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The Dynamics and Sustainability of Community-led Total Sanitation (CLTS): Mapping challenges and pathways

Synne Movik and Lyla Mehta

CLTS

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Community-Led Total Sanitation (CLTS) represents a radical alternative to conventional top-down approaches to sanitation and offers hope of achieving the Millennium Development Goals. In contrast to state-led initiatives to improve sanitation that tend to focus on hardware and subsidies, CLTS emphasises community action and behaviour change as the most important elements to better sanitation. CLTS focuses on enabling the local community to analyse the problems of faecal-oral routes of disease spread, and of finding locally appropriate, rather than externally prescribed, solutions. Through exercises such as transect walks, mapping of open defecation sites, and the various routes of disease spread (e. g. through flies and animals), as well as calculation exercises aimed at drawing villagers' attention to the amount of faeces they are ingesting,, powerful emotions of shame and disgust are triggered, A process is ignited where people are moved into action, drawing on local resources and knowledge to construct sanitary facilities that fit their particular needs and desires, within the constraints of household priorities and resources. Pioneered by Dr. Kamal Kar, an independent development consultant, in Bangladesh in 1999, CLTS is currently being implemented in more than 30 countries across the globe, in Asia, Africa and Latin America. However, like all success stories, CLTS still faces a number of challenges in terms of its scope and impact. There is a need to map out and understand the social, technological and ecological dynamics of CLTS implementation in order to better appreciate the long-term sustainability issues of CLTS and realise its full potential for improving people's lives and well-being.

About the Authors

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The Dynamics And Sustainability Of Community-led Total Sanitation: Mapping Challenges And Pathways

By Synne Movik And Lyla Mehta

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INTRODUCTION

Community-Led Total Sanitation (CLTS) represents a radical alternative to conventional top-down approaches to sanitation and offers hope of achieving the Millennium Development Goals (Kar and Chambers 2008). It is a relatively novel approach, pioneered by Kamal Kar in Bangladesh in 1999, and has since spread to other countries in Asia and Africa (Kar and Bongartz 2006; Kar and Pasteur 2005). In contrast to state-led initiatives to improve sanitation that tend to focus on hardware and subsidies, CLTS emphasises community action and behaviour change as the most important elements to achieving better sanitation. CLTS focuses on enabling the local community to analyse the problems of faecal-oral routes of disease spread, and of finding locally appropriate solutions rather than outsiders offering prescribed solutions. The aim is the total elimination of open defecation because it is assumed that if only a few individuals continue to defecate in the open it represents a risk to the whole community (Bongartz and Movik 2009; Geist 2008; Kar and Chambers 2008; Kar and Bongartz 2006; Kar and Pasteur 2005).[1] Through exercises such as transect walks, mapping of defecation, and the various routes of disease spread (e. g. through flies and animals), as well as calculation exercises aimed at drawing villagers' attention to the amount of faeces they are ingesting and by using local terms for 'shit', powerful emotions such as shame and disgust are generated. Such powerful emotions fuel a desire to actively do something to improve the current situation, and a process is ignited where residents draw on local resources and knowledge to construct sanitary facilities that fit their particular needs and desires, within the constraints of household priorities and resources (Kar and Pasteur 2005). The focus is on *process*, on empowering the community to take action themselves, to construct their own toilets from locally available material. What distinguishes Community-Led Total Sanitation from earlier community-based approaches, therefore, is the way that it emphasises facilitation rather than education or training. Instead of telling villagers what is best for them, and lecturing on what hygienic practices to adopt, the CLTS approach instead relies on creating a strong sense of self-awareness that in turn serves to trigger action. Where this process of 'triggering' is successful, action can often be immediate (see e.g. Geist 2008). The potential of CLTS is strongest in rural areas, because, as Black and Fawcett note, (2008: 76) 'when sewage is not the means of excreta removal, sanitation is not possible by executive high command'. This is why it is easier to 'create' demand for something like CLTS in rural areas and, barring a few examples such as Kalyani in West Bengal, CLTS is largely a rural phenomenon. In urban areas, there are additional complications due to the lack of space and tenure insecurity.

[1] It must be borne in mind that what constitutes 'open defecation free' villages is difficult to define in practice. This is because village boundaries and communities are porous and difficult to determine and due to open fields, proximity to other villages and communities which may not be ODF.

CLTS was pioneered by Kamal Kar in North West Bangladesh in late 1999 together with the Village Education Resource Centre, VERC, a partner of WaterAid Bangladesh. It has since spread rapidly to other parts of Asia, Africa, Latin America and the Middle East and is now active in over 20 countries. Examples abound where communities have been motivated to analyse their own sanitary situation and then to take action themselves in order to improve it.

CLTS did not emerge in a vacuum, however. The trend towards greater emphasis on community and rural areas began after the UN-declared International Drinking Water Supply and Sanitation decade (1981-1990) shone a spotlight on the dire conditions of water and sanitation in developing countries, particularly in rural areas. This roughly coincided with the notorious Structural Adjustment Programmes (SAPs) of the 1980s that served to shrink state expenditure and capacity providing basic services, shifting the focus to the 'community' in rural areas as the locus for action. This shift also derived from the increasing popularity of concepts such as self-reliance and community empowerment. Schumacher's (1973) slogan of 'Small is Beautiful' helped promote the idea of self-reliance, and during the 1980s, with an emerging emphasis on community mobilisation in water sector projects (Srinavasan 1990). Groundbreaking work on Participatory Rural Appraisal, a method for appraising community development projects that quickly gained popularity and spread to development organisations, donors, NGOs and development practitioners worldwide, greatly reinforced the community focus (Cornwall and Pratt 2003; Chambers 1997). By the mid-nineties, some participatory initiatives such as the Participatory Hygiene and Sanitation Transformation (PHAST)[2] had been firmly established in East and Southern Africa (Lidonde 2000, cited in Waterkeyn and Cairncross 2005). But according to Waterkeyn and Cairncross (ibid: 1959), 'PHAST remained largely an interesting concept rather than an applied programme and by 2001 the regional planners [..] were losing interest'. Though drawing heavily on the idea of change through conscientisation developed by Freire (1970), few practical objectives and scant monitoring left little in the way of empirical evidence to document potential behaviour changes that had occurred as a result of PHAST (ibid.).

CLTS thus picks up where other participatory projects such as PHAST have left off. The pioneer of the approach, Kamal Kar, is himself steeped in the participation movement and has worked closely with Robert Chambers for many years. Even though CLTS has the makings of a development success story, many obstacles remain before it can truly be said to offer a viable route to meeting the MDGs. For example: How does CLTS accommodate dynamism and complexity inherent in social-technological-ecological systems? How are women's, children's and men's often diverging needs accounted for? How can CLTS be scaled up to become a major force rather than an approach characterised through piecemeal,

[2] PHAST was a joint initiative by the World Health Organisation (WHO) and UNDP/World Bank Water and Sanitation Program (now Water and Sanitation Program – WSP).

scattered projects? Are there lingering assumptions and power relations that hinder or obstruct the spread of CLTS? In short – how sustainable is CLTS, and in what ways is the notion of sustainability understood? This paper offers some perspectives that may help structure thinking around these questions.

The paper is organised as follows: The first section deals in detail with the idea of dynamic systems, teasing out the ways in which socio-technical-ecological systems interact to produce particular outcomes. The subsequent section deals with perceptions of Sustainability, before going on to explore the implications for governance and scaling-up.

APPRECIATING DYNAMICS

DRAWING ON THE STEPS APPROACH

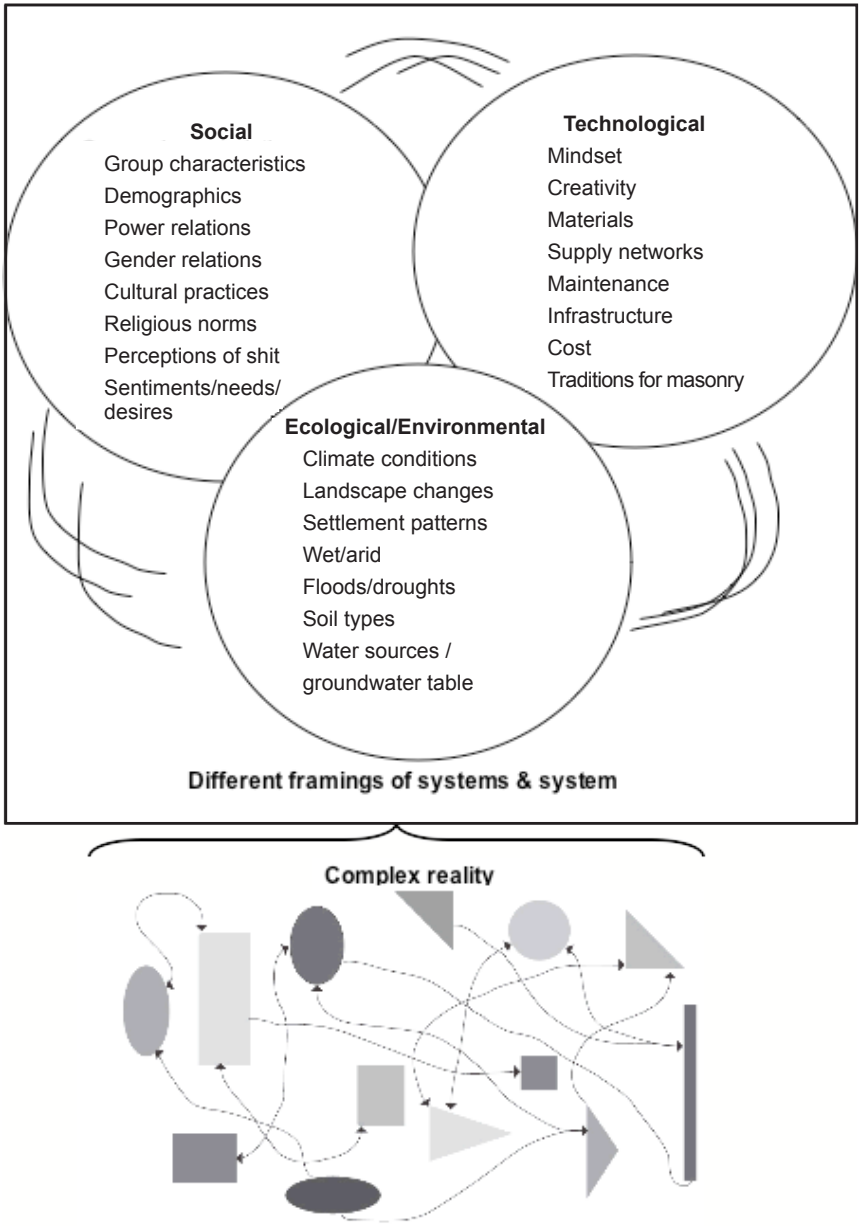
To understand sustainability, one must first appreciate that systems are inherently dynamic. The paper draws on ideas developed by the STEPS Centre (see e.g. Leach et al. 2007b) and attempts to apply them to CLTS. Social, ecological and technological systems are characterised by complexity, uncertainty, non-equilibrium and sometimes chaotic dynamics. Such 'dynamic systems are the norm, rather than the exception' (Scoones et al. 2007: 2-3). Despite this, 'dynamics' has often been ignored in policy-making; there has been a tendency to view systems as moving towards some sort of equilibrium, and the focus has been on controlling variability, rather than adapting and responding to it. Assessing the sustainability of dynamic systems involves dealing with incertitude and risk, and different people will perceive these differently depending on their vantage point.

Key to appreciating the sustainability of dynamically interacting systems is to distinguish between a system's structure and its functionings, and the different ways in which individuals perceive these structures and functionings (Smith and Stirling 2008; Scoones et al. 2007). This view has implications for the idea of sustainability. Scoones et al. distinguish between sustainability (with a lower case s), which generally refers to a system's ability to maintain itself, i.e. to sustain its structure and functionings, and Sustainability (with a capital S), which is a normative concept. Sustainability refers to the particular goals that are identified by different actors, and these goals are inherently value-laden and political. Acknowledging that the idea of Sustainability is a normative one, the question then becomes how to define overarching goals of poverty reduction and social justice, and to appreciate the 'multiple, diverse views of what system dynamics are in play, which matter, and why' (Leach et al. 2007b: 7). Different groups may emphasise different aspects of a system, and this diversity and the implicit tradeoffs need to be explicitly acknowledged and the potential challenges they pose for scaling up teased out.

THE SOCIAL-ECOLOGICAL-TECHNOLOGICAL INTERACTIONS OF CLTS

Dynamic systems are understood as being characterised by complexity, non-linearity, and high levels of incertitude in terms of system properties. 'Dynamics refers to the patterns of complexity and interaction observed in the behaviour over time of social, technological and environmental systems' (Scoones et al. 2007: 1) which give rise to particular *pathways*. Fig. 1 attempts to capture some of the system characteristics within a CLTS framework.

Figure 1 Political & institutional environment



Social Factors Influencing CLTS

This section deals with social factors that influence the potential implementation of CLTS 'on the ground'. For example, in a study on how norms influence behaviour (with respect to CLTS) in rural India, Dyalchand et al. (forthcoming 2010), observe that in cultures where the collective supersedes the individual, norms have a powerful impact on individuals' behaviour. Much of the literature on CLTS (see e.g. Kar and Chambers 2008) point to the particular characteristics of communities that make them more amenable to taking positive action. Such characteristics include small group size (smaller rather than larger villages), homogenous make-up of the group (no strong divisions along ethnic or faith-based lines), shared cultural norms and values, and strong traditions of collective action. In areas inhabited by nomadic peoples, it may be very difficult to instigate lasting behaviour changes, as WaterAid's experiences with the Fulani in Nigeria attests to (Palakudiyil, presentation at IDS conference 16-18 December 2008). In general, promoting CLTS is more difficult in situations of inequality and social diversity, as attested by a case study done by PLAN Bangladesh (Mahbub forthcoming 2010). The study highlights how including adivasis (indigenous peoples) in the CLTS process was difficult due to 'various socio-cultural reasons' (ibid: 21), and that 'mainstreaming of the marginalised in collective action like CLTS is extremely difficult' (ibid: 21).

Being sensitive to cultural and religious norms and practices is essential in terms of adopting a CLTS approach. Because the approach relies so heavily on triggering spontaneous behaviour change, there is a need to be aware of how current behaviour and norms are couched in particular cultural and religious concepts and practices. For example, a detailed study in Tamil Nadu, South India, of knowledges and practices with respect to sanitation noted that many of the villagers practised open defecation because it was an age-old custom that did not carry any stigma; some even regarded it as a social outing (Banda et al. 2007). Sammy Musyoki (2007) observes that the myths of the Maasai of Kenya hold that men do not defecate at all, which renders any attempts at discussing open defecation moot. In Nigeria, it is often considered unacceptable among some groups to 'shit under a roof', hence people go into the open instead.[3] Thus, religious beliefs and practices have an impact in terms of triggering and sustaining behaviour change in subtle ways. Therefore, there is a need to thoroughly understand and build on local cultural assumptions if behaviour change is to be sustained.

In her seminal work *Purity and Danger*, (Douglas 2002) the anthropologist Mary Douglas is at pains to show how the perceptions of pollution are attempts at organising and structuring social spaces in particular ways. Many Hindus, both

[3] Presentation by Ada Oko-Williams at the conference on CLTS 16-18 December 2009 at IDS, Brighton, UK.

in India and Bangladesh, subscribe to notions of purity and pollution which go against the idea of having sanitary facilities close to their dwellings, and are therefore often staunchly averse to having latrines close by or within their houses. This was evident from a case study evaluating PLAN Bangladesh activities in two villages in Bangladesh, where the hamlets with the lowest coverage of toilets were dominated by Hindus (Mahbub and Akhter 2005). By contrast, in rural Indonesia, the spread of CLTS has been facilitated by the daily ritual of washing and cleaning and the strong notion of *suchi* ('being clean'). Other important factors have been the involvement of the Health Ministry and the engagement of midwives in facilitating roles (Joshi forthcoming 2010; Mukherjee and Shatifan forthcoming 2010). Many villagers living near rivers and streams used to defecate and clean themselves there; but when realising that this practice meant that they also bathed in their own shit, this immediately led to the uptake of CLTS practices (Kar and Bongartz 2006). Such perceptions work in overt and covert ways to shape how particular pathways to improved sanitation practices and technologies emerge, and need to be explicitly acknowledged in CLTS projects.

Intertwined with the issues of cultural and religious practices shaping people's behaviour, perceptions and the potential for change, is the notion of power. How do existing relations of power within the community affect responses to facilitation and the potential for collective action in terms of striving towards improved sanitation practices? Patronage politics, elites, landlord and landless labour relations are deep-rooted structures that are often difficult to alter. One of us observed in a village in north-western Bangladesh that a few households from a powerful Muslim elite refused to grant the largely Hindu and poor population of the village any land to build toilets. They considered the poorer Hindus to be dirty and unworthy of help. Conversely, there are many examples of rich households from all communities providing poorer households with land, bamboo, etc. to construct toilets. It is thus important to chart out to what extent existing power relations constrain or enhance CLTS interventions and in what ways does CLTS contribute to re-fashioning such relations and open up new spaces for intra-community negotiation?

Gender relations also need close investigation. There is a tendency amongst CLTS advocates to assume that due to the high participation of women in triggering exercises, women end up getting empowered through CLTS. But the high involvement of women may not necessarily lead to their empowerment. Research results are often mixed and contradictory. Evidence from regions where PLAN Bangladesh has worked indicates that women do not necessarily play a leading role in toilet construction, rather, village Development Committee members do and they are dominated by men from elite groups (Shatifan and Haq 2008). Similarly, it is rarely acknowledged that women's workload may increase through toilet construction because water is now required for flushing. There is thus a need to avoid looking at the 'community' in a unified and homogenous way and to appreciate how power constellations, gender relations and 'community identities' vary greatly from context to context.

Ecological/environmental Issues In CLTS

In order to understand how people behave the way they do and what factors sustain practices or help transform them, it is not enough to look for causal explanations in terms of culture or religion. Changes in landscape and environment shape people's behaviour in profound ways, and affect the potential emergence of particular socio-technical regimes. For example, settlement patterns may to a large extent determine whether or not open defecation is practised. Thinly populated areas offer plenty of space to defecate in the open, whereas more densely settled areas offer less such opportunities and can thus provide a more favourable environment for transforming practices. In dry, arid and sparsely populated areas, the dangers from open defecation will not be as intense as in densely populated rural Bangladesh where villages are also surrounded by water bodies. In terms of creating a favourable environment for triggering action and inciting behaviour change, visibly filthy surroundings will help to reinforce the sense of disgust and shame that are instilled in community members during the triggering exercise. Other factors include sparse vegetation cover (and hence few places to hide when defecating), easily dug soil that is not prone to collapsing, low groundwater tables, etc. However, ecological issues that are often overlooked include drainage patterns in the area and the opportunities for solid waste disposal. For example, one of us has observed in Haryana, India, that so called pucca (permanent) toilets are far more environmentally damaging than kacha (temporary) toilets. This is because the waste is not safely contained and instead allowed to flow into the village drains. But such toilets are prestigious and more coveted than temporary and makeshift structures.

Climatic conditions also heavily influence the facilitation of socio-technical change. For example, in China's Shaanxi province, sub-zero temperatures and cold winds make people reluctant to go far from their houses to defecate, increasing the risk of contagion. Frozen soils make it extremely difficult to dig pit latrines, and require plastic pipes to prevent cracking (Kar and Bongartz 2006). Linked to climatic conditions are the presence and transmission routes of pathogens and disease vectors, important aspects of the dynamics of ecological systems. Apart from diarrhoea outbreaks, caused by E. coli bacteria getting into the intestinal tracts, other diseases such as cholera (*Vibrio cholera*), typhoid (*Salmonella typhi*) and trachoma (*Chlamydia trachomatis*) are intimately bound up with the particular environments and sanitary practices of community members. Rather than focussing in isolation on the bacteria or pathogen that causes the disease, as has been the tendency over the last decades, the idea of looking more holistically at the ecology of disease has finally come into its own. As one observer puts it 'cramped ideas about health must become spacious enough to encompass entire ecosystems'.[4]

[4] See http://www.ecohealth.net/one/

Socio-ecological Interactions

In the CLTS literature, anecdotal observations abound in terms of how people perceive ecological dynamics, e.g. in terms of how flowing water carries away waste, removing any threats of disease, or how scavenging animals act as cleaners. The CLTS Handbook (Kar with Chambers 2008) notes that before the actual triggering event, many individuals when asked about where the shit goes explained that it is 'absorbed by the soil' or 'swept away by water'. Adopting a systems perspective to CLTS involves looking at how CLTS contributes to facilitating a change in actors' perceptions of socio-ecological system dynamics. What happens in a triggering situation is that people are made aware of the existing interlinkages between their own shit and the presence of disease. Prior to this, shit was often seen by communities as something external to their environment, something that did not concern them and did not relate to their daily rituals. For example, in a Harijan community in Vellore district of Tamil Nadu state, India, bouts of diarrhoea were attributed to heat, spicy foods, or the accidental ingestion of hair, mud or mosquitoes. It was not associated with dirty water or contact with faeces (Banda et al. 2007). Through the CLTS process, the linkages between open defecation and ill-health are made very explicit in order to raise awareness.

Technological Issues In CLTS

In contrast to supply-oriented approaches, the CLTS framework does not offer pre-designed sanitary solutions; facilitators do not foist particular technological options on rural dwellers but aim towards generating a drive to build their own facilities, using local technologies and drawing upon local knowledges. Thus, the particular technological options that emerge will depend on the availability and nature of building materials in the immediate vicinity, their cost, the knowledge and skills of the community, the existence of masonry traditions, and the division of labour within that particular community (see e.g. Kar and Bongartz 2006).

The nature of technology implementation is often phased and progressive, an idea visualised as climbing the 'sanitation ladder' (UN Millennium Project 2005). The question is what constraints and possibilities exist in particular settings to facilitate the phased progression up the sanitation ladder (Kar and Chambers 2008). Whilst a phased approach may be the most appropriate in terms of local desires, knowledges, and resource constraints, the intermediate phases may represent environmental hazards for neighbouring or downstream communities, e.g. through depositing pit latrine contents into rivers and streams. Emerging evidence from Nepal suggests that the same level of resources is expended on the first latrine installation as on the second, and that unhygienic and unhealthy conditions are often allowed to prevail (Tom Palakudiyil, CLTS conference

16-18 December 2008, see also Bongartz and Movik 2009). In parts of rural Bangladesh, IDS research found that simple pit latrines often collapse due to floods and because of financial constraints, they are never rebuilt. There is thus a trade-off between the ladder approach and sustainability issues. It is necessary to assess the long-term impacts of technologies and technology enhancement on groundwater, disease vector transmission routes, and waste disposal, and gain more knowledge on the possible threats of contamination. With respect to disease ecology, accumulating faeces in one place may alter transmission routes of disease pathogens and hosts, such as helminths and hookworms.

Socio-technological Interactions

The section on social dynamics outlined how community dynamics, cultural perceptions, gender and power shape the potential of the CLTS approach in a specific setting. A closely related question pertains to the social influence on sanitation technology choices - how do cultural practices, beliefs and social mores determine technological designs? And what particular beliefs and ideas fuel people's resistance to toilets? How do emic perspectives, men's, women's and children's different roles, statuses, and perceptions help fashion opportunities and constraints for the emergence of particular technological options? Religious notions of purity and conceptions of modesty and privacy often point to particular pathways of designs, in terms of separating men's and women's sanitary facilities. In parts of Africa, e.g. amongst the Luo, fathers and daughters-in-law are required to keep a respectful distance, and for a daughter-in-law to use the same sanitary facilities to relieve herself as her father-in-law would inspire humiliation and disgrace. Among some peoples of Tanzania and Uganda, similar customs exist, where a son-in-law may not enter the same area for defecating as his mother-in-law, and in parts of Uganda, it is believed that if children's waste is disposed in a pit latrine they won't grow up to be healthy (Musyoki 2007; Black and Fawcett 2008; Mehta forthcoming 2010). Thus, in such cases, two toilets per household may be required, or finding other innovative technological solutions that are compatible with the particular beliefs of an area. Women may be more concerned about well-being and social status (Shatifan and Haq 2008), as will often their families, drawing on notions of protecting female family members' honour (Mahbub forthcoming 2010). There are also other issues, such as children being afraid of falling into pits due to collapsible soil, or pit holes being out of proportion with child body size, fear of darkness, snakes and insects. In certain parts of Uganda, people believe that making children use pit latrines, or disposing of their waste in pit latrines, will have a detrimental impact on their health (Musyoki 2007). Cultural and religious perceptions, then, do condition choice of technologies in various ways.

A key question that emerges in this respect is the potential to marry *eco-sanitation* technologies and CLTS approaches. Experience from Vietnam demonstrates how the perception of shit as not representing any great risk facilitated the construction of toilet designs that utilised two chambers, where the first chamber was sealed

off so as to allow the progress of time to eliminate the hazardous elements of the human waste (Black and Fawcett 2008). Kar and Bongartz (2006) also report that in many areas of China, faeces are routinely used as manure. In more faecophobe societies, such practices would be more difficult to establish. There are plenty of cases where latrines have fallen into disuse or are used for other purposes than those intended (Sanan forthcoming 2010), which is due not just to inappropriate design or not being able to carry out necessary repairs, but is also a matter of the cultural or religious stigma attached to the handling of faeces. In areas where the cultural resistance to shit is less staunch, the potential for another paradigm shift in terms of viewing shit not as waste or pollution or 'matter out of place', but as a resource is opened up. Regarding faeces and urine not as wastes, but as sources of nutrients (faeces) and phosphate (urine) that are useful as inputs into agricultural systems is the favoured view of the 'closed-systems' thinking that dominates the eco-sanitation and natural-based waste management approaches (Langergraber and Muellegge 2005). The challenge is to transform the waste into a pathogen-free resource, to sufficiently sanitise faeces so as to render them unharmful to people and the environment. Such a shift, however, is not merely a technological one, but is highly cultural as well in terms of instigating a shift in perceptions (see e.g. Bahadar et al. 2006 for a review of an eco-sanitation case study in Pakistan). Might the CLTS emphasis on shame and disgust act as a barrier to the spread of eco-sanitation technologies?

Power relations also work to facilitate the emergence of particular technologies rather than others. Though CLTS emphasises the creativity of local entrepreneurs, a question that needs to be asked is: Whose needs do such entrepreneurs cater for? To what extent are women's (e.g. privacy, facilities to cater for menstruating periods, low water requirements for flushing) and children's (e.g. short distance, no heavy locks/doors, design proportional to children's bodies) particular needs accommodated? This touches on the idea that emic perspectives need to be accounted for in CLTS. How can the presence of local entrepreneurs producing different designs be strengthened to avoid their designs being narrowly influenced by particular – often men's – perceptions, and take into account the needs and desires of all members of the community?

Moreover, through relying on local entrepreneurs' skills and ability to use their knowledge and local resources in constructing low-cost latrines, the availability of materials and technological options through local markets does play an important role. Ahmed (forthcoming 2010) observes how, in Bangladesh, the mass production of plastic components dramatically brought down costs. The ideas of social marketing of sanitation[5] are important to help stimulate demand for sanitation technologies and help sustain behaviour change. Social sanitation marketing involves constructing latrine designs that are responsive to what people

[5] See e.g. Water and Sanitation Program's Total Sanitation and Sanitation Marketing Programme http://www.wsp.org/index.cfm?page=page_disp&pid=10402

want rather than engineer-defined designs, with the emphasis on keeping costs down and maintaining a diverse range of products in different price categories, and making sure that the supply change reaches each home (e.g. through training local masons). The main idea is to understand and stimulate the demand and supply of such products through effective promotion and mobilisation of the productive potential of the private sector. In this regard, it is also worth examining the degree to which people's knowledges and attention to ecological impacts of particular technologies influence the product range, and to what extent market actors consider ecological aspects of the technologies they peddle. It is important to emphasise that such initiatives need to be *phased* or sequenced – effective demand needs to be created through CLTS efforts before social marketing of sanitation is emphasised, otherwise the whole gist of CLTS could be undermined. This is because sanitation marketing reaches out to individuals as consumers as opposed to being concerned with questions concerning equity, local empowerment and social transformation.[6]

[6] CLTS seeks not only to raise awareness, but also to empower people to take action. This process of empowerment may provide a stepping stone for other interventions, such as aiding food self-sufficiency or establishing microcredit schemes, etc.

THE SUSTAINABILITY OF CLTS

SUSTAINABILITY AND RESILIENCE

The preceding sections sought to highlight the dynamics, interactions and diversity of social-ecological-technological systems. Addressing the question of how sustainable such systems are brings up the notion of the *resilience* of systems (Leach 2008; Vogel et al. 2007; Scoones et al. 2007; Burns 2007; Folke 2006; Gallopín 2006; Walker and Salt 2006; Adger et al. 2005; Klein et al. 2003). But what is resilience? Modern day vulnerability, adaptation and resilience science is rooted in several decades of multidisciplinary research under a variety of paradigms, theories and methodologies. Scholars have taken a range of different approaches to understand resilience, including social justice, political ecology and sustainability perspectives. This has enriched understanding, but also made concepts difficult to use in practice (Vogel et al. 2007). Essentially, there is consensus around the idea that, within socio-ecological-systems, the notion of 'resilience' refers to the way a system responds to disruption in the form of short-term transient shocks or more long-term enduring stresses. Resilience thinking highlights the complexity of socio-ecological-technological systems and a system's capacity to absorb disruption and respond to change whilst retaining its essential structures and functions. Disruption or disturbance may originate externally or internally. How a system copes with external shocks, such as floods/droughts or sudden political upheavals, is indicative of its *resilience,* whereas a system's *robustness* is determined by the responses to external, more long-term stresses, such as e.g. climate change or urbanisation. Shocks of an internal nature, such as a sudden shift in the way particular actors perceive a system's structure/functioning, shape stability, while pressures of a more permanent kind, like persistent social resistance or unrest, determine its durability. For example, if villagers in Ethiopia engage in rebuilding their sanitary facilities in the face of frequent floods that cause their latrines to collapse, it indicates resilience, and if these practices persist over time in the context of increasing variations in weather patterns (e.g. causing changes in groundwater tables and rainfall frequencies) it implies a robust system that is capable of withstanding long-term stresses. There is mutual interdependence between resilience/robustness and stability/durability - resilience and robustness, for instance, hinge on the stability and durability of a system and how it copes with internal shocks and stresses. In terms of CLTS, examples of such shocks and stresses may occur where the ideas of CLTS are challenged by a few community members or where long-term stresses such as local regime shifts, migration or deep-rooted changes in social practices and patterns occur over time.

The stability and durability of CLTS is, to a large extent, determined by the force and permanence of behaviour change. It thus becomes of importance to understand the factors contributing to undermining or sustaining behaviour

change. Early attempts at social mobilisation to improve sanitation in Bangladesh were successful, but short-lived – primarily because the change was facilitated by external agents (government officials, NGO staff), and once the project stopped due to lack of funding, people soon reverted to their old habits. It became evident that the drive to change needed to be internalised in the community, and from this insight sprang the idea of nurturing Natural Leaders (Ahmed forthcoming 2010) who are often from the local community. Key to transforming community behaviour was the ability of facilitators and Natural Leaders to generate the expected feelings of disgust and shame that help ignite an active process of transforming practices. Natural Leaders are usually better at facilitating change than NGO staff, as they are familiar with the local language, customs, and daily lives of people living in the area. Natural Leaders, then, represent both a vulnerability and strength of CLTS. Vulnerable, as so much depends on their personalities and ability to inspire and trigger change, and strength in terms of not only their capacity to facilitate CLTS, but also in terms of their commitment to motivating other activities that can help contribute to improving the wellbeing of community members, and generally strengthening the ethos of self-help and self-reliance. A sustained transformation of mindsets, it is argued, is most likely to be achieved where there has been a genuine shift in attitudes, which in turn hinges on the power of the 'triggering' or 'ignition' moment in the process of facilitation (Mehta forthcoming 2010).

According to Curtis et al. (2004), women are more strongly moved by emotions of shame and disgust than men, and disgust sensitivity tends to decline with age. These notions are supported by findings from the PLAN Bangladesh case study, which points to adolescent girls as being among the most enthusiastic promoters of improved sanitation (Mahbub forthcoming 2010).[7] But the problem in many cases is that, even though there is a shift in attitudes and a drive to change habits initially, the enthusiasm may eventually peter out once the facilitators have withdrawn, and the community's members over time fall back into their old routines. For example, in the case study referred to above, about one in four of households reverted to open defecation, which leads the author to underscore the importance of regular monitoring, and acknowledging that behaviour change does not occur instantly (ibid).

As was acknowledged at the CLTS conference in 2008, monitoring and evaluation of ODF status is very weak in CLTS. It ranges from self-declaration of communities in parts of Indonesia to official reward programmes such as *Nirmal Gram Puruskar* in India where ODF communities have been awarded a prize for ODF status. In both cases, there can be a tendency to exaggerate the success of ODF and inspection teams may not be aware of internal village dynamics and may overlook marginalised areas where non-adopters are most likely to be. This

[7] For example, Mahbub observed that in one family, the adolescent daughter had pressed her parents to install a latrine, to no avail – her father prioritised getting a tubewell. Then she started refusing to eat, which finally prompted her father to go out and buy components to build a latrine.

indicates that more creative ways to monitor and evaluate the sustainability of CLTS are necessary. Moreover, it is also necessary to ask whether ODF is the ultimate goal of CLTS, or whether too much focus on ODF might detract from the overall positive benefits of reducing defecation (Howes et al. forthcoming 2010), a point which also relates to the notion of what the ultimate aim of CLTS is – whether to promote sanitary behaviour, or to act as an entry point for other projects whose ultimate aim is greater emancipation.

Whose Sustainability, Whose Resilience?

As emphasised initially in the paper, the concept of Sustainability (with a capital S) is an explicitly *normative* concept. The idea of Sustainability is sensitive to the diverging ideas that different actors in a system hold. Stirling, et al. (2007: 24-25) citing Wynne 2001 and Feenberg 2002, observe that: '… the knowledges associated with such varied social groups may also embody (sometimes subtle, but) important ontological differences arising from divergent experiences, conceptualisation, values and priorities.' How do Government officials, practitioners and community members perceive Sustainability? What are their different perspectives and narratives? What does 'Sustainable' mean from women's vantage point? Does CLTS enhance their roles, or does it add burden to an already overstretched daily routine? Though women's roles are acknowledged and noted as important, there is less attention to the particular gendered perspectives on sanitation issues within the CLTS approach. Experience from Bangladesh points to the fact that women played an important role in the construction of latrines because they wanted to avoid public shame and maintain purdah in public places (Shatifan and Haq writeshop note, May 2008). Despite the focus in CLTS being mainly on health benefits ensuing from improved sanitation practices, women's motivation to participate is often fuelled by other factors, such as the desire for privacy. Though CLTS can bring benefits to women in terms of their having to spend less time walking long distances to defecation spots, granting women greater privacy and lessening the fear of assault, it may also increase their workload because the gender-based division of labour dictates that they are the ones to collect the additional water required for flushing and hand-washing (Mahbub forthcoming 2010). Moreover, the focus has tended to be on women as potential beneficiaries of CLTS, with rather less attention being paid to their roles as agents of change, reflecting a general paucity of knowledge on the views of women and children in terms of helping to trigger change. For example, whereas women were often motivated to join in efforts to rally their neighbours and fellow villagers to the cause of CLTS by notions of increased dignity, prestige, and socialising opportunities, children would enthusiastically join in as watchdogs (e.g. blowing whistles at open defecators) because they thought the activities fun, out of respect for the school teachers engaged in promoting CLTS, and/or because they wanted the recognition and acknowledgement of other actors (ibid). Mahbub observes that the participation of women was often constrained by the disapproval of their husbands and male relatives, which impeded their ability to take part in processions and rallies. The relatively rich and extremely

poor tended not to participate in such collective activities, as the former saw it as potentially harmful to their prestige and social standing, whereas the poor argued that nobody would listen to them anyway because of their low social status. Moreover, the presence of strong female representatives is an asset in terms of persuading others to adopt CLTS practices, but such vocal individuals do not guarantee the empowerment of women as such or that gender awareness is raised, or that paying attention to women's particular needs is given enough space. Moreover, gender involves exploring men's particular views as well, not only women's. For example, men often prioritise differently, in one observed example (Mahbub forthcoming 2010), the husband wanted to buy a tubewell rather than a latrine and was saving up for this, until his wife sold her goat and gave him the money to buy a latrine. There is a need to highlight such diverging priorities and understandings in order to appreciate who is winning and who is losing in terms of CLTS.

Furthermore, even if CLTS represents a radical form of behaviour change it could embody elements that contribute to new forms of social control that could exclude certain groups. For example, people are told by extension workers, other villagers, leaders, *imams* (who play a big role in Bangladesh) that 'if you change your behaviour by using a toilet you are liberated from shame, ill health and disease. Alternatively, if you continue to defecate in the open, you will continue to suffer due to disease, lack of privacy, etc' (see Mehta forthcoming 2010). Behaviour change and educational campaigns around CLTS could have underlying assumptions of either subjugation or liberation - both of which are exercises of power. Moreover, they create new identities (i.e. either people are clean or dirty, depending on their sanitation practices) (Gastaldo 1997). Participation is also not embraced by all who advocate CLTS. In some places, it can be very top down (e.g. in Maharashtra, where CLTS is very target-driven). In parts of Indonesia, discourses of sinning could also be a form of control. Control could be exercised through ostracising groups (e.g. non-adopters are not allowed to participate in *edir*, an Ethiopian community organisation key for local wellbeing, see Mehta forthcoming 2010).

Government officials and practitioners often draw on narratives of public health benefits of CLTS. The question is whether such public health discourses concerning behaviour change are insensitive to local people's sentiments, practices and attitudes. A frequent observation of many sanitation projects is the fact that the construction of sanitary facilities is often motivated and driven by factors other than a concern with health, such as the desire to have privacy, attain greater social status and protect one's honour (UN Millennium Project 2005). Other benefits include improved physical well-being (for example through not having to defecate in dirty fields, not having to lose sleep through getting up in the early hours to defecate in darkness for the sake of privacy), increased mobility, socialising, improved cleanliness and neatness in households and especially children (Mahbub forthcoming 2010). Public health discourses and campaigns spurred by government officials and practitioners may in certain

circumstances obscure the real reasons underlying behaviour changes and the adoption of particular technologies, and thus fail to understand what factors drive the transformation of particular practices. Added to this is the fact that improving sanitation practices may not have the desired impact on health, if other issues such as poverty, nutrition, vector control, drainage, and solid waste management are ignored.

Further to sanitation and health links, there is a need to agree on the overarching goal of sustained behaviour change. The CLTS literature contains diverging discourses in this respect, and when attempting to assess how sustainable the approach is, one needs to question what the goal of behaviour change should eventually be. Should the goal be to sustain changes in sanitary behaviour, to improve health conditions, or should it aim towards more overarching and ambitious goals, such as empowerment and poverty eradication? What are the underlying assumptions? Generally, two broad discourses can be teased out. The *health/sanitation* discourse concentrates on the immediate outputs of the CLTS approach, and focuses more on the actual impact in terms of changed sanitation practices and technologies. This perspective concentrates purely on sanitation and health-related issues, and potentially closes down other pathways linked to community development. However, some practitioners regard the process of facilitation more broadly as a process of community empowerment. The *empowerment/emancipation* discourse regards CLTS as an entry point into more overarching livelihoods approaches, as a stepping stone to other development projects with a community focus. For example, Haq and Bode (forthcoming 2010) emphasise how the CARE Bangladesh Nijera project was primarily initiated to address poverty and hunger, and viewed CLTS as an entry point to promote broader goals. Kumar and Shukla (forthcoming 2010) also regard CLTS as a springboard to initiating other activities, such as garbage collection. Such views centre on providing communities with a means to emancipation. This view also has implications for the choice of indicators; as a narrow focus on ODF status would miss out on the role of CLTS as an entry point for other types of project and the overarching aim of emancipation.

Diverging discourses underscore the diversity of understandings. There is a need to caution against the notion of CLTS becoming an orthodoxy that focuses too narrowly on producing shame and disgust, and presenting it as a unique approach to sanitation that should not be 'sullied' in terms of conflating it with other avenues to improve sanitation practices, such as Government-led Total Sanitation projects (Kumar and Shukla forthcoming 2010). Indeed, CLTS is not one approach, but a diversity of framings, and a number of NGOs engaged in promoting CLTS have adopted widely differing frameworks. Drawing on experiences from Bangladesh, Ahmed (forthcoming 2010) points out the existing diversity. Danida, BRAC and UNICEF, major players in the Bangladeshi context, each adheres to its own framework – Danida to its hygiene, sanitation and water project (HYSAWA), from which local governments can obtain funds to implement water and sanitation

projects. BRAC's approach, which is funded by the Dutch government, is more focussed on people and relies on community mobilisers to promote sanitation, but cannot be said to adopt a CLTS approach, since it relies on subsidies and does not facilitate triggering. UNICEF works through the Local Government Ministry and line agency, aiming to build local capacity. The Water and Sanitation Program (WSP) is undertaking a large study on the links between health, environment, and economics with a view to scaling up and sustaining sanitation efforts. Plan Bangladesh aligns CLTS with its Child-Centred Community Development (CCCD) approach, whereas CARE Bangladesh has adopted a livelihoods perspective for dealing with sanitation issues. CLTS is thus departing from its 'pure' form and evolving in many different directions. This diversity is to be welcomed, as it will help build the resilience of CLTS.

DEALING WITH RISK AND INCERTITUDE

Though crucial, the focus on behaviour change and the stability/durability of CLTS risks overshadowing important questions of resilience and robustness. A key issue here is the notion of risk and uncertainty. Even if CLTS establishes itself as a strong force and succeeds in initiating long-lasting behaviour changes, the consequent shift in practices have unknown impacts. Or as Gerry Bloom phrased it during the CLTS conference at IDS 16-18 December 2008, big ideas are bound to have unforeseen consequences; good ideas necessarily give rise to bad outcomes. For example, there is a possibility of increased risk of contamination of groundwater sources emanating from increased concentration of latrines in an area (see Wilderer 2001; GTZ 2003: Dellstrom and Rosenquist 2005: cited in Bahadar et al. 2006). CLTS also carries such a risk. For example, some preliminary research in Maharashtra indicated that there is a risk of CLTS causing groundwater contamination if toilets are not properly constructed (Khale and Dyalchand forthcoming 2010). Even though the empirical material available is too meagre to allow any definite conclusions to be drawn, it is important not to whitewash the potential risks and dangers of concentrated toilet construction. Given the diversity of factors that influence the possibility of the accumulation of contaminants in drinking water – e.g. soil type, thickness, the flow of groundwater, vegetation cover, and precipitation (see e.g. Chidavaenzi et al. 2000) - it is very difficult to pin down the exact causal relationships. There is, then, a need to deal with the uncertainty and risk that arise from not knowing exactly how CLTS interacts with a specific ecological environment. Rather than developing rigid rules that dictate the exact number of metres latrines should be sited from households or sources of drinking water (the rule of thumb in Bangladesh is one metre from a water source), there is a need to enhance the existing knowledge of ecological conditions and to encourage adaptive learning. In certain contexts, the groundwater table may be so low that it does not really matter much where a latrine is built relative to it; in other areas the flow and level of groundwater have profound impacts on the optimal siting of latrines, and other factors, such as the placing of refuse pits and water collection methods also influence the extent of water pollution (Chidavaenzi et al. 2000). In certain regions, the

gradual accumulation of faeces over time in one specific place may have a profound impact, as in the Shaanxi example cited earlier. Apart from encouraging sensitivity in terms of the most suitable places to locate latrines, a major issue is also what to do when the pits fill up – how should pit contents be disposed of in a safe and sustainable manner? In densely settled areas with little available land, digging new pits may not be feasible so there is a need to find alternative means to dispose of pit contents. The potential polluting effects of latrines will in many regions vary with seasonal changes; and being conscious about the way seasonality impacts upon sanitation is another aspect of sustainability that needs to be explicitly acknowledged.

Hence, rather than devising arbitrary rules, there is a need to encourage adaptive learning and knowledge sharing in terms of observing impacts (this might also imply drawing on outside technical expertise where necessary). This also applies to more long-term stresses such as climate change. Middleton (2008) asserts that the 'sanitarian needs to become the ecologist', emphasising how an understanding of ecology is essential to understand the complex interrelations of human health, animal health, and physical and social environments and climate. Local communities will possess much (often tacit) ecological knowledge – a challenge is to mobilise this knowledge to enable people to devise solutions that are sustainable in the long term, and that facilitate adaptive responses to shocks and stresses. This does not only refer to mobilising knowledge about the natural environment, but also ties in with the availability of adequate materials - for example, more durable latrine components in the face of easily collapsible soils (Kar with Chambers 2008). As Leach (2008) notes, it is not merely enough to respond, the response needs to be appropriate and timely. Adaptive learning and knowledge sharing, along with flexibility and diversity that open up for a variety of practices, methods and arrangements, are key ingredients to encouraging resilience and robustness – and go against the grain of 'orthodox' approaches to CLTS that emphasise only one way of doing things.

DESIGNS FOR DIVERSITY

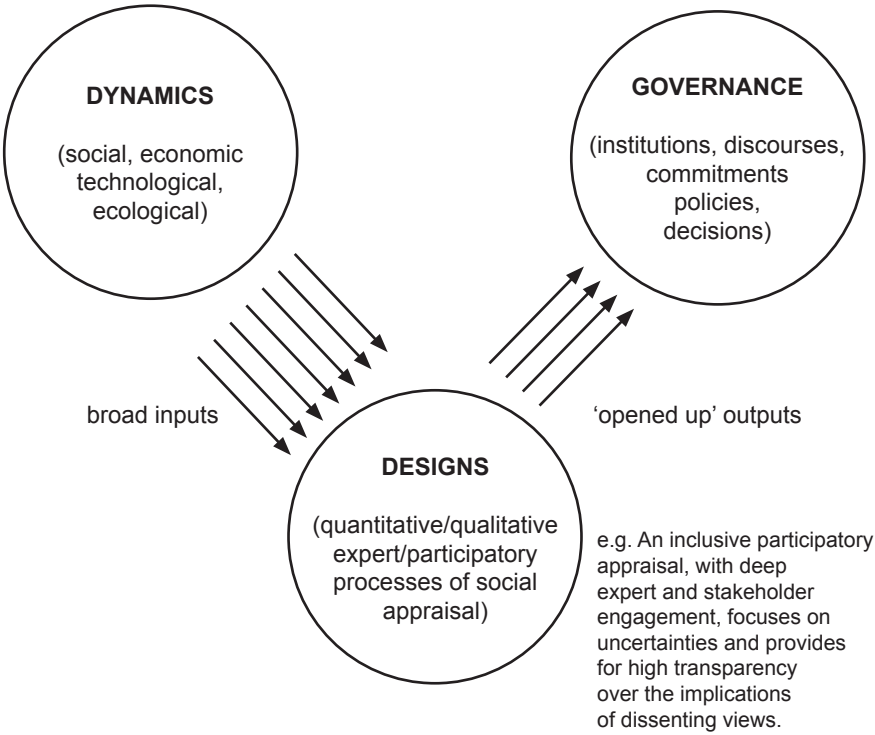
The previous sections have brought to light how 'incertitude and framing come together in the context of dynamic, complex, inter-coupled systems' (Stirling et al. 2007: 2) which poses challenges for the social appraisal of sustainability. How should the notion of 'sustainability' be interpreted; i. e. how should appraisal be designed to draw out different perceptions of Sustainability that reflect normative goals that require negotiating pathways that are inclusive, deliberative and reflexive? How could poorer and marginalised peoples be included in sustainability appraisal in ways that draw on the webs and skeins of knowledge and viewpoints? Such appraisal designs need to be reflexive and explicit about underlying assumptions and the normative and political positionings of actors (ibid.).

'Social appraisal' is understood to be the 'collection of social processes through which knowledges are gathered and produced in order to inform decision-making and other institutional commitments' (ibid: 1). This includes a wide variety of tools, methods, techniques, frameworks, approaches, processes, idioms and discourses (Stirling et al. 2007). Many such appraisal techniques are deliberately designed, whilst others are more ad-hoc. One such technique, Participatory Rural Appraisal (PRA), is used as a social appraisal technique in the initiating stages of CLTS, but has mainly been limited to the triggering and implementation phase. As became evident during the IDS conference on CLTS (16 – 18 December 2008), there has been much less attention to the dynamics emanating from implementing CLTS and the potential long-term impacts, though several studies are underway exploring effects and long-term impacts (Mehta forthcoming 2010; Bongartz and Movik 2009).

For example, there is a need to devise designs that take into account the impact of CLTS on marginalised groups, explicitly acknowledging the often ambiguous effects on women. the diverging motivations that drive different groups of people to change their behaviour, as observed in several of the case studies (see e.g. Mahbub forthcoming 2010) needs to be systematically identified, as teasing out what the actual drivers of change are is vital to promoting long-term sustainability. Natural Leaders are viewed as pivotal for triggering and sustaining behaviour change, but there are other potential forces of social mobilisation as well that could play the role of Natural Leaders, such as faith groups, political groups or similar, the potential of which could be brought out through good social appraisal designs – this could include PRA techniques in combination with structured interviews and stakeholder power mapping. The aim is to gain a better understanding of the new knowledge environment, how attitudes and understandings are formed and changed. Key issues that appraisals should strive to unpack include: When is emotion-driven change good, and when bad? Is change localised, or contagious? What factors motivate or obstruct change? And what about local administrators

and politicians: how are their attitudes and emotions affected? Moreover, fluctuations in ecosystem functionings and seasonal hazards impact on the sustainability of CLTS efforts through periodically destroying sanitation structures that often cost a great deal to repair in terms of time and resources invested. To what degree people's actions are resilient to such external shocks will to a large extent determine Sustainability. Tracing the factors that contribute to augmenting people's ability and willingness to 'bounce back' after such transient shocks is of great importance in determining the long-term sustainability of CLTS. Therefore, designing techniques that map experiences and knowledges towards this end will be key. Crucial in this respect is the need to maintain a broad perspective; to map as much as possible of the dynamics that contribute to the possibility of negotiating sustainable pathways (see fig. 2).

Figure 2



(Source: Stirling, et al. 2007)

In terms of assessing the potential environmental and health impacts of CLTS, such as the risk of potential contamination of water sources from the increased accumulation of faeces (Khale and Dyalchand forthcoming 2010), 'narrower' (Stirling et al. 2007) appraisal techniques such as risk assessment that involve drawing on external expertise, in combination with more open-ended methods such as deliberative mapping, promise to provide a means to combine scientific expertise (on routes of pathogen spread, disease ecology aspects, contagion and epidemic risks, etc) with genuine involvement of affected stakeholders. The main objective of such appraisal designs should be to generate knowledge that can be systematised and shared with a wider audience, for example of possible routes of contamination, positioning of sanitation points relative to drinking water sources, etc. Even deliberative appraisals will be subject to particular framings, and there is a need to be reflexive and explicitly acknowledge assumptions and angles. Common to such methods of appraisal of dynamic situations is the focus on adaptive learning. Rather than regarding the relations of appraisal and action as a linear procedure, it should be viewed as a 'multi-stranded and finely iterated process of interaction between deliberation and intervention' (Collingridge 1980; in Stirling et al. 2007: 35). The aim is not to build up a body of 'definite' knowledge, but to catalyse and facilitate social learning.

Such designs, then, should feed into the processes of establishing institutions to govern CLTS. The particular political and socio-economic situation in a country, along with the institutions present, profoundly shape the nature of CLTS efforts. But this is not a one-way influence – the experiences coming out of CLTS should in turn contribute to crafting institutions that are suited to governing CLTS initiatives in a best possible way. To do this, there must be effective communication, and the lessons drawn from CLTS experiences must be as broad and inclusive as possible to avoid marginalising particular viewpoints or perspectives that could have a decisive impact on the viability of CLTS. The next section will deal more broadly with issues of governance of CLTS.

GOVERNANCE AND SCALING UP

MAINTAINING DIVERSITY

The governance of socio-technical regimes and socio-ecological resilience is highly political (Smith and Stirling 2008) and questions of knowledge and framing, or diverging understandings, are central (Bloom et al. 2007). As the section on dynamics has made evident, there is a multiplicity of factors that work to determine the ways in which particular behavioural practices are maintained or transformed. Though the paradigmatic shift in attitudes in terms of focussing on behaviour and social practices rather than hardware and technology is a laudable one, adopting a multi-level dynamic systems perspective (Leach et al. 2007a; Geels 2005) enables the appreciation of the extent to which ecological, social and technological elements are mutually interdependent and how social practices are conditioned by the environment. Paying greater attention to the dynamics and power relations of communities, as well as the cultural and religious norms shaping attitudes and mindsets, calls for awareness and pragmatism rather than 'purist' stances. This is underscored by several examples from the field, where certain components and concepts of CLTS have evolved into a variety of approaches that more or less resemble the 'original', without being true copies of it (Ahmed forthcoming 2010). Finding what elements of the CLTS approach works in any given situation is likely to be more conducive to diversity and robustness than insisting on an 'all or nothing' approach. But how should such diversity be governed?

THE RISK OF DIFFUSING RESPONSIBILITY

As briefly mentioned in the Introduction, the emergence of participatory approaches to sanitation was made possible through macro-level changes, such as the trend of rolling back the State via structural adjustment programmes, the shift towards greater community reliance, and the increasing popularity of participatory appraisal techniques. This generally implied that greater responsibility was shifted onto NGOs and communities for dealing with sanitation issues in rural areas. Sanitation came to be tackled in a rather scattered and piecemeal approach, which still remains a major problem for CLTS projects. Historically, part of the reason for sanitation lagging behind has been the absence of a clear national mandate in terms of the responsibilities of national sanitation coverage, and therefore CLTS needs to be explicitly endorsed and advocated in national-level strategies, such as has happened in Indonesia (Joshi forthcoming 2010; Mukherjee and Shatifan forthcoming 2010; Priyono forthcoming 2010). Many countries do not have any explicit policy on sanitation, which tends to sort under Departments of Public Health or Water Services. The institutional arrangements that support CLTS may also vary greatly from country to country and region to region. For example CLTS has been championed by the Ministry of Health in Indonesia and Ethiopia and it has benefitted a lot from this arrangement. But

the decentralisation process and possible lack of buy-in from local authorities as well as the future involvement of the Public Works Department which tends to focus on top-down infrastructure projects could undermine potential for spread (Joshi, forthcoming 2010, and Priyono, forthcoming 2010). Thus there are risks in terms of diffusing responsibility both from the State to NGOs and amongst different state actors. Rather than attempting to centralise responsibility with the State bureaucracy, there is a need for all actors to work together in collaborative effort. As José Esteban Castro (2008) points out, there is no one path to universal sanitation. He observes that total sanitation coverage in developed countries was achieved through a 'broad and universalistic ensemble of social forces', and that to achieve the same for the less-developed countries requires an amalgamation of such forces. There is, then, an urge not to view the State as the enemy (though maintaining an acute awareness of common problems besetting large state bureaucracies such as corruption and inertia). According to Stirling et al. (2007), collaborative governance is characterised by policy-making, implementation, and the provision of social goods and services shifting away from government to a more diffuse constellation of social actors. Hobson (2000) highlights the positive aspects of co-ordinated governance, while also describing the difficulties that NGOs face in having to meet official implementation schedules and cope with bureaucratic delays. What often happens is that NGOs take on a role of a 'parallel government', and a key challenge of the CLTS approach is how to bring different actors together and to scale up the scattered successes so that the concept of CLTS gains a critical mass.

There is, therefore, a need to fashion lasting, workable constellations at the national and international levels. The CLTS approach has hitherto been quite *ad hoc*, and has relied heavily on the presence of Natural Leaders and champions at the community level and district levels. However, such leaders and champions are clearly needed at the national policy level as well, to help facilitate the prioritisation of sanitation projects, and to aid in the co-ordination of activities. Deak (2008) points to two major routes of spread, vertically and/or horizontally.[8] While the vertical exposure will depend on the particular geographical setting, the enthusiasm of the facilitators, etc., the horizontal scaling-up will depend among other things on a feasible institutional set-up. In order to promote stability and resilience there is a need to conceive of a long-term institutional

[8] Gundel et al. (2001: 7; cited in Deak 2008: 14) makes the following distinction between 'vertical' and 'horizontal'

- Vertical scaling up is project or organisational expansion higher up the ladder. It is institutional in nature and involves other sectors/stakeholders – from grassroots organisations to policymakers, donors, development institutions and international investors.

- Horizontal scaling up is the geographical spread and expansion to more people and communities within the same sector or stakeholder group. Achieving geographical spread is also realised through scaling-down – increasing participation by decentralisation of accountabilities and responsibilities.

base that acts as hub for advocacy, networking and experience sharing – both successes and failures.

There are emerging positive signs of such vertical and horizontal routes of spread, not least in Africa (see Musyoki forthcoming 2010; Kar forthcoming 2010), and of CLTS becoming a national priority. An example is Indonesia, where CLTS was introduced relatively recently. CLTS was incorporated as a National Strategy in September 2008 (Mukherjee and Shatifan forthcoming 2010), and the government has been closely involved in scaling up efforts, despite decentralisation trends posing problems in terms of severing the link between provincial and district bureaucracies and therefore hampering the flow of communication and information. Priyono (forthcoming 2010) notes that in order to scale up, there is no choice but to compromise with a top-down approach; the question is not whether, but to what extent. Sanitation, including CLTS, involves many sectors, such as health, education, public works, etc. Hence inter-sectoral collaboration is needed in order to implement CLTS, but with one sector taking the lead role. To facilitate such cross-sectoral collaboration, two types of cross-sectoral institutions were established in Indonesia; working groups and a permanent co-ordinating institution (see Joshi, forthcoming 2010, for details). Interestingly, implementing CLTS helped the bureaucracy become more flexible, as bureaucrats in different sectors had to engage in cross-sectoral coordination and learning. In terms of implementation on the ground, health centres played an important role in triggering, training and monitoring projects. However, these centres did not have any specific budget from which to fund such activities, raising the issue of pragmatism with respect to funding and subsidies in CLTS. A core lesson to emerge from the Indonesian case of integrating CLTS into national policies in order to scale up was that it needs to be aligned with already existing programmes.

The experience from Indonesia demonstrates how an institutional base could facilitate the exchange of experiences and open up rather than close down different pathways. Whether the spread of sanitation is NGO-led, state-led, or mainly spread through community action is not the primary concern, but rather how CLTS projects can interact with other sanitation initiatives, and how elements of the CLTS philosophy can be adapted to settings where the full package is unfeasible or undesirable. Institutional set-ups need to function not only as hubs for initiating projects, providing training and advocating action, but need to be a forum where experiences are shared and the diversity of ways in which CLTS can work be appreciated.

PATHWAYS

The complexity of system dynamics, and the diverging ways of perceiving and assessing such dynamics implies that there are bound to be contestations around what factors matter most in CLTS, and how to respond to shocks and stresses. Finding Sustainable pathways, then, involves making decisions that explicitly acknowledge these diverse views and contestations, and which clearly define the desired goals and trade-offs. This implies recognising that all participants are necessarily positioned and partial, whether they be government officials, NGO staff, activists, academics or community members. Whether CLTS is framed as a pathway to improved sanitation or more broadly as a route to empowerment is a normative issue that links it both to overarching goals of poverty reduction and social justice, and to the specific ways that different groups define and refine these goals in particular settings.

CLTS exists as one way of dealing with sanitation among a number of other approaches and frameworks. As noted in the introductory passages, CLTS differs radically from conventional top-down approaches in terms of its focus on community mobilisation, and the emphasis on bottom-up facilitation rather than top-down prescription. As Jenkins and Curtis (2005) argue, public health programmes focus on the promotion of sanitation largely through framing it in terms of disease prevention, mostly failing to motivate changes in sanitation behaviour. Also, public health programmes often give rise to rather narrow framings of disease outbreaks, what Wald (2008; cited in Scoones and Forster 2008: 9) terms ‘outbreak narratives’. These are often quite top-down, and focus mainly on the symptoms and immediate causes of disease outbreaks. CLTS, on the other hand, offers a bottom-up, long-term preventive way of dealing with diseases that are prone to epidemic outbreaks, such as e.g. cholera or typhoid, and offers a balance to the top-down public health discourses. Ecological and sustainable sanitation is another approach that CLTS could fruitfully engage with, charting potential synergies between CLTS’ focus on community-action and emphasis on behaviour change that are concerned with the stability and durability of improved sanitation systems, and the ecosystems thinking characteristic of eco-sanitation that frame sanitation in terms of ecological resilience and robustness. Again, there is a need to be aware of the dynamics and different understandings that prevail with respect to these approaches, and to focus on adaptive learning and the exchange of experiences. Such efforts of cross-fertilisation could be usefully explored through the institutional hubs of networking and experience sharing that are needed to scale up CLTS, and could potentially offer huge benefits in terms of charting new pathways to sanitation that are both more robust and durable.

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