Interventions using Community-led total sanitation approach (CLTS) in developing countries: an analysis of practical experience

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Abstract

Around 2,4 billion people in developing countries still lack access to improved sanitation facilities and almost one billion practice open defecation (OD). In recent years, Community-Led Total Sanitation (CLTS), one approach for improving sanitation, notably stands out among others and gained popularity among practitioners. The goal of CLTS is to ignite community action to achieve open defecation free status and completely eliminate OD, without providing any external subsidies to individual households. CLTS is often perceived as a revolutionary approach, and it has proven to be effective in abolishing OD. But at the same time, it was accused of using unethical practices violating human rights, and its sustainability and actual health benefits have been questioned. This research assesses opinions and experiences of CLTS implementers obtained via in-depth interviews with 19 practitioners from 14 developing countries. We found that despite controversies practitioners consider CLTS an effective tool for improving sanitation and are satisfied with its application. They are aware of its limitations and possibilities of human rights violations, though some had objected these claims. It is also common to modify CLTS, as only a minority of interviewed practitioners applied the pure form. Urge for modifications strongly resonated in practitioner's calls for constant improvements of the approach in respect to various local social and natural environments. Practitioners also endorse modifications and improvements which go against core principles of CLTS, such as provision of subsidies, sanitation hardware or technical assistance. This may be due to somewhat unrealistic expectations of CLTS.

Introduction

The Millennium Development Goal (MDG) aimed at halving the percentage of the population without basic sanitation by 2015 was not met and the estimated 68% of world population still lacked access to improved sanitation in 2015[1]. Much work thus remains to achieve the Sustainable Development Goal (SDG) of ensuring access to adequate sanitation for all by 2030[2]. Sanitation targets in global strategic frameworks stimulated the recognition of sanitation among national development priorities and have catalysed sanitation programs across the world. A recent systematic review and meta-analysis nevertheless documented only modest impacts of sanitation interventions on latrine access and use[3]. At the same time, it observed that both the implementation of sanitation interventions and sanitation conditions themselves are considerably dependent on various specifics of local natural, social, cultural, or political environment. A contextually-sensitive understanding of the implementation of sanitation interventions represents an important challenge which is no less important than more common efforts to quantify impacts of the interventions.

[1] WHO/UNICEF 2015
[2] UN 2015
[3] Garn et al. 2016

Once predominant interventions that concentrated primarily on the supply of sanitation facilities have increasingly been supplemented and sometimes replaced by interventions focusing on creating genuine demand for better sanitation[4]. Broad consensus can be found in recent literature describing failure of interventions solely based on the supply side disregarding various soft factors[5].

Community-led total sanitation (CLTS), addressed in this article, has recently become a prominent demand-oriented strategy to change sanitation behaviour in rural settings. Since its first implementation in Bangladesh during 1999-2000[6], CLTS has spread around the world and has already been used in around 60 countries and in some of them integrated in a national sanitation policy[7]. It quickly gained a reputation of cheap, simple, participatory, community empowering, and effective strategy for the elimination of open defecation (OD). However, recent research indicated that the sustainability of outcomes achieved through CLTS, particularly if used as a standalone approach, debatable[8]. Similarly, as its potential to improve human health[9]. Moreover, CLTS has also been criticized due to the use of unethical practices such as shaming, stigmatizing, and punishing community members[10] and yet another concern addressed a risk of its acontextual and mechanistic applications[11].

The published assessments of CLTS mainly draw on (a still limited number of) impact evaluation studies and academic discussion papers. However, less is known about how the CLTS implementation is viewed by practitioners responsible for its implementation at a grassroots level. After a brief overview of the debates surrounding the use of CLTS in rural settings, the main objective of this study is thus to examine the experiences and assessments of CLTS based on semi-structured interviews with 19 practitioners working across 14 different countries. The interviews primarily addressed implementation matters such as the reasons for the implementation, contextual modalities, complementary tools and strategies, perceived strengths and constraints, perception of controversies, and the overall assessments of this approach.

The CLTS approach: evidence and debates so far

The CLTS approach

The CLTS implementation is sometimes equalled with its triggering phase, community's self-appraisal of sanitation conditions through participatory activities. Triggering should lead realization of harmful impacts of OD, and initiating collective action towards open defecation free (ODF) environment in the entire community. However, training of facilitators[12], pre-triggering and post-triggering, are similarly important parts of a successful CLTS implementation[13]. Pre-triggering involves the selection of a community, understanding local context, establishing relationship with local leaders, and identifying possible risks and challenges. Post-triggering means various activities focused on enabling and encouraging the constructing of latrines, and a participatory monitoring of progress, including the verification

[4] Chambers 2009, Peal et al. 2010
[5] Sah and Negussie 2009, Huda et al. 2011, Mosler 2012, Aboud a Singla 2012, Hueso a Bell 2013, Guiteras et al. 2015
[6] Kar and Chambers 2008
[7] IDS 2017a
[8] Crocker et al. 2017
[9] Pickering et al. 2015
[10] Galvin 2015; Engel and Susilo 2014
[11] Bardosh 2015
[12] Kar 2010
[13] Kar and Chambers 2008; Sah and Negussie 2009; Kariuki et al. 2012

and certification of the community ODF status and subsequent monitoring to sustain this status. Being implemented in diverse conditions in different parts of the world, CLTS has been constantly evolving[14] and contextual modifications are encouraged[15], and often necessary. Besides local adaptations, large-scale modifications of CLTS when integrated into national sanitation policies can also be found such as in the Indonesian national strategy Sanitasi Total Berbasis Masyarakat (STBM) or the Ethiopian Community-Led Total Sanitation and Hygiene (CLTSH)[16]. Although it thus might actually be difficult to find CLTS implementation in a "pure" form, its main salient assumptions and features can be summarized as follows:

- The focus on community-level behavior comprehends sanitation as a collective asset and, at the same time, enables the power of social factors such as social conformity, social networks, and collective action driven by mutual collaboration, solidarity, and surveillance.
- The introduction of new community norms around the unacceptability of OD is considered as a key prerequisite for changing sanitation behavior and achieving the ODF status of a community.
- Participatory facilitation towards self-assessment and community's own decisions rather than direct awareness creation or a persuasion ignites collective action.
- Positive and negative emotions and social motivations can be more effective in igniting community action and behavior change than a didactic education.
- Own construction of latrines from locally available materials rather than externally provided or subsidized latrines is needed to induce a sense of ownership and eliminate expectations that government or NGOs are responsible for sanitation.

Evidence so far

To date, there is still limited research evidence on CLTS and it concerns with impact evaluation studies. These studies are inconclusive, rendering CLTS as somewhat successful in increasing sanitation coverage but not in improving health[17], and that it is successful in sustaining behaviour change, especially if enough resources are invested into training of local actors[18]. Many also argue CLTS results in low quality and non-durable sanitation facilities[19]. And there are concerns that CLTS has only limited effect on health of targeted communities, particularly since rise in sanitation coverage and elimination of OD does not guarantee lower disease transmission and improved health, due to construction of inadequate latrines[20]. Kumar and Vollmer[21] however claim results of infrastructural changes are realized after longer period of time.

Human rights and criticism of CLTS

Some portray CLTS as a controversial approach, which is based on unethical practices violating human rights. Specifically, denying fair treatment to people practicing OD, excessive shaming during triggering[22], and a return to colonial practice, where any deviation from western

[14] Chambers 2009
[15] Kar and Chambers 2008
[16] IDS 2017a, IDS 2017b
[17] Pickering et al. 2015
[18] Crocker et al. 2017
[19] Whaley and Webster 2011, Pickering et al. 2015, Crocker et al. 2016
[20] Pickering et al. 2015, Galvin 2015
[21] Kumar and Vollmer 2013
[22] Bartram et al. 2012, Sigler et al. 2014

standard, in this case of sanitation, is perceived as disgusting and backwards[23]. As Bartram et al.[24] puts it, there is a conflict between community good and personal rights. But sanitation intervention should proceed without suppressing these rights.

Adaptations to local context

Adaptation and modification of CLTS, especially to fit local context, is highly encouraged by its founders[25], and others who see initial preparations leading to adaptations for local context result in better outcomes[26]. Simultaneously, there are "purists" who apply only pure form of CLTS, although Kar and Chambers[27] did not intent create any pure form, only to compile ideas and tools for practitioners to choose from and adapt at will. Coffey et al.[28] argues that some aspects of CLTS might be simply not applicable in certain sociocultural settings and modifications are therefore inevitable. Modifications can be small scaled like adding another step, for example sanitation marketing, to the intervention[29], or building a whole new framework around CLTS like STBM in Indonesia[30] or CLTSH in Ethiopia[31].

Combination of CLTS with subsidies, other tools, and approaches

Combining CLTS with other tools is in its way also an adaptation and it is highly encouraged[32]. However, one major modification, use of external subsidies, is rather controversial since it contradicts Kar and Chambers[33] notions that latrines should be built with local materials, resources, and what is missing should be provided in solidarity by wealthier community members. But according to Sijbesma et al.[34] this may be unrealistic expectation.

It is not uncommon to provide aid during implementation[35]. Galvin[36] in this context talks about development of hybrid CLTS approaches, which apply whatever means necessary to adapt to local context, even if it breach basic principles. Compelling evidence for combination of hardware subsidies with demand creation comes from Bangladesh, where use of only software intervention did not lead to higher sanitation coverage or decrease of OD. When combined with subsidies indicators increased and decreased, respectively[37].

Less controversial is combining CLTS with other low-cost approaches which is again encouraged by Kar and Chambers[38]. CLTS thus can be combined with methods of using excreta as fertilizer like EkoSan or Arboloo[39]. Highly recommended for combining with CLTS is Sanitation Marketing (SM) to connect suppliers of sanitation facilities and hardware to newly

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[23] Engel and Susilo 2014
[24] As Bartram et al. 2012
[25] Kar and Chambers 2008
[26] Kiriuki et al. 2012
[27] Kar and Chambers 2008
[28] Coffey et al. 2014
[29] Chambers 2009
[30] IDS 2017a
[31] IDS 2017b
[32] Kar and Chambers 2008
[33] Kar and Chambers 2008
[34] Sijbesma et al. 2008
[35] Sigler et al. 2014
[36] Galvin (2015
[37] Guiteras et al. 2015
[38] Kar and Chambers 2008
[39] Jewitt 2011, Montgomery and Elimelech 2007

demanding customers[40]. Goal of SM is to establish sustainable sanitation market functioning without subsidies and offering affordable products for all income groups[41].

Methods

To study modifications, attitudes, obstacles and experiences with CLTS, interviews with CLTS practitioners were conducted and analysed. Initial target was to cover as many different countries and work positions of practitioners as possible, which set this study aside from previous ones that focused only on CLTS in one country. Three methods were used to conduct the interviews, 13 Skype calls, five face to face, and one was filled up in text form.

The questionnaire was prepared by the research team and the final version was consulted with a CLTS expert. The questionnaire is made up of 19 open questions separated into three sections: fact checking, CLTS implementation, contemplation. The main focus therefore is not to collect factual information and experiences about CLTS, but rather attitudes and opinions on CLTS as a sanitation promotion methodology and potential risks emerging from its application.

Contacting CLTS practitioners and arranging interviews with them proved to be rather challenging. First contacts were obtained from Czech NGO People in Need, and afterwards the snowball method was used to obtain more contacts. Social networks were also used to obtain more contacts. Altogether 41 practitioners were contacted via email with a request for interview.

The final sample consists of 19 interviews, practitioners are from six organizations and worked in 14 different countries. Two practitioners were freelancers. Respondent's names were withdrawn for potential setbacks and codenames were assigned instead. Interviewed practitioners, assigned codes, working countries and organizations are in tab. 1. Although practitioners are listed with their respective organization, their statements cannot be taken as the official view of the organization and can be only interpreted as their personal view.

Interviews were analysed in MAXQDA 12 software. Responds were coded into codes and sub codes. The analysis concentrated on identification of common topics and areas where practitioners agree or disagree with one another[42]. It is therefore multiple-case study, in which at first every case is analysed individually, afterwards certain level of abstraction was applied and the cases are compared among each other[43]. We also compared the responds with theoretical background and used it while trying to explain attitudes and opinions of practitioners[44].

Since only development practitioners were included in this research, certain biases must be considered while interpreting the results. Unfortunately, no government representatives or community leaders agreed to be interviewed about CLTS.

[40] Kar and Chambers 2008
[41] Nabembezi and Nabunya 2014
[42] Ettore 1999
[43] Ryan and Bernard 2003
[44] Wilson, Berwick and Cleary 2003

Tab. 1: Interviewed practitioners and their background

Practitioner's country and organization	Project and work description					
	Code	Year started	Duration	Number of Beneficiaries	Region	Budget
1. Cambodia, SNV	CAMSNV	Undisclosed				
2. Angola, People in Need	ANGPIN	2011	Undisclosed	90 000	4 provinces	350 000-400 000 USD
3. Angola, UNICEF	ANGUN	2014	2 years	1 242 850	10 provinces	3 500 000 USD
4. Ethiopia, UNICEF	ETPUN	Policy work and support for CLTS projects				
5. Ethiopia, Freelance I	ETPFRL	General support for CLTS projects				
6. Ethiopia, Freelance II	ETPFRL2	General support for CLTS projects				
7. East Timor, WaterAid	ETIWA	Undisclosed	Undisclosed	3000–4000	Undisclosed	25 000 USD
8. Pakistan, WaterAid	PAKWA	2011	5 years	300 000	Punjab province	
9. Cambodia, UNICEF	CAMUN	General support for multiple projects		410 187	General support for multiple projects	
10. Kenya, Plan International	KENPI	2011	5 years	600 000	Homa Bay, Kwale, Kilifi counties, Mathare IS*	825 258 USD
11. Malawi, Plan International	MLWPI	2013	5 years	1 000 000	6 districts	6 000 000 USD
12. Zambia, SNV	ZMSNV	Undisclosed	4 years	230 000	Whole country program	4 000 000 EUR
13. Indonesia, Plan International	IDSPI	2013	4 years	135 000	Undiclosed	3 400 000 USD
14. Uganda, Plan International	UGDPI	2015	3 years	41 300	Tororo district	377 000 USD
15. Myanmar, UNICEF	MYNUN	2015	8 months	200 000	4 townships	50 000-60 000 USD
16. Mauritania, UNICEF	MARUN	2009	11 years	1632895	Whole country program	
17. Ethiopia, People in Need	ETPPIN	2013	2 years	Undisclosed	Wolayita Zone	500 000 EUR
18. India, CLTS Foundation	INDCLTS	Policy work and general support for CLTS				
19. Haiti, UNICEF	HAITUN	2015	1 year	50 000	Sud-Est department, Belle-Anse Arrondissement	900 000 USD

*Informal settlements

Results

Why was CLTS applied, primary goals and actors of CLTS interventions

The main reasons for applying CLTS were good experiences and results (ETPPIN, KENPI, UGDPI, CAMUN, MYNUN, MARUN, MLWPI, PAKWA, ZMSNV). Practitioners often described CLTS spillovers between regions and up taking of CLTS after regional workshops. Official state's policy (ETPPIN, KENPI, ETIWA, IDSPI) and official organization's policy (ANGPIN, HAITUN, ETIWA, IDSPI, MARUN) were also mentioned.

CLTS interventions usually aimed at improving sanitation (HAITUN, UGDPI, ETIWA, IDSPI, MYNUN, MARUN, MLWPI, ZMSNV) and lowering mortality and morbidity (ETPPIN, KENPI, ANGPIN, ANGUN, MYNUN, MARUN) with extra attention to child survival. While improving sanitation is an obvious goal, there is no clear relationship between CLTS and better health[45]. No practitioner however disputed this goal and simply disclosed official or formal objective. Two projects (ANGUN and ETPPIN) also stated focus on women safety and maternal survival, as women are more seriously affected, both economically and socially, by OD[46].

Combination with other tools and approaches

Though provision of external aid during CLTS implementation is highly controversial, nine interviewed practitioners revealed usage of either direct subsidies or technical assistance. In Pakistan, so called "demolatrines" were built, described by PAKWA: *"…and these demolatrines are built in the households which are selected by those communities and they are, they happen to be the poorest of the poor among the poor, either female headed or someone with disability. And in every village, we built one or two."* UGDPI supported latrine construction in harsh natural conditions and lobbied for government-built public toilets, while CAMSNV provided subsidies for the poor. In Haiti, some regions receive subsidies which hindered pure CLTS in other regions, said HAITUN. Technical assistance is also not acceptable during CLTS, since it impedes creativity and cooperation among community members[47]. ETPPIN, ETPUN, KEPIN, and ANGPIN offered some sort of technical assistance, mostly consisted of provision of tools, assistance in designing the latrines in a sustainable way. INDCLTS in opposition described disadvantages of external support*: "You've given subsidies left right and centre, there are people who got subsidies in all the programs, so now there are lot of defund toilets, constructed toilets that no one is using."*

Rewards are preferred to any other type of assistance, even though they carry a risk of cheating when declaring ODF status[48]. Hence it is surprising they were practiced only by INDCLTS and PAKWA. Punishments and sanctions are debatable when used in CLTS[49], still they were used by ETPUN, ETPFRL2, and IDSPI, who said: *"When member of the community still open defecate, they give punishment, by the traditional leaders, like, they should pay, like a, what do you say… A fine!"*

CLTS is frequently combined with Sanitation Marketing (SM), as affirmed by KENPI, ETPPIN, ETPUN, ETIWA, CAMUN, IDSPI, MYNUN, MLWPI, PAKWA, and ZMSNV. Less often, by ANGUN, CAMUN, and MLWPI, was used Participatory Hygiene and Sanitation Transformation (PHAST). PAKWA also combined CLTS with microcredits.

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[45] Pickering et al. 2015
[46] Montgomery and Elimelech 2007, Hirve et al. 2015, Mahon and Fernandes 2010
[47] Chambers 2009
[48] Kar and Chambers 2008
[49] Bartram et al. 2012

Contextualization and other modifications applied to CLTS

Key point of this research was a question whether practitioners applied contextual modifications to their CLTS projects in order to achieve better results in given social, cultural or natural environment. Responds vary significantly as modifications were reported as both new innovative solutions and as tools described in the CLTS Handbook[50]. Three categories of modifications were created: modifications of tools, of social aspects, and no modifications. Social aspects modifications refer to broader changes in how communities are approached during CLTS, while tools modifications are literally just modifications of tools used in CLTS. Nevertheless, the categories are overlapping. Only ANGPIN stated that no modifications were applied.

Most practitioners modified, with various scope and nature, CLTS tools. KENPI stated he adjusted the tools for local communities. ETWA and UGDPI labelled the use of SM as a modification. CAMUN changed the order of tools used during implementation. HAITUN had to modify CLTS tools as they were too shocking for local communities. MLWPI added more follow up visits to standard three if needed. MARUN highlighted CLTS implementation in urban and peri-urban regions as a successful modification. Latrine usage is accented during triggering in Myanmar, because latrine construction is extremely difficult for the poor (MYANUN). UGDPI also described continuing in the community cooperation initiated by CLTS. They often scale up with water provision project, as the demand for water rise after CLTS intervention. Large portion of Angola's population consists of nomadic tribes, so ANGUN provided them with GPS devices, thus the tribes can keep a log of their camps and avoid places where there could be faeces in the open. In other regions, ANGUN linked an epidemy of cholera to latrine usage during a triggering session. In Ethiopia, ETPPIN combined CLTS with methods from previous projects. IDSPI described STBM as principal tools modification. ETPUN demonstrated hygienic latrine design during triggering.

There were less modifications of social aspects and most of them are associated with involvement of different groups in CLTS. ETPPIN offered long-term cooperation to whoever was interested in sanitation promotion. ETWA pushed local governments into commitment to achieve ODF. ZMSNV deliberately skipped communities where the chief smelled of alcohol. IDSPI utilized influence of priests in catholic communities to achieve behavioural change. ZMSNV reported traditional leaders being able to legally enforce ODF and generally letting community actors modify CLTS according to their knowledge of given community. PAKWA described experience and ideas sharing meetings of sanitation actors. CAMUN said they did not use "Army of Scorpions", groups of children who sound alarm whenever they see someone practising OD[51].

INDCLTS did not discussed any modification for a lack of knowledge, but later sent a publication about various modifications for Indian context, like sanitation hardware coupons for the poor, establishing sanitation information hotline, or to ask people who still practise OD "Whose child are you going to stunt today?"[52].

Obstacles faced during CLTS implementation

Another key question was about obstacles faced during CLTS implementation. Contextual factors were again emphasised. Obstacles are divided into four categories: social aspects, natural conditions and environment, tool as an obstruction, and previous subsidies.

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[50] Kar and Chambers 2008
[51] Kar and Chambers 2008
[52] Thakur and Mishra 2016

Social aspects are the largest category and few topics can be identified within it. Some practitioners had disputes with the government and its agencies, as their means of implementing CLTS differed (ETPPIN, KENPI, ANGPIN, MARUN). Obstacles also arose from sociocultural conditions. ANGPIN faced delayed triggering sessions because of long mourning periods after funerals, while ANGUN operated in regions with nomadic tribes that initially refused to cooperate. ETPUN and ETPFRL had problems with uncooperative communities. CAMSNV and INDCLTS reported lack of solidarity between community members. Indonesian communities are usually demotivated to continue in their efforts after they reach STBM status, said IDSPI. KENPI and UGDPI both talked about problems related to CLTS implementation in urban regions. MYNUN encountered issues while implementing CLTS in large communities. UGDPI and ANGUN experienced problems in how faeces are perceived in the society. In Angola faeces are taboo and it is complicated even to start a conversation about them, however in Uganda they are not considered dangerous at all. Practitioners also had troubles with other sanitation actors. Facilitators working with ETPPIN lied about monitoring results to make the project appear more successful. ETPUN's local construction workers lacked knowledge of latrine construction and refused to build them. ETPFRL2 said local health personal was severely underpaid. According to ETWA, cooperation is very difficult in East Timor because of numerous ongoing humanitarian and development projects. IDSPI was the only practitioners who brought up low participation of women and people with disabilities as an obstacle.

Kar and Chambers [53] clearly see previous subsidies as a major obstacle for CLTS implementation, but only six practitioners mentioned it, specifically communities expecting subsidies during interventions (HAITUN, IDSPI, MLWPI, ZMSNV, ETWA, INDCLTS). However, INDCLTS might be potentially biased since her organization actively promotes pure CLTS as an alternative to government subsidies programs.

Natural conditions and environment can also have negative influence on CLTS implementation. Rain and flooding was designated by ANGUN, MLWPI, and ZMSNV as the most serious cause destroying many latrines. ETPUN and MYNUN referred to rain in connection to agricultural season as an obstacle for CLTS. UGDPI, HAITUN, and MYNUN mentioned difficulties with latrine construction in desert and rocky environment, and in marshy regions with high water table. KENPI witnessed constructed latrines destroyed by termites.

Some elements of CLTS seem unusable in practise. Latrines designed by communities were unsustainable and totally failed in Ethiopia (ETPUN, ETPPIN, ETPFRL2). Achieving ODF is hindered in Haiti because people demand concrete latrines and find some tools too shocking (HAITUN). CAMSNV thinks there are unrealistic expectations about cooperation and community effort. ANGPIN noted that CLTS is highly human resources demanding and there is often not enough people for follow up. ZMSNV has negative experience with demonstrative use of human faeces during triggering, as this tool does not have desired effects.

Human rights concerns and other criticism of CLTS

When discussing this topic, human rights violations described by Bartram et al. [54] were presented as criticism of CLTS. Eight practitioners mentioned CLTS interventions can be abused, especially with insufficient training and preparation. ANGPIN, INDCLTS, HAITUN, MYNUN, and ZMSNV reflected on ethical question regarding shaming, agreeing it must be done correctly. ANGUN, MLWPI, and ETWA view knowledge of local context and adapting CLTS accordingly, and leaving decisions in the hands of communities as crucial in abuse

[53] Kar and Chambers 2008
[54] Bartram et al. (2012

prevention. IDSPI, PAKWA, CAMUN, and MARUN had no such issues with CLTS. Direct criticism came only from ETPPIN who did not defend CLTS in any way and criticised politicization of sanitation: *"We simply came to officially ODF regions, but in reality… In reality, they weren't. But the government had achieved its goals, so to say, right?"*

Satisfaction with CLTS

Regardless of critique practitioners are generally satisfied with CLTS. Overall satisfaction was expressed by ZMSNV, IDSPI, ETWA, ETPRFL, ANGPIN, UGDPI, HAITUN, CAMUN, MYNUN, MAURUN. Six practitioners, though also satisfied with CLTS, specified various aspects where they would like to see improvement. ETPPIN emphasised need for constant upgrading, modification, and in case something does not work, do not be afraid to use different approaches. KENPI deems necessary to link CLTS to SM and develop CLTS+. In accordance with previous statements, ANGUN would like to see more government engagement and prioritization of sanitation. CAMSNV considers CLTS the most powerful approach for behavioural change but it cannot be overestimated. According to MLWPI, CLTS should never be used separately. PAKWA thinks CLTS is still not mature enough.

Discussion

CLTS is often described as a successful and effective sanitation promotion approach[55] and interviewed practitioners generally agree. CLTS is getting in the development mainstream, as it became official strategy for several numerous countries and organizations. But Chambers[56] warned of mass spreading which could lead to lower quality. Massive adoption could also restrict CLTS to a set of mechanical tools applied everywhere[57].

Improved sanitation is closely associated with lower incidence of infectious diseases and lower preventable diseases mortality[58], which corresponds with primary targets of most analysed interventions, though there is still no direct evidence CLTS improves health and lowers mortality[59], but practitioners did not weigh in on actual health impacts during the interview. Gender related issues were only marginally reflected in targets, although women are much more affected by inadequate sanitation[60]. Sanitation is often discussed in context of MDGs[61] but they were mentioned only once during the interviews. It is therefore questionable how much are MDGs just a rhetorical matter.

It is recommended to combine CLTS with other approaches or tools suitable for given context[62]. Practitioners abide by this recommendation, although in some cases they go against key CLTS principles. Some interviewed practitioners combined CLTS with direct subsidies or technical assistance. This practice is also document in recent literature[63]. Practitioners have overall good experiences with subsidies since they carefully target the very poor or in other ways disadvantaged people. This way sanitation can reach single mothers or people with disabilities, who's needs are often overlooked[64]. In India, subsidies may have more negative

[55] Sigler et al. 2014, Sah and Negussie 2009
[56] Chambers (2009
[57] Tilley et al. 2014, Bardosh 2015
[58] Fewtrell et al. 2005, Montgomery and Elimelech 2007, Wolf et al. 2014
[59] Pickering et al. 2015
[60] Montgomery a Elimelech 2007, Hirve et al. 2015, Mahon a Fernandes 2010
[61] Jeluand et al. 2013, Waldman, Mintz a Papowitz 2013, Sijbesma et al. 2008, Montgomery a Elimelech 2007, Aboud a Singla 2012, Bartram et al. 2012
[62] Kar and Chambers 2008, Chambers 2009
[63] Singler et al. 2014, Galvin 2015
[64] Groce et al. 2012, Hirve et al. 2015

effect, as noted by Hueso and Bell[65] and this research. Technical assistance was similarly offered in situations when communities were not able to come up with sustainable solutions. Galvin[66] considers this hybrid CLTS as the best approach to this complex issue. Technical or financial support could be provided after initial phases for repairs and upscaling. Guiteras et al.[67] also believe "smart" subsidies should be provided alongside community mobilization. SM is the most combined approach with CLTS and practitioners perceive it very positively. It should be therefor considered whether SM should not become more integral part of CLTS. Sanctions and punishments are recommended by Kar and Chambers[68] and also have strong critics like Bartram et al.[69], but are only marginally used by practitioners. Interestingly, sanctions and punishments are used less often than subsidies and technical assistance. Application of CLTS in its pure form might therefor be significantly limited.

Modification of CLTS to local context should be common practise[70] and the interviews partly proved that. But practitioners have diverse views on what constitutes as a modification. Some mentioned use of SM, some alleviation of shocking tools, some entirely new concepts based on CLTS like STMB. CLTS interventions are being contextualized but not to its full potential. Practitioners should perhaps invest more time into preparations, which are very much essential[71]. They need to understand local context and adapt the intervention accordingly. That also means avoid finding one-size-fit-all model of CLTS, as absence of modifications could have negative effects on practice[72].

Another impulse to modify CLTS should be the large number of identified obstacles. And as they were predominantly related to social aspects it is important to emphasise role of sociocultural norms on the intervention and behavioural change[73]. Generally, lack of cooperation on all levels in a major obstacle during CLTS interventions. Either between governments and other actors or between individual community members. The latter is particularly noteworthy since solidarity and cooperation inside a community is what substitutes subsidies in CLTS, or at least should[74]. But envy and grudge are much more common[75]. Subsidies came out with an ambivalent position. Practitioners see them as a necessity, useful tool to help the very poor, or a major obstacle in sanitation promotion. Unification of sanitation policies could lower expectation of subsides and a debate is needed between purists and supporters if hybrid CLTS. Subsidies combined with software approaches proved to be effective[76]. Subsides and technical assistance should also be considered when addressing sustainable latrine constructions in harsh natural conditions. If people are not able to construct adequate sanitation facilities by themselves, CLTS principles should not prevent them from outside assistance[77].

There is an overall feeling that some key principles of CLTS are hindering scaling up of sanitation. Besides lack of subsides and relying on local technologies, it is the use of shame

[65] Hueso and Bell 2013
[66] Galvin 2015
[67] Guiteras et al. 2015
[68] Kar and Chambers 2008
[69] Bartram et al. 2012
[70] Kar and Chambers 2008, Chambers 2009, Sigler et al. 2014
[71] Aboud and Singla 2012
[72] Tilley et al. 2014, Galvin 2015, Bardosh 2015
[73] Mosler 2012, Montgomery and Elimelech 2007
[74] Kar and Chambers 2008
[75] Galvin 2015
[76] Guiteras et al. 2015
[77] Galvin 2015

inducing activities, which were criticized multiple times. The remaining question is whether CLTS even need it[78]. Some practitioners would argue that not. CLTS is also seen as fairly complicated regarding human resources and the number of steps during the process.

Practitioners are aware of potential risks associated witch CLTS and possible human rights violations[79] are strongly reflected within them. At the same time majority defended CLTS. Generally, practitioners emphasized human rights rather than possibly unethical enforcement of OD, similarly to results of Sigler et al.[80].

Predominance of good results clearly makes CLTS popular with practitioners. But detailed insight shows current limits of this approach and calls for innovations will probably only get louder, e.g. calls for larger use of "smart" subsides. It clearly shows there will never be a one size-fit-all model for sanitation promotion. CLTS also need to keep a touch with reality. Communities might be able to cooperate and in solidarity provide resources among its members, but according to interviewed practitioners this is often not the case. At that moment, to achieve ODF, key principles of CLTS might get breached. Policy makers must therefore carefully evaluate each step of implementation, coordinate and align regional strategies and be courageous to push for new way, when the established means fail. After all, SDGs are ambitiously set up, and a lot of ambition will be needed to fulfil them.

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