., 2016, this book). Public investment in sanitation, and development of technology are only of use when they are locally appropriate, and 'based on what people want and are willing to use and maintain' (Evans et al., 2004: 3). Funding can help provide incentives to stimulate entrepreneurs to develop technologies which will meet the varied needs of households and individuals (Jenkins, 2004). Investing in training and capacity building, and developing coherent national strategies and plans which adopt goals defined in behavioural terms have proved successful in Laos PDR, Indonesia, and Vietnam (Mukherjee, 2016, this book). Establishing national strategies and integrating multiple stakeholders will help to ensure consistency in planning, funding, implementing, and monitoring of rural sanitation programmes across the country, and provide the structural framework for building institutional capacity and strong institutional environments (Hanchett, 2016, this book; Mukherjee, 2016, this book; Musyoki, 2016, this book; Regmi, 2016, this book). As a number of chapters outline, it is important that the mandate to carry out sanitation strategies is given to a specific department, such as the Ministry of Health, and sufficient budgets are allocated to carry out the strategy (see Hanchett, 2016, this book; Mukherjee, 2016, this book; Musyoki, 2016, this book). Ensuring that communities are engaged and are driving the process when CLTS goes to scale and becomes government policy is another challenge (Bongartz, 2014).

Establishing a national monitoring system to track progress and outcomes is a key element needed for sustainability (Mukherjee, 2016, this book). Many countries are starting to use web-based monitoring to do this (CLTS Knowledge Hub, 2013; Osbert et al., 2015). Monitoring, verification and certification of ODF status and beyond, are central in CLTS programming. Sara (2016, this book) outlines the certification process in Kenya, which uses a third party system, where certification is done by an external agency. Challenges in terms of cost and lack of capacity has led to the process being recently revised, with responsibility being devolved to the county level, and Master Certifiers being recruited to certify claims at the local level.

There are different challenges and opportunities for devolved governments such as Kenya (see Coombes, 2016, this book; Musyoki, 2016, this book; Sara, 2016, this book; Wamera, 2016, this book). County governments are closer to the community and are able to respond to and reflect local realities,

but there is the potential for disparity and inequity across the country to creep in, particularly in terms of budget allocation for sanitation; again, evidence, data and advocacy are needed to leverage budgets. There is also still a reliance on non-governmental actors for funding and implementation (Crocker et al., 2015).

Programme quality and post-ODF follow-up

CLTS was initially seen as a low-cost, bottom-up approach, with many programmes ending at the certification of ODF status and with the belief that, once mobilized and empowered, communities would sustain their behaviours and take care of monitoring and follow-up themselves. However, it has become clear that ODF should not be seen as the destination, but a stage on the road to sustainable sanitation. Reversion and slippage are happening in many countries and there is little evidence of households climbing the sanitation ladder in CLTS communities. Recent experience has highlighted the importance of integrating post-ODF follow-up into programming from the outset (WSP, 2011; UNICEF, 2014; Cavill et al., 2015).

A number of chapters in this book outline innovations being trialled around the world to address the challenges of reversion, slippage and post-ODF follow-up. Robinson and Gnilo (2016a, this book) discuss the potential of the phased approach being trialled in the Philippines to lead to sustained progression up the sanitation ladder, breaking the process down into smaller, achievable stages, which rewards improved sanitation behaviour. Drawing on SNV's experience in Nepal, Regmi (2016, this book) illustrates the vital role that post-ODF activities play in successfully sustaining ODF status. The Nepali Government, together with other stakeholders, has developed a two-stage sanitation improvement approach to support communities and districts beyond the achievement of ODF to reach 'total sanitized village' status. To complement this, SNV has formulated a multi-strand post-ODF strategy, devised early detection processes to identify poorly maintained toilets or reversion to OD, and proposes a process to re-verify ODF status (SNV Nepal, 2012).

Continuity and commitment are essential to sustaining ODF status, and it is vital that, in keeping with CLTS principles, the community is engaged in post-ODF follow-up. To enable this, Musyoki (2016, this book) argues that funding levels allocated to national level activities as opposed to the community need revising: more funding needs to be made available to communities to carry out activities such as post-ODF and long-term monitoring and follow-up. Wamera (2016, this book) argues that existing social and administrative structures and groups within communities and government need to be identified in advance of implementation, and integrated into the process, in order for them to continue follow-up and embedding of the new social norm (see also Dooley et al., 2016, this book).

Physical and technical sustainability

Quality of toilets and reversion

Quality and durability of toilets are critical to long-term sustainability. Within CLTS, thinking is evolving from getting communities on the sanitation ladder, to a realization that poor quality toilets which collapse, or don't last long, can demotivate people from rebuilding and lead to reversion to OD; therefore, investment in better technology from the outset may be preferable. This will necessitate more technical input and assistance than initially recommended in CLTS. Research such as the Plan International study in four countries in Africa showed that people had constructed simple pit latrines, but that these often began to deteriorate, or collapse (Tyndale-Biscoe et al., 2013). Costs to rebuild may be too high (Thomas, 2014), or loss of trust may lead to reversion to OD (O'Connell, 2014; Beyene, 2016, this book). When toilets are dirty, they are quickly disused (Tyndale-Biscoe et al., 2013). In Bangladesh, pits are filling quickly (particularly the low-cost union-subsidized toilets for the poor), and there is leakage and breakage of low-cost, low-quality toilets, leading to the need for frequent rebuilding or reversion to OD if people cannot afford to repair them. The poorest people are often using unhygienic toilets, with no proper superstructure, and many are unable to own or maintain toilets without support from an external agency. Flooding causes pit latrines to overflow. Leaching of pit latrine contents in high water table areas is another problem (Hanchett, 2016, this book). These problems are echoed around the world (Beyene, 2016, this book; Coombes, 2016, this book; Munkhondia et al., 2016, this book; Thomas, 2016, this book). Context-appropriate technical designs are necessary, including guidance on issues such as pit depth, to ensure their safety (Coombes, 2016, this book; Munkhondia et al., 2016, this book).⁶

Improved and unimproved toilets and hygiene

Defining the criteria for a toilet that will provide health benefits is important, yet there is no set definition which all countries follow. Some countries use the benchmark of the JMP definition of whether a toilet is 'improved' or 'unimproved'. 'An improved sanitation facility is one that hygienically separates human excreta from human contact'.⁷ Types of toilet which fall into this category include flush toilets, piped sewer systems, septic tanks, flush/pour flush to pit latrines, ventilated improved pit latrines (VIP), pit latrines with a slab and a lid, composting toilets. 'Unimproved' facilities include flush/pour flush to elsewhere, pit latrine without slabs or lids, buckets, hanging toilets or hanging latrines, shared sanitation, no facilities, or bush or field (OD). Moving from OD to an unimproved toilet has limited health gains (Quattri and Smets, 2014; WSP, 2014a and b). However, pit latrines can provide health benefits, as long as there is safe containment of faeces (e.g. with a slab and a lid), and the slab can be easily cleaned and maintained (Harvey and Mukosha, 2009; Reed, 2014; WHO, n.d.). Being able to wash the slab was cited in formative research

in Kenya as something that respondents most wanted when asked to describe their ideal toilet (Coombes, 2016, this book). Design and construction are key to achieving an improved toilet, for example where there is poor design, pit latrines quickly start to deteriorate, collapse or need maintaining, as is discussed in the next section. Having adequate handwashing facilities is another element included in many countries' definitions for achieving ODF status, and is central to attaining health benefits. Without handwashing and other hygiene practices, communities can never become fully ODF, as CLTS aims to cut all faecal-oral contamination routes (Maulit, 2014).

While usually useful, definitions can be restrictive. For example, shared toilets are necessary in many contexts, particularly in urban environments (Hanchett, 2016, this book), for reasons of space, money, or convenience. However, they fall into the 'unimproved' category in the JMP classification, and thus would not count when verifying a community as ODF in some countries. There are potential problems surrounding the use of shared or communal toilets, such as: who is responsible for cleaning them and how often? (see Beyene, 2016, this book) Is there a charge to use them? Are they safe and hygienic? Can people with disabilities access them? Are there social barriers which mean some people can't use them? However, they should not be unilaterally rejected as unimproved. We need to find ways of making them work for those who need them.

Having definitions for what constitutes a 'quality' toilet is important; however, any definition has to be contextually defined. For example, in Kenya, formative research has shown that there is a lack of understanding of what constitutes an improved toilet, and why it's important (Coombes, 2016, this book). In addition, no guidance was given on the minimum standards required to provide health benefits, or advice on attributes to make it an 'improved' toilet, for example, having a slab that can easily be cleaned.

Movement up the sanitation ladder

Progression up the sanitation ladder is a central point of weakness in relation to sustainability of ODF status, as a number of the chapters in this book show (e.g. Munkhondia et al., 2016; Coombes, 2016; Hanchett, 2016; Robinson and Gnilo, 2016, Chapter 9). The earlier assumption that people will over time move up the sanitation ladder is proving inaccurate, particularly among poor and marginalized households (Ipsos Synovate, 2013; Thomas, 2014). A number of approaches for stimulating movement up the ladder are being explored, and there are a range of views as to what will help encourage community progression beyond the ODF outcome. Post-ODF follow-up, support and encouragement have been shown to help maintain ODF and support progression (Hanchett et al., 2011; Tyndale-Biscoe et al., 2013; UNICEF, 2014). Affordability has been identified as a key barrier to owning and maintaining a toilet and progressing up the sanitation ladder, particularly among the poorest (Jenkins and Scott, 2007; Whaley and Webster, 2011; Sara

and Graham, 2014); without development of products which are affordable for everyone including the poorest, success will be limited. Development of suitable financing mechanisms, as discussed by Robinson and Gnilo (2016a and 2016b, this book) is also critical. Many people are willing to pay for a toilet, and there are a number of initiatives such as microfinance, credit schemes, and formal or informal loans being established. However, financing for the poorest must be a central part of any sanitation financing strategy. We also need to know more about the success of financing schemes, and if loans are in demand and being granted. Additionally, it is important to consult via formative research or user surveys, what households consider important and aspirational in terms of toilets (Devine and Kullmann, 2011; Coombes, 2016, this book).

There are many recent innovations which aim to stimulate progression up the sanitation ladder. Starting above the bottom rung may be one solution (Munkhondia et al., 2016, this book; Tyndale-Biscoe et al., 2013; Cavill et al., 2015). Evidence is emerging to show that in some cases toilets are being constructed which have a lifespan of only a few months, as they are built in unsuitable conditions such as sandy soils or high water tables (Phiri, 2010; Hanchett et al., 2011). Some programmes have found that, if people have the financial and technical options available, they would prefer to build a toilet in one effort, as opposed to upgrading regularly (Munkhondia et al., 2016, this book). There is also some evidence of the homogeneity of toilet designs following CLTS triggering, mainly based on existing local toilet types, which are not necessarily durable or meeting the needs of the household (Pedi and Sara, 2013; Coombes, 2016, this book). Sanitation marketing is increasingly being combined with CLTS to address this issue, providing households who can afford it with the ability to make an informed choice on the type of toilet they have. Coombes (2016, this book) discusses how the development of latrine guidelines in Kenya has been used as a starting point for integration of sanitation marketing and CLTS, and to provide a diverse range of options for households which will more closely align to their individual needs and help them to move up the sanitation ladder. Munkhondia et al. (2016, this book) highlight the importance of the development of supply chains (see also Thomas, 2014), skill-building for masons and entrepreneurs to provide low-cost, durable products, and use of local materials and knowledge in increasing access to sanitation and bringing down costs.

However, there are risks with this approach, as discussed by Munkhondia et al. (2016, this book), the right phasing of CLTS and sanitation marketing is critical to avoid undermining the behaviour change process, and this will likely differ according to context. The poorest or hardest-to-reach households may not be served unless there is some form of additional support, or very low cost option available to them (as is being trialled through participatory design) (Cole, 2013; 2015). Presenting informed choice materials to communities early on in the CLTS process can potentially lead to prescriptive options or a feeling that one particular brand or company is being promoted, which could

undermine other potential local options and initiatives, or make people feel their own, more simple, but still 'improved' toilets are inadequate. Context-appropriate technical design is important (Sugden, 2003; WaterAid, nd), and needs will vary within a community (see Cavill et al., 2016, this book; Patkar, 2016, this book). When to introduce this type of material needs to be carefully considered; during triggering may be too early in the process. Harmonization of different activities, approaches, and organizations is also important (Munkhondia et al., 2016, this book).

A phased approach is another initiative being trialled to stimulate gradual progression beyond ODF status in the community, for example in the Philippines, (Robinson and Gnilo, 2016a, this book), and in Nepal (Regmi, 2016, this book). Higher levels of sanitation achievement are required at later phases. The central idea in this approach is that incentives are only given after each stage has been thoroughly verified; for example, after achieving ODF status. In the Philippines, financial mechanisms such as rebates and vouchers are also being set up to provide the poorest the means to progress up the sanitation ladder (again, after verified achievement of ODF status). This phased approach will likely take more effort and resources over a longer period of time, but may be more likely to embed behaviour change and take us beyond ODF achievement, and shows a potential solution for reaching the poorest people who are currently unserved.

Faecal sludge and pit management

Faecal sludge and pit management is essential to sustainability (Myers, 2016, this book), along with maintenance and cleaning. As people progress up the sanitation ladder, sub and superstructures will become more permanent (and less mobile), complex, and expensive. Emptying a filled pit is difficult for many people, and could result in reversion to OD. Fear of pits becoming full and the spiritually 'polluting' nature of faeces can also dissuade people from using them, or only using them occasionally (Myers, 2016, this book; Gupta et al., 2016, this book). In relation to the disposal or end use of sludge, a number of cases of 'postponed open defecation' have been discovered, when untreated faecal sludge is dumped into the environment (Myers, 2016, this book; Hanchett, 2016, this book). Safe containment of faeces in the pit (Myers, 2016, this book; Beyene, 2016, this book) and no groundwater contamination are critical to maintaining the health benefits of toilets. Sanitation marketing approaches will need to plan so that households either have access to affordable services or are able to deal with the sludge safely without assistance.

The role of pit emptiers, who are often stigmatized (Gupta et al. 2016, this book; Patkar, 2016, this book; Hanchett, 2016, this book; Myers, 2016, this book), must be addressed – they are often treated as outcasts of society, and exposed to dangerous working conditions. Changing this within a caste-based society such as India is beyond the scope of any one sanitation approach, programme, or project due to the deeply embedded complex socio-cultural

dimensions of this stigmatization. It is vital that the sector and those working in it acknowledge and work towards mitigating the discrimination and exclusion of those who carry out this vital work.

Social and behavioural sustainability

Equity and inclusion: inequity of access

Alarming, the slowest rates of progress are among the poorest quintiles of society (WHO/UNICEF, 2015). The poorest and most marginalized often also have a high use of unhygienic, unimproved latrines (see Mukherjee, 2016, this book; Hanchett, 2016, this book), and reversion to OD has also been found to be higher (Robinson and Gnilo, 2016b, this book). Recent research in Uganda and Zambia indicates that a person who is older, disabled, or chronically ill is more likely to defecate in the open (Wilbur and Danquah, 2015; Cavill et al., 2016, this book). CLTS and WASH programmes are often not reaching these groups. Thomas (2016, this book) argues that this is likely to be an issue of planning, political prioritization, and inclusion, as opposed to purely an issue of financial resources. Understanding the barriers to access, and the underlying social dynamics and inequalities that operate in society is critical to developing inclusive programming (Cavill et al., 2016, this book; Gupta et al., 2016, this book; Patkar, 2016, this book; Regmi, 2016, this book; Bardosh, 2015). Without this, CLTS and other sanitation programmes could in fact reinforce these existing inequalities (Bardosh, 2015). People's realities, needs, and demands need to be listened to, and translated into policy and practice, with adequate budgets to achieve them (Patkar, 2016, this book). Many people have particular needs for their access to sanitation,⁸ which can vary within a household, and change over the course of their lives (Cavill et al., 2016, this book; Patkar, 2016, this book). How these varied needs can be met needs to be considered and integrated into programming and policy at every level of the process. Meaningful engagement with, and participation of, different groups of people in all stages of the process is critical.

There is a growing body of research which investigates in more detail the barriers people with disabilities face in sanitation (Jones, 2015a and b; Wilbur et al., 2013). Efforts are being made to find practical ways in which CLTS can address these barriers and make each stage more inclusive, accessible, and sustainable (Cavill et al., 2016, this book). Patkar (2016, this book) describes projects that have consulted users whose needs are normally not considered, and delineates how the information is then used to influence policy agenda and decisions in order to design appropriate services.

When it comes to equity and inclusiveness of efforts, gender is of course a central consideration when addressing access. While constituting more than half of the world's population, women and girls are disproportionately affected by a lack of access to WASH (WHO/UNICEF, 2010; Cavill et al; Patkar, 2016, this book). Gender-related power dynamics and discrimination determine

access. As Cavill et al. (2016, this book) describe, women also have increased WASH burdens; they are usually responsible for cleaning and maintenance of toilets, and have additional needs, for example relating to menstrual hygiene, pregnancy, and motherhood that have to be met. There is also evidence that ODF status is more likely to be sustained and embedded if women are central or lead the process (Adeyeye, 2011; Mahbub, 2011; Tyndale-Biscoe et al., 2013).

Financing for the poorest and marginalized

In recent years it has become clear that for too long, sanitation efforts were focused mainly on the 'low-hanging fruit', i.e. reaching those who were easy and quick to reach. The data illustrating the inequity of access (WHO/UNICEF, 2015) leads us to ask how to reach and improve the sanitation situation and lives of the poorest, most marginalized and disadvantaged. The issue of subsidy has long been controversial within CLTS (Kar, 2003; Kar and Bongartz, 2006; WSP, 2011; Chambers, 2015), but it is becoming increasingly evident that the poorest and most marginalized people will not necessarily be able to access sustained improved sanitation and climb the sanitation ladder without some form of external assistance. Robinson and Gnilo (2016b, this book) outline evidence for the need to integrate financing strategies for the poorest into programming, and draw on experience from the social protection sector, and recent innovations in the Philippines. They argue that effective sanitation finance is a key element for sustained progression up the sanitation ladder, and that it should be carefully designed, targeted, and delivered to reach the most vulnerable and marginalized people and communities, as well as encouraging continuous upgrading and improvement of sanitation services across the entire community.

How to identify the moment to introduce financial incentives to avoid undermining behaviour change, fraudulent reporting, and short-term incentives, are key concerns when designing a sanitation finance framework. We need to work out how to balance this assistance with embedding ODF behaviour change and the principle of home owner responsibility (Hanchett, 2016, this book). Robinson and Gnilo argue that integrating a financial framework with a phased approach (2016a and b, this book) will encourage regular and reliable monitoring of outcomes by both communities and local governments. How to identify the correct people for assistance is a vital question. In the past, finance has often been captured by non-poor households (Robinson, 2012). A number of countries have systems of identification. For example, in Bangladesh, large NGOs such as BRAC and Plan International have long-standing systems in place to provide for the poorest, with clear identification systems. We need to learn more from them to scale this up across countries. Robinson and Gnilo (2016b, this book) suggest that national poverty identification systems are used where available, and where they are not, objective targeting systems need to be established, with clear and verifiable criteria that can be checked, to ensure subsidies are not captured by non-poor households. Regmi (2016, this book), outlines the identification

process in Nepal, where village WASH committees identify people within their community who need assistance, based on set criteria. In Cambodia, support was targeted to ID-poor 1 and 2 (using the Cambodian poverty targeting system) plus an additional group of so-called near poor (based on asset-ranking and additional questions) (Riviera et al., forthcoming).

Behaviour change and usage

Embedding behaviour change and new social norms is critical for sustainability. Partial usage, suggesting a lack of this embedding, is also emerging as a problem (Ashebir et al., 2013; Coffey et al., 2014a and b; Yimam et al 2015; Chambers and Myers, 2016), where not all members within a household use the toilet. Gupta et al. (2016, this book) discuss the role of caste and untouchability in India in limiting the success of sanitation campaigns, and how there is a need to understand and challenge embedded notions of purity and pollution. Communities with strong caste hierarchy, conflict and divisions have been found to have more OD than more homogeneous ones (Coffey et al., 2014a and b). As discussed by Cavill et al. (2016, this book), existing social inequalities and unequal power structures will hamper sanitation programmes – these need to promote a contrary social norm, where OD is no longer considered acceptable. In Bangladesh, the national sanitation campaign, which ran from 2003 to 2006, has been critical in its success, combining top-down government and bottom-up community mobilization strategies, and changing the mind-set of the population, so now in most parts of the country OD is not a socially acceptable practice (Hanchett, 2016, this book). Chambers and Myers (2016) argue that in order to stimulate a change in social norms, intense and provocative campaigns will be needed.

There are many reasons for preferences for OD, such as: social norms; taboos, beliefs and prohibitions; preferences and convenience; age and disability; gender and gender relations; pressure on use; full pits and fear of pits filling up; dirt, smell, disgust, fears and cleansing; or poor design, construction and subsequent lack of ownership (Chambers and Myers, 2016). Gupta et al. (2016, this book) describe how in India, research has uncovered an anxiety over the filling up of pit latrines, and an aversion to small pit latrines. Lack of knowledge about how long it will take for a pit latrine to fill up is widespread, even people who carry out health promotion in villages were found to have limited awareness. Cases of corruption, where pits are not dug properly or deeply enough also strengthen this perception. Pit emptying is frowned upon, as faeces are considered ritually polluting.

Dooley et al. (2016, this book) argue that we need a deeper understanding of existing norms and preferences for OD in order to change them. The UNICEF CATS evaluation (2014) highlighted a lack of understanding of the role expectations play in creating and embedding a new social norm. Social norms theory is now being integrated into UNICEF CATS programming, bringing in new elements, such as social network analysis at the pre-triggering

stage to map out relationships between individuals and between groups and identify key influencers in all parts of society (i.e. include the poorest and marginalized) and gauge what structures already exist that could carry out post-ODF follow-up, and activities that embed behaviour change.

Natural Leaders

The importance of Natural Leaders and champions in CLTS sustainability and in encouraging and embedding behaviour change has been emphasized since the early days of CLTS. Many of the chapters in this book underline that it is vital to ask who they are and how they are identified. They are key at many stages of the process, from encouraging the community to become ODF after triggering, to long after ODF status has been achieved. Leaving Natural Leaders to emerge may sometimes result in people in existing positions of power taking the lead. While they can potentially be passionate and engaged, it shouldn't be assumed they are always the most appropriate people (Bardosh, 2015). They can also become gatekeepers and this can result in exclusion of more marginalized people within the society, who may not feel confident enough to step up, or may not be taken seriously if they do.

Understanding the motivations of and incentives for Natural Leaders, community health workers (CHWs), or Master Certifiers can help to make efforts more sustainable (Sara, 2016, this book; Wamera, 2016, this book). There is evidence to show that these groups and individuals can feel overburdened, or have conflicting responsibilities which mean they are unable or unwilling to carry on. Master Certifiers in Kenya are currently being recruited to certify ODF status of communities, yet they are not paid, and their travel and expenses are only sometimes covered (Sara, 2016, this book). CHWs in Kenya are changing from being unpaid volunteers to paid workers. However, there will be fewer of them, and it is not clear if all counties have the budget to pay for them. Ensuring suitable incentives (financial and non-financial, such as praise, recognition, or training) are in place to encourage and motivate people, and reward them for their essential work, has been shown to be central to success (Glenton et al., 2013; Kok et al., 2014).

Conclusion

We have come a long way in our thinking about CLTS, sanitation, and sustainability. Subjects that were rarely discussed even five years ago are now high up on people's agenda, such as: financing for the poorest; reality-checks on progress up the sanitation ladder; filling up of pits and management of faecal sludge; and reversion to OD. The sector needs to continue to look honestly at what is causing reversion to OD in some communities and how it can be stopped. Much more needs to be known about how ideas about social norms and sustainable behaviour change can be turned from theory into practice. The issue of subsidies, for years a taboo word within CLTS circles, is

having to be revisited and re-conceived as we realize that the poorest and most vulnerable people are not being reached by current sanitation programming. And once the idea of targeted financial support is raised, further questions emerge. How to identify people in need of assistance, and how to ensure that assistance is not being captured by, or leading to, non-investment into sanitation by non-poor households. Sanitation marketing as an area of interest and expertise has grown, making available more information about consumer needs, aspirations, and appropriate affordable technologies. Nevertheless, the sector needs to know more about the optimal moment for introducing and combining it with CLTS activities, in order not to undermine behaviour change. However, more and more, we are beginning to see less of a separating out of these two approaches and more of a recognition that they speak to different aspects of sustainable sanitation and can in many instances work hand in hand. We still need to learn more about how to engage the private sector and encourage them to produce products which are affordable for the poorest; this may need initial government investment for research and development costs.

While we know that government leadership is crucial to sustainability, we have much to learn about how to carry out effective advocacy with policy-makers that further prioritizes sanitation, increases funding, builds capacity and creates long-term sanitation programmes that include sufficient follow-up, plans for monitoring and ongoing support for communities and the poorest to improve their sanitation situation. Activities aiming for sustainable sanitation need to be integrated with and supported by existing systems. Devolution, corruption, changing governments, and conflicting financial and staff commitments add further challenges into the mix. It is clear that governments cannot do this alone and so collaboration with and between different actors in and beyond the sector is essential. While a lot of focus has been on behaviour and mind-set changes in communities, there is an equal need to look at the mind-sets and behaviours in institutions and how these need to be challenged and changed to allow for sanitation to involve community participation and go beyond short-term fixes.

Similarly, it is clear that we need a better understanding of communities and their existing traditions, cultures, divisions, and structures at the pre-triggering stage. Equity and inclusion have always been a central part of the CLTS approach, but over the last few years, it has become obvious that we are still learning how to integrate it practically into every level of policy and programming, in order to ensure the poorest and marginalized are meaningfully consulted and considered. This is no doubt also true for the WASH sector at large. Understanding the motivations and incentives for Natural Leaders and groups such as CHWs and others carrying out CLTS activities on a long-term basis is also critical for sustainability.

There are still significant gaps in our learning, and more research on how to achieve and sustain sanitation for all is needed. At the end of the book, we highlight the key issues raised, and identify some priorities

for research. The book is not exhaustive, and there are some significant gaps; for example, monitoring is not addressed in any depth. Consistent methods for implementation and monitoring across countries will be essential for scaling up and sustainability, and there are a number of web-based monitoring systems being developed to address this. What we monitor is also important, finding ways to monitor usage as opposed to counting toilets, or even counting ODF communities may be a way forward. Last but not least, monitoring that includes communities' own participation in what is being monitored and evaluation of the findings, is key to sustainable improvements. Slippage is another key issue; we need to know much more about what to do in communities where CLTS has failed, or when slippage from ODF status has been high. For example, should there be a re-triggering process? Who should take the lead in following up in these communities?

In addition to the unknowns, questions, and problems relating directly to sanitation itself, there are the challenges relating to the uncertain world we live in and the immense changes that are taking place on both national and global scales. Climate change is already directly impacting many countries. Environmental disasters, such as storms, earthquakes, droughts, floods, and the related problems of food and water shortages, destruction of homes, livelihoods, and displacement of huge numbers of people, are on the increase. While some aspects of the impact that climate change will have on humans and the planet can be forecast, calculated, and anticipated, there are many dimensions that we do not yet fully understand, and many ways in which, even if rapid and radical action were to be taken right now, the climate crisis' trajectory will not be stopped in time to prevent a major destructive impact. And of course this will have a knock-on effect on sanitation as on many other aspects of human life. Wars and conflicts, whether climate-related or not, are fuelling a rapidly growing refugee crisis of gigantic proportions, leading to millions of people being displaced and living in unsanitary conditions. In addition to these crises directly impacting human lives, livelihoods, and the circumstances in which sanitation and hygiene issues will play out, they will also affect funding streams, with funding being diverted away from longer-term sanitation efforts to immediate emergencies. All of this will likely affect the sustainability of sanitation projects and programmes.

Everything we have learnt throughout the process of creating this book points to the central importance of documenting, sharing experiences across countries, regions and organizations, learning from mistakes and innovations, and integrating this knowledge into policy and practice. Having platforms to share experiences honestly, and without fear is so important. Flexibility and openness will be required from institutions and donors to allow for ongoing learning and adjustments of course. Finding ways of addressing the many challenges in order to ensure sustainable sanitation for all is an urgent priority if we are to achieve the ambitious goal of sanitation for all by 2030. For as existing and continually emerging evidence suggests, good sanitation and

hygiene is central to human wellbeing, mental and physical development, and thriving communities and nations.

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Endnotes

1. See http://www.exteriores.gob.es/Portal/en/SalaDePrensa/NotasdePrensa/Paginas/2015_NOTAS_P/20151218_NOTA327.aspx [accessed 25 February 2016].
2. For example, Bangladesh (Hanchett, 2016, this book), Nepal (Regmi, 2016, this book); Kenya (Coombes; Musyoki; Sara; Wamera, 2016, this book); Indonesia, Laos PDR and Vietnam (Mukherjee, 2016, this book); India (Gupta et al., 2016, this book); and the Philippines (Robinson and Gnilo, 2016a, this book).
3. For example, Nepal has set a target of 2017; India: 2019; Madagascar: 2019; Kenya: 2020; Vietnam: 2025.
4. For example: CATS (Community Approaches to Total Sanitation) in UNICEF which is largely based on CLTS, School-Led Total Sanitation (several versions), Pakistan Approach to Total Sanitation (PATS), CLTSH (Community-led Total Sanitation and Hygiene, in Ethiopia), Women-Led Total Sanitation, Leader-Led Total Sanitation, and so on, and many names in national languages.
5. For a checklist of practical actions on campaigns, see Chambers, 2013.
6. Smaller pits tend to be more stable, and become self-supporting as they fill up over time; yet there are reports of pits as deep as 30 or 50 feet (Cavill et al., 2015). Digging a deep pit also costs a lot of money, leaving less available for the slab and superstructure. The slab is where people are most likely to come into contact with faeces, so it is more important than the depth of the pit in terms of hygiene and health benefits (Coombes, 2016, this book).
7. <http://www.wssinfo.org/definitions-methods/watsan-categories/> [accessed 25 February 2016].

8. For example, people with disabilities, older people, the chronically sick, people with low income, and children.

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