

Successes, challenges and characteristics of School-Led Total Sanitation (SLTS) in Ghana

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Abstract

Providing adequate sanitation to households in rural areas remains a challenge throughout the 21st century. Prior sanitation approaches have not succeeded in bridging this gap. Rather than empowering people these subsidy driven approaches induced dependency and reliance on external actors.

CLTS, acronym for Community Led Total Sanitation, emerged in 2000 in Bangladesh and since then is presented as a new way forward in the dissemination of hygiene and sanitation practices. This approach is non-subsidy driven and focuses on the potentials of the community to help itself. Derived from the CLTS approach is SLTS, School Led Total Sanitation, centering around children in diffusing hygiene and sanitation messages to peers, family and community members.

CLTS and SLTS are currently implemented in various countries around the globe. Due to its novelty research is required to dissect the impact it has. IRC and its partners have been working on the Pan-Africa Program since 2010. This program analyses CLTS's and SLTS's challenges and successes. In Ghana IRC cooperates with Plan Ghana, which has been implementing the new sanitation approach since 2007.

This report is the result of an explorative study on the role of several actors in promoting in-school and community hygiene and sanitation practices under the banner of SLTS. School and community reports were gathered to define successes, challenges and characteristics of SLTS in a Ghanaian context.

Key words: hand washing, open defecation, SLTS, hygiene and sanitation, latrines, Ghana, schools, health diffusion

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1. Introduction

Approximately 2.5 billion people, roughly 38% of the world population, lack adequate sanitary means to safely dispose of human faeces (Khale & Dyalchand 2009; Tripathi *et al.*, 2010), a primary source of diarrhoeal pathogens. This poses a direct threat to human life, in particular to the lives of elderly and children.

Apart from the death toll of 5000 under five years olds per day - making it the second leading cause of mortality in this age group - diarrheal episodes impair child development and learning abilities (World Health Report, 2005 & Guerrant *et al.*, 2002). Each successive diarrhoeal episode takes a child further away from his or her normal weight, debilitates the child and can result in intermittent school dropout (Pelletier *et al.*, 1995).

Efforts to turn this trend and reduce diarrhoeal episodes are based on cutting the pathways by which pathogens enter the host, shown in the annex in figure 1. Effective measures are improved sanitation, improved water quality, increased water quantity and hand washing (Curtis & Cairncross, 2003).

Over the years various sanitation & health programs have emphasized different efforts and applied diverse approaches to address the issue of diarrhoeal disease. Among the field of approaches School-Led Total Sanitation (SLTS) is still relatively new, with a focus on improved sanitation and hand washing in schools.

As the nephew of Community-Led Total Sanitation approach (CLTS), it is being applied in Ghana since 2007 and announced as the official way forward to scale-up rural hygiene and sanitation under the 2008 National Water Policy (Plan Ghana, 2011). Distinction between CLTS and SLTS is the prior one focuses on rural-communities in general and SLTS specifically on the communities' school children, as a nexus to advocate hygiene and sanitation efforts in both schools and the community.

In theory Total Sanitation distinguishes itself from other approaches by its non-subsidy driven character and promoted self-help efforts. By doing so, SLTS envisions to create a base that empowers its audience, secures bottom-up adoption and utilisation of hygiene and sanitation measures, as opposed to fostering a culture of dependency and imposing unsolicited interventions susceptible to non-adoption and decay.

In practice SLTS is still relatively new compared to other approaches, requiring further enquiry of its alleged acclamations. This study was conducted to investigate the successes, challenges and characteristics of SLTS in Ghana, and augment insight on the approach in this specific context.

2. Methodology

An exploratory study was conducted among four schools, of which one was located in the Central Region, the community of Mankessim, and three in the Eastern Region: successively in the communities of Odichirase, Kolieta and Surpong Ric. School selection was done in collaboration with Plan Ghana, based on accessibility and travel schedules of Plan Ghana staff.

In total 25 school children participated in a semi-structured questionnaire on the school's hygiene & sanitation situation and any promotional activities they engaged in, with ages varying from seven to twelve. Participant size per school was distributed from two in Mankessim, three in Odichirase, six in Surpong Ric and fourteen students in Kolieta. Next to school pupils, members from the adjacent community were interviewed using a semi-structured questionnaire, elaborating on the communities' hygiene and sanitation practices and promotional activities engaged in by school children and community members. Community members sampling size was distributed one in Odichirase and Surpong Ric, ten in Kolieta plus three community member's latrine visits, joined by the respective community members. Due to time constraints, community members enquiry in Mankessim was not possible. A third group of research participants, school teachers, were presented with a same set of questions as to those of the school children and community members. Key was the role of teachers in school hygiene & sanitation practices and promotional activities. Since the school in Odichirase was closed during the public holiday of independence day and the day after, teacher interviews were confined to the three other schools. Apart from these three groups, help from Plan Ghana enabled setting up an unstructured interview with a program officer from the Ghanaian Ministry of Education, to gain insight in school hygiene and sanitation programs. Another unstructured interview was conducted with the Central Region director of Plan Ghana, focusing on implementation successes and challenges of SLTS in that area.

Beside the conducted semi-structured and unstructured questionnaires, an observation checklist was prepared to evaluate the availability and state of hygiene practices, promotional activities and sanitary facilities on each school compound.

Lastly, personal communication with SLTS facilitators, WASH advisors and other staff from Plan Ghana, as well as unconstrained conversations with Ghanaian citizens on the countries' sanitation situation, contributed in broadening understanding of beliefs and perceptions revolving around hygiene change. Described events took place from March 5 till March 30, 2012.

3. Results

This chapter contains the findings on hygiene and sanitation diffusion among schools and communities and current practices of hand washing and defecation within these groups. In section 3.1 reports from pupils of the four visited schools on hygiene and sanitation informing agents are presented and the contributing role school children have in any further diffusion. Section 3.2 discusses pathways taken to inform community members, incorporating reports and observations taken in the communities. Responses from the teacher group of research participants are incorporated in section 3.1 and 3.2, with a close look on teachers' role in hygiene and sanitation diffusion in the latter section. Section 3.3 presents findings on the state of latrines and hand washing facilities in the visited schools and communities, along with the reports of in-school and in-home/community practices of hand washing and open or safe defecation.

3.1 School children's responses

Informing agents in schools

Conducted in schools semi-structured interviews focused on the following SLTS related topics: actors promoting HSPs (hygiene and sanitation practices) in schools, promotional activities done by school children among peers, family and community members, child participation in design and construction of latrine facilities, regimes in maintaining (cleaning) the latrine facilities and current hand washing and open defecation practices.

In table 1 the informing agent per school is presented, responsible for informing the children on sound hygiene and sanitation practices. Apparent for all four schools is the prominent role of teachers in this process.

Table 1: Informing agent per school concerning hygiene & sanitation practices

<i>School</i>	<i>Informing agent</i>
Odichirase	Teacher
Mankessim	Teacher & SHEP nurses
Koliete	RUWSS facilitator
Surpong Ric	Teachers & health club members

Pupils from the Odichirase school reported their teacher in turn was informed by Plan Ghana and RUWSS (Rural Water and Sanitation Services), a local partner organization of Plan Ghana working in the eastern region.

Children from the Mankessim school declared the teachers and nurses from the SHEP program were central in learning them about the importance of hand washing and latrine use. Nurses mentioned are trained facilitators in the so called national Sanitation, Health & Environmental Protection (SHEP) program. Miss Gyekye (2012) from the Ghanaian Ministry of Education reported on the role of these nurses, taking part in training of schools, school health clubs, school committees, school food vendors with regard to practices of hand washing with soap, personal hygiene, food hygiene, safe excreta and waste disposal (personal communication with Gyekye, 2012).

In line with the teacher from Odichirase, teachers from Mankessim school were trained by Plan Ghana in a workshop on hand washing and latrine use. Involvement of both Plan Ghana and SHEP facilitators in this case, indicate towards the possibilities of cooperation and institutional alignment in sensitizing the Mankessim school.

Health club members from the Kolieta school informed they were taught on HSPs by mr. Jabba, a facilitator from RUWSS. On the same day interviews were conducted among school and community members in Kolieta, the RUWSS facilitator was paying a follow-up visit to the school. Apparent in this case is the more direct and prominent role of the NGO facilitator in informing children on HSPs rather than doing so via the school teacher as reported in Odichirase and Mankessim.

Interviews conducted in Surpong Ric, were also taken among members of the school health club, consisting of five boys and three girls. In a workshop organized by Plan Ghana the children reported they learned about the existence of germs and importance of good hygiene. During in school demonstrations on the importance of hand washing, performed by teachers and the health club members, lessons learned were further disseminated among the rest of the school. Similar to the teachers in Odichirase and Mankessim one of the teachers from Surpong Ric had been to a workshop facilitated by Plan Ghana.

Extension role of school children

The role of children in extending HSPs among peers and community members varied per school, with the most active role by health club members of the Surpong Ric school, demonstrating and vocally endorsing good hand washing to peers and family members. Pupils from Odichirase school also reported on demonstrating hand washing practices, however limited to within the family unit. Pupils from the school health club in Kolieta and from the school in Mankessim showed the least active engagement in disseminating hygiene messages, attests on diffusion of learned practices refrained to telling family members and friends about the importance of hand washing.

In none of the four cases sensitized school children reported on informing community members on these issues. Further diffusion of health messages were aimed at peers or the family unit. Reports from Odirichua and Mankessim in particular indicate the role of elder children taking care of younger brothers and sisters and so fulfilling a central role within the family unit. They act as co-caretakers within their households and as one of the school children in Odirichua reported: *'seeing to it that younger brothers and sisters wash their hands after going to the latrine and before taking a meal'*.

Overall the conducted interviews in the four schools indicate that the role of children as ambassadors of hygiene and sanitation practices is not so adamant within the community, but more within the family where children spend most of their time taking care of younger siblings. Beside this 'in-home' promotion, reported in all four schools, the school health club of Surpong Ric also notified of 'in-school' promotion. Endorsing activities extending towards the community were not reported in any of the four schools, delineating a more confined diffusion role of schools in Ghana as compared to reports of school children's role in SLTS literature (Kar & Chambers, 2008; Kar, 2003; Farooq Khan *et al.*, 2008; Adhikari & Shrestha, 2008; Adhikari, 2010).

3.2 Community member’s responses

Informing agents in communities

In this section diffusion pathways of HSPs to community members are further analyzed by incorporating reports from community members themselves. In table 2 the informing agent per community is shown, informing community members on the importance of hygiene and sanitation practices. Limits in survey size, specific to this research group, also limit any premature conclusions. Findings however should be primarily understood as a first indicator of HSPs diffusion in a Ghanaian context and in turn can point towards a further quantifiable assessment of patterns over a larger research group.

Table 2: Informing agent per community on hygiene and sanitation practices

<i>Community</i>	<i>Informing agent</i>
Odichirase	Children
Mankessim	-
Koliete	RUWSS facilitators, WATSAN group
Surpong Ric	WATSAN group

Interviews with community members from Koliete and Surpong Ric pointed towards a central role of the local WATSAN (Water & Sanitation) group in spreading HSPs among community members. In the community of Koliete, next to the WATSAN group, facilitators from RUWSS played a prominent role in this. Joint activities such as a community walk and community mapping, were done to identify WASH (water, sanitation & health) related points in the community and to foster greater understanding of sanitary problems. WATSAN groups in both communities vocally endorsed HSPs among community members. Next to this house to house visits, demonstrations and a community meeting were done in Surpong Ric to set the issue of hygiene and sanitation on the communal agenda.

Sensitization efforts in the community of Odichirase were less extensive, as a member from this community reported learning about the importance of hand washing and latrine use from her own children. Secondly this community member did not receive any support (advice) for the latrine construction, which was built by her husband and family. Compared to the observed and reported dry pit latrines with slab in Koliete and Surpong Ric (see table 5) - where external involvement was higher - the dry open pit latrine in Odichirase attested of a lower latrine quality. These cases suggest that successful hygiene and sanitation endorsement by children primarily is on the field of adapted practices, whereas any qualitative/technical advances, on the terrain of communally constructed latrine facilities, are attained by external facilitators involvement.

At a first glance community members’ reports in the cases of Koliete and Surpong Ric demonstrate no apparent contributing role of school children in hygiene and sanitation diffusion. Responses from the community member in Odichirase do so, but as discussed in section 3.1 this role is not so adamant within the community but more within the family unit. Overall actors such as NGO facilitators and WATSAN groups come more to the front, which also seems to affect the state of latrine facilities constructed in schools and communities (3.3).

Chief elders & fining

Interviews with members from the villages of Kolieta and Surpong Ric pointed towards a traditional structure contributing in ending open defecation within the community, that of the chief elder. Traditionally seen a Ghanaian village is governed by a village chief. The presence of this structure has also been reported by school children in a case study of SLTS triggering in the Upper West Region of Ghana (Sarpong, 2011). Traditionally this person bears the authority over the members of the village with regard to certain aspects of community living. One of these aspects is the matter of open defecation.

Community members from Kolieta and Surpong Ric informed that when a community member catches someone in the act of defecating in the open the village chief is the central person to report to. For those communities which agreed on ending the practice of open defecation, a non-complier is ought to be taken to the village chief, which is authorized to impose a fine on the non-complier. Fines in Kolieta and Surpong Ric were reported 10 and 50 GHC respectively, which in terms of Ghanaian minimum wage – 4.48 GHC per day¹ (MESW, 2012) - can be considered a significant amount.

Embedding community rules on defecation within this traditional power structure prove to be an useful contribution for communities to become open defecation free. In the cases of Kolieta and Surpong Ric interviewed community members stated their villages to be open defecation free, also see table 3. In the following section the state of latrine & hand washing facilities, along with reported or unreported ongoing defecation practices in all of the visited schools and communities will be presented.

3.3 Defecation, hand washing practices & related facilities

Defecation practices

Below in table 3 an overview is given of the responses per research group on on-going defecation practices within their school or community. School children were specifically inquired on ongoing defecation practices within their school, community members about ongoing defecation practices within the community. The third group, comprising teachers, were asked about ongoing defecation in both the school and community.

Readily apparent in table 3 are the varying claims on ongoing defecation practices, applying to the cases of Odichirase, Kolieta and Surpong Ric. In the case of Odichirase pupils address the distance from their school to the nearest by latrine facility as the main reason why some children still prefer the bushes over pit latrine use. To a similar conclusions come students from the Kolieta school, remarking that if the latrine facility on their school compound was constructed more nearby the school's classroom – instead of across the school soccer field and play ground – open defecation would be ended. Pupils from Kolieta school indicated that involving them in selecting the site of the school's latrine facility could have resulted in a higher contentment of the latrine location and in turn in a higher latrine utilization.

As for Surpong Ric, teachers stated that some members of the community are still practicing open defecation, despite the local fining structure and efforts of the WATSAN

¹ 4.48 GHC (Ghanaian cedis) is equivalent to \$2.3, exchange rate as per September 24, 2012

group (see 3.2). Surpong Ric’s teachers unanimously accounted these community members’ laziness, to dig a hole near to their house, as the main culprit, suggesting ongoing open defecation by a non-latrines possessing community members - within a local open defecation fining structure - is still allowed on a community member’s own premises. This notion was not directly addressed in this research, but should be addressed in any further research.

Table 3: Reports per research group on on-going defecation practices within the school or community

<i>School/ community</i>	<i>School children’s response</i>	<i>Community response</i>	<i>Teacher response</i>	<i>Addressed reasons</i>
Odichirase	Yes	No	-	Distance to latrine facilities
Mankessim	No	-	No	-
Koliete	Yes	No	No	Easier/quicker, distance to latrine facilities, school children not involved in site selection for latrine facility
Surpong Ric	No	No	Yes	Some community members still practice OD, teachers hold community members’ laziness to dig a whole responsible for this

Attributors in attaining safe defecation practices

Shifting from attributors to ongoing defecation practices to attributors for ending this, several aspects take part in this. As a first aspect logically flowing from above is the presence of a latrine facility in the vicinity of the school. Mentioned as a motivator by children from Koliete, Mankessim and Surpong Ric is use of latrine facilities – and HWFs - to prevent diseases and get rid of germs, which indirectly also shows the positive effect of any health related education provided by teachers and external facilitators, such as the nurses from SHEP in the case of Mankessim. Curtis (2011) and Sarpong (2008) highlight this effect and appoint disgust, the realization of fecal material on hands (Curtis, 2011) and in water streams because of open defecation (Sarpong, 2008), as a main motivator for improved sanitation practices in Ghana, over comfort, nurture, status or attraction.

A third factor playing a role in sound defecation practices on school compounds, which became apparent during school visits, is the endorsing role of teachers, embedded - in three out of four visited schools - in a traditional culture of enforcement by cane use. Pupils in all three schools indicated that any peer caught defecating in the open risked punishment by the teacher. Exception to this was the Mankessim school, where dialogue is chosen over punishment, particularly since Mankessim’s headteacher noted that any children still in the practice of open defecation generally comprises the younger ones.

Beside this penalizing role of teachers their endorsing role also takes form in various other shapes. First of all during the sensitization phase of the school when children become familiarized with hygiene and sanitation matters by their teacher. This newly acquainted information in turn propagates in school and in home promotion of hand washing and safe defecation practices. In Mankessim this first acquaintance with

sanitation matters was in form of hand washing demonstrations, central school assemblies and was also covered in teaching materials. Teachers from Surpong Ric as well showed the practice of hand washing to their pupils during demonstrations, beside this a template of communal debates and forums on hygiene and sanitation matters was chosen.

Prior to teachers diffusing HSPs to their students, teacher training during one of Plan Ghana's workshop was done among teachers from Odichirase, Mankessim and Surpong Ric. These teachers play an important role as a nexus between extension agents, such as Plan Ghana, and school children. Just as the 'watchdog' position of elder brothers and sisters in their families, teachers can safeguard and ascertain the continued application of safe defecation and hand washing practices in schools. Their in-school presence allows for in school monitoring. Apart from the specific role teachers have within schools, they must also be viewed as members of the community. As sensitized and knowledgeable individuals they are able to point out and disapprove of ongoing open defecation practices within the community, such as became evident in the case of Surpong Ric. Though among countries/cultures the specific role of teachers will differ, overall teachers are regarded key for school and community hygiene and sanitation promotion, they should be regarded and approached as co-workers, supporters and facilitators in this process (SCNSA, 2006 & Snel, Hickling & Banda, ca. 2010).

Hand washing practices & HWFs in schools

Interview responses from students were positive on the questions whether their school has a hand washing facility and if this is used in all schools. Students from all four schools attested to use soap for hand washing. Pupils from Surpong Ric indicated to be able to use this occasionally, when provided by their school.

Upon visiting, students and their teachers in all four cases were eager to show the hand washing facilities (HWFs). Demonstrated models were identical for the three schools situated in the Eastern Region, owing their HWFs to the Community Water and Sanitation Agency (CWSA), which provided the plastic drums as part of the global hand washing day campaign in 2011. The campaign, concerned with lowering diarrheal incidence rates and infant morbidity in schools (CWSA, 2011), provided drums equipped with a tap at the bottom and an iron caging for drum elevation, allowing upright washing of hands, see Annex, figure 2.

The school of Mankessim owed their HWFs to the financial support of the Canadian International Development Agency (CIDA). Two large capacity polythene drums, filled with water harvested from the latrines roof topping, were installed and equipped with two taps per drum. This more advanced system, immured in concrete, was entirely owned to external support and construction by local contractors.

Though facilities for hand washing were present in all four schools, proof of using them was not evident during all visits. Where Surpong Ric's drum kits on arrival were well equipped and filled with water, drum kits in Koliete proved to be the opposite from this. Upon arrival neither of the two drum kits had been filled with water. Closer looking at both drum kits showed signs of damage to the drum taps, impeding the controlled flow of water. Replacing the damaged taps had not been arranged so far by the health club members nor teacher. Though Koliete's pupils positively affirmed to the question

whether or not they wash their hands, the condition and organization of HWFs on site told a different story. Holiday closure of Odichirase school disabled close review of its HWFs, observations were confined to the iron caging present on the school premises. In order to prevent theft, all other materials had been safely stashed.

School latrine facilities

In table 3 the reported ongoing open defecation practices per school were shown and reveal this is still a point for attention in Odichirase and Kolieta. Pupils in both schools indicated distance to the nearest by school/community latrine is key part in this. Looking at table 4, specifying on the availability, number and latrine allocation for boys and girls, shows that in the case of Odichirase the school is lacking its own facility, in contrast to the other three schools. Lacking of proper school sanitary facility, distance to the nearest pit and its novelty – constructed 14 months prior to interviewing - should be regarded as factors causing persistence of traditional open defecation practices.

Table 4: availability, number of latrine pits and gender specific latrines per school

<i>Case</i>	<i>Latrines available</i>	<i>Type of latrine</i>	<i>Number of latrine pits</i>	<i>Gender separate latrines</i>	<i>Constructor & financier</i>
Odirichua	no	-	0	-	-
Mankessim	yes	Ventilated concrete pit latrine with slab	10	yes	Constructed by local contractors, financed by CIDA
Kolieta	yes	Ventilated dry pit latrine with slab	2	no	Constructed and financed by community members
Surpong Ric	yes	Ventilated dry pit latrine with slab	4	yes	Constructor and financier unknown

The Mankessim school had just been provided its latrine facilities with the financial support from the CIDA. Two separate concrete latrines units were built for boys and girls, each containing 5 pits and also equipped with urinals. Cleaning regimes for the facilities are boys cleaning the boys latrines and urinals and vice versa girls cleaning the latrines and urinal facilities allocated to them. Mankessim’s headteacher informed that for long term maintenance of the facilities funds from the Parent Teacher Association (PTA) will be available.

School children in Kolieta have access to a latrine consisting of two pits, each covered with a concrete slab. Both pits were located right next to one another without a physical barrier separating them, therefore it can be seen as a unisex facility were boys en girls relieve themselves in the same place. This can be a threshold that inhibits children - in particular girls - from using the facility due to a lack of privacy (SchoolWATSAN, 2006 & WASHadvocates, 2012). Response to the question by Kolieta’s pupils whether they are pleased with the facility in their school stated no, being displeased with the distance to the facility. Whether privacy matters also take a part in this, or are solved by local system of rotational use of the facility by boys and girls in this case, should be further inquired. Nonetheless excluding children in the design has given rise to some

dissatisfactions with the latrine facility in its current state. Regarding the cleaning of the facility, interviewed children indicated this happens on a daily basis and is done by both boys and girls.

Latrine facilities in Surpong Ric’s school were of the same types as those in Mankessim and Kolieta, ventilated dry pit latrines covered with a concrete slab. Similar to Mankessim the facility’s structure is made out of concrete, indicating external support for its construction, a plausible statement in the light of prevailing clay housing in the community. One of the teachers of Surpong Ric indicated the facility was constructed 15 years before. None of the present day staff had been installed in the school for that long and were therefore unable to recall who was responsible for the facility’s construction. Each latrine unit, four in total, contained two pits used in turn for decomposing reasons. When one pit is full it is closed off with a slab. Decompose is collected by local farmers and used as manure. Cleaning of the latrine facilities is done on a rotational basis, with a weekly rotating responsibility between boys and girls for cleaning the facility.

Children and teachers from all three schools which have access to sanitary facilities reported involvement of boys and girls in maintaining and cleaning the facilities. These three cases indicate that bringing hygiene and sanitation to schools is broader than bringing the sanitary facilities, along with it comes the promotion and enactment of equality between boys and girls. This becomes apparent in cleaning of latrine facilities, but also in positions taken up by girls and boys in school health clubs, making diffusion of hygiene and sanitation a matter of dignity and democracy. A concrete example of this is Kolieta’s health club chaired by one of the school’s girls. Shaping matters of health diffusion in this way contributes in fostering new gender roles in Ghanaian communities, allowing both boys and girls to feel and take responsibility and to grow in leadership and decision making qualities.

Community latrines, HWFs and related practices

Shifting from schools’ to community observed and attested latrine and HWFs demarked the following results, shown in table 5.

Table 5: Available latrine & hand washing facilities per community and funder source

<i>Cases</i>	<i>Latrines available</i>	<i>Available latrine facility and type</i>	<i>Available HWF</i>	<i>Constructor & financier</i>
Odichirase	Yes	Dry pit latrine (covered with sticks)	No	Constructed and financed by community member
Mankessim	-	-	-	-
Kolieta	Yes	Ventilated dry pit latrine with slab	Yes	Constructed and financed by community members themselves
Surpong Ric	yes	Ventilated dry pit latrine with slab	yes	Topping of latrine facility by carpenter, financing and side walls construction by community member

Interview results in Odichirase specified the pit latrine comprising a hole covered with sticks. Stick coverage does not fully close off the pit, the latrine therefore falls under the category with no slab. Flies are able to enter the pit still imposing the risk of fecal pathogens spread, indicated by the top arrow in the annex, figure 1. No reports were given of any support from external institutions, other than the school teacher reporting being trained by RUWSS. Construction of the latrine in this community was done without any external support. The facility was still lacking any type of HWF nearby.

For the communities of Kolieta and Surpong Ric observed and reported latrine facilities were of the type dry pit latrine with slab and covered with a small structure from either bamboo and leaves or wood. External involvement in these communities was higher as is shown in table 2, in particular to the community of Kolieta. In this community, three of its members were volunteering to show their latrine facility, constructed by them and their families. Each of the three latrine facilities was equipped with a HWF right next to the latrine. On each site the volunteering women were eager - even displaying some pride - in demonstrating how they use the HWF. The higher quality of pit latrines in Kolieta and Surpong and higher external involvement in these communities, demonstrate to be compatible. Further research can investigate the sturdiness of this relationship.

Discrepancy in available latrine facilities in schools and the community should be regarded as an important aspect to take into account when opting for sanitary improvements. Lacking of communal sanitary facilities can result in community members encroaching school readily available latrine facilities and increasing the latrine maintenance and cleaning burden of the school (Gyekye, 2012). Efforts in schools and the community should therefore go hand in hand, ensuring sanitary steps forwards among both groups. Table 4 and 5 indicate latrines available in both the school and communities of Kolieta and Surpong Ric. Also as described efforts for the spread of HSPs are being taken in these cases in both the schools and communities. For the case of Odichirase this notion works the other way around, school children - when not relieving themselves in the school bushes - 'encroaching' the nearest by community pit latrine.

Initial findings in this research also suggest the beneficial role of sanimarts used by external agents, an amalgamation of sanitation markets. As a concept it emerged in the Afraim plains in Ghana in 2003 to overcome the tedious and ineffective practice of elaborately describing and sketching of various latrine types on papers, boards and the ground (WaterAid, 2004). Under this concept marketing of latrines is done in a center (market place) where various latrine options are showcased, constructed from locally and regionally available materials. Figure 3 in the Annex displays the set-up of such a sanitation market. Plan Ghana has installed a similar sanitation market in the Eastern Region, just outside the city of Asesewa.

Though not touched upon directly during questioning of participants in this research, the sanitation market in this region was reported by one of Plan Ghana's facilitators in the eastern region to be used in demonstrating optional latrine models to community members and in this way stimulating grassroots initiatives. Community latrines in Kolieta showed strong resemblances to showcased latrines in Asesewa's sanimart.

4. Discussion

4.1 Triggering methods

Reports in CLTS/SLTS literature expanding on the role of school children (Kar & Chambers, 2008; Kar, 2003; Farooq Khan *et al.*, 2008; Adhikari & Shrestha, 2008; Adhikari, 2010) inform on a broad base of promotional efforts (songs, plays, child whistling, walk of shame) for spreading the message of hand washing and safe defecation, sketching a broader spectrum than the efforts engaged in by school children in this research. SLTS in its core concerns the diffusion of hygiene and sanitation messages to peers, family members and community members. Lessons from four schools in this research stress the extension level of sensitized school children among the first two groups. Promotional activities typically affecting (triggering) the larger community, whistling by children at open defecators, community performed songs and plays and the walk of shame (disclosing of main open defecation sites) were not administered in the four cases, as can be seen in table 6.

Table 6: triggering methods reported per school

<i>School</i>	<i>Triggering methods</i>
Odichirase	Vocal endorsement of HSPs among peers and family members, in home demonstration of hand washing to younger siblings
Mankessim	Vocal endorsement among peers and family members
Koliete	Vocal endorsement among peers and family members
Surpong Ric	Demonstrations of hand washing in schools and vocal endorsement

Overall vocal endorsement of HSPs among peers and family members comes to the front in the four schools. In addition to this the schools of Odichirase and Surpong Ric also engaged in hand washing demonstrations to peers and family members. Table 7 shows the triggering methods as reported by interviewed community members. Corresponding with conclusions above, no prominent role is set apart directly for school children in the community.

Table 7: triggering methods applied in communities

<i>Community</i>	<i>Triggering methods</i>
Odichirase	Vocal endorsement by at home by children
Mankessim	Vocal endorsement at homes by children
Koliete	Vocal endorsement of HSPs by local WATSAN group and RUWSS facilitators & community walk and community mapping of sanitation points
Surpong Ric	Vocal endorsement of HSPs by local WATSAN group, house-to-house visits, demonstrations and a community meeting

For the communities of Koliete and Surpong Ric, where larger 'in-community' promotional activities were administered, these are accounted for by the local WATSAN group or extending NGO facilitators. Attests of child HSPs promotion, indicate this is at

the household level. High involvement of external facilitators and locally present WATSAN groups seem to side line communal involvement of school children.

Another reason explaining limitation of school based promotional activities to peers and family members is the traditional culture of respect for elders in Ghanaian society. In conversations with Plan Ghana staff, research participants and regular Ghanaian citizens the importance that age takes up in Ghanaian society came up. One colleague remarked that if you meet someone that is just one year older than you are than you treat him with proper respect and regard that person as your elder brother or sister and those of an elder generation as your mother or father (also see Kwintessential, 2008 & ROV-Ghana, 2010). These traditional views go beyond the domain of formalities and extend to the field of friendships and communal relationships in which it is quite common for two friends to refer to one another as 'my brother' or 'my sister' and to refer to persons of an older age as 'senior brother/sister, uncle, auntie, father, mother' (ROV-Ghana, 2010). Denoting peers, friends, colleagues, community members in this way encompasses that these persons are to be treated with a likewise courtesy and respect as to one's own brother/sister, mother/father.

Rigorous blaming and shaming techniques by children as some literature of SLTS suggests in light of traditional societal viewpoints are than to be considered as overexertion in a Ghanaian context. In a society where respect for elders is deeply embedded, school based promotional activities cannot be expected to lecture and 'knock sense' into respected elder community members. Even among family members the hygiene related messages are not always openly welcomed, as one of the children from Kolieta school reported his parents started scolding at him when suggesting to construct a latrine. Curtis (2011) points out that employing messages of disgust by whatever group has to be done responsibly, since these can lead to moralization and stigmatization. On the one hand tactics of shaming others can result in eradicating infectious diseases from a community, on the other hand such methods can stigmatize certain groups and disturb social cohesion (Curtis, 2011), which in this applies to both the senders and receivers of disgust messages.

When accounting comments concerning Ghanaian society it seems to be unviable and culturally undermining in expecting children to shame and blame, or yet alone lecture, adult community members. However therefore also negating school children's role in hygiene and sanitation diffusion is a step to far, as reports from children and community members (parents) above do indicate child centered efforts in schools and homes. Justice George Boadi, one of Ghana's High Court Judges in Takoradi, in a recent program organized by the National Commission for Civic Education (NCCE) advocated for the case of young people correcting adults, if adults do things that have a negative impact on society. Judge Boadi recognizes Ghana's traditional culture and stated: *'correcting of negative attitudes must be done politely, in such a way that does not denigrate or insult the adult'* (Ghana News Agency, 2012). Instead of adhering to rigorous norms spurred under the 'original' CLTS/SLTS approach, described schools have embedded themselves in the traditional Ghanaian context of respect for elders, unifying with local norms/codes of conduct. Rather than seeing this traditional structure as a brake for triggering communities, its value in schools must be regarded, where students highly respect and follow their teachers. Within the school context lessons and activities can be

effectively spearheaded by schools' teachers (SCNSA, 2006), and from there taken to the rest of the community.

4.2 The root of Total Sanitation: School-Led or Community-Led?

As concluded above, outcomes from the visited schools and communities do not unravel a key role of school pupils in prompting latrine construction and community wide hand washing practices. Such a conclusion gives rise to the question whether Total Sanitation in SLTS, and CLTS, is School-Led, Community-Led or by neither one of them.

Rather than being able to pinpoint either school children or the community members as the ones leading the path for a sanitary future, examples from the four schools and communities in this research indicate various roles, for both school children and community members but also extension agents. Construction of the school latrine facility in Kolieta by community members, attests of the community in taking the lead. Familiarizing family members with hand washing practices by pupils from Odichirase and Surpong Ric, and vocally endorsing so by pupils from all four schools account for school children's' role in Total Sanitation. However on the level of the community the role of extension agents and local groups, such as RUWSS, Plan Ghana and the WATSAN groups, are key in reaching out to all community members and assuring the community wide spread of safe defecation and hand washing practices.

Concepts such as SLTS and CLTS in theory might appear as a panacea for the problem of inadequate rural sanitary practices by means of stressing a single actor group inclusion. Reports on the CLTS website referring to it as a 'revolution in rural sanitation' and 'wiping out old habits – a community's journey towards becoming ODF' reinforce this image (CLTS-site, 2009). In practice it becomes quickly evident that such an single actor emphasis does not readily solve faced problems. However this should not result in casting aside the contributions of schools under SLTS programs, child centred health extension programs should be framed and understood within a larger context of local norms and actor groups. Definitions such as School-Led and Community-Led in health programs should be understood as a trend in stressing the need for child and community involvement, and not as eliminating the possible involvement and contributions of any other actor groups. Inclusion of a single group can be key for advancement in some (single) areas, such as promotion of hand washing among members in the family unit, however on other terrains, other actor groups can provide valuable contributions as shown in this research.

4.3 sustainability issues

The mere provision of HWFs does not imply the mere practice of hand washing. Kolieta's school in this research is a clear example of this. Upon visiting the school its hand washing drum kits were empty of any water and the taps for regulating water flow out of the drum were broken. Suspending the repair of the hand washing kit in this school also implied suspended hand washing by its pupils. Visited schools in Odichirase and Surpong Ric were provided the same kits and in the future could face similar durability problems impeding the continued application of hand washing in those schools.

Regarding the school latrine facilities both schools in Mankessim and Surpong Ric received external support for constructing and financing the facilities. Funds from the PTA in Mankessim's school were mentioned by one of its teachers to cover long term maintenance costs. Since the facilities are made up of concrete, repairs by local materials is not possible, increasing dependency on external contractors. Same applies to the school of Surpong Ric, which already worn 15 years. Funding for repairs is unknown in this case. The School latrine facility of Kolieta school was constructed by its community members, ensuring locally available knowledge and know-how on maintenance of the facility. Further, ties with extension organizations such as locally operating RUWSS, allow community members to acquire any additional support in terms of advice for maintenance.

In theory SLTS is presented as a non-subsidy approach, driven by schools' and communities' self-help efforts. Though table 5 shows this applies to community members latrine necessities, and in the case of Kolieta and Surpong Ric also for the communities' required HWFs, same does not hold for schools' latrines and HWFs. In table 4 Mankessim and Surpong Ric come forth as externally supported schools regarding its latrine facilities. Looking at the required facilities for hand washing, all four schools presented in this research, obtained their HWFs externally. In three out of four cases, the CWSA donated the hand washing kits. The fourth case, Mankessim, received its hand washing facilities – along with the latrine facilities – from the CIDA.

These findings indicate that the non-subsidy character of SLTS presented in SLTS/CLTS endorsing literature does not apply to the cases in this research. Reports about the commonality of financial and material support for schools in the eastern region, plus the case of Mankessim in the central region, give rise to question the totality of school driven sanitation advances in these areas. Findings from these cases learn that SLTS is integrated with other programs, such as those of the CWSA and SHEP. In sum the four cases display SLTS in a Ghanaian context is redefined as an approach in which financial and material support are combined with triggering of peers and family members, making it deviate from the way the approach is presented under its original form.

Though intentions in providing HWFs to schools by external agents are good, they tend to put the total in, in school-led total sanitation, to the question. If under SLTS schools are ought to fulfill in their own hygiene and sanitary needs by a process of triggering and empowerment, than it should be questioned why external agents still play such a central role in provisioning HWFs to schools in Ghana? Greater alignment of goals and responsibilities between external agents are required, along with a clear definition of SLTS in a Ghanaian context, to clearly set the scope for schools and community health interventions.

4.4 Opposing approaches & hidden agendas in school interventions

Divergent goals and approaches among institutions operating in the field of hygiene and sanitation in Ghanaian schools should be checked as much as possible. Different standards of schools interventions can lead to opposing expectations and commitment levels of schools in health programs. The benevolence of one institution, equipping schools with health promoting means (latrines, hand washing kits), may well work as a

counterforce to one other institution's efforts. CWSA's effort in providing schools with HWFs, undermines the opted for school's independence under SLTS based efforts by Plan Ghana staff and local NGO facilitators. Same applies to Mankessim's school, having granted its latrines and HWFs from the CIDA.

Arising tensions as a result of these differences in interventions, should be considered grounded in more than solely the approach inherent to each institution. Appeasement of funders by extension agents, in order to guarantee future donations, can result in quick fix prestigious interventions, easily to account for to large donors (Interview Joseph Assan, 2012). These material based interventions are more instantly appealing to the eye and easily conveyable to the outside world. SLTS implementing institutions should be guarded from these predispositions, ensuring the long term support from donors for training adequate facilitators capable in shifting the balance from subsidizing to supporting interventions. Enabling bottom-up promotion and implementation of in-school hygiene and sanitation programs, requires a review of traditional 'top-down' funding structures and its underlying criteria.

5. Recommendations

In-school and community reports emphasize the positive role of pupils for endorsing HSPs among peers and family members. SLTS programs in a Ghanaian context should be implemented with a focus on these two areas, bearing in mind traditional structures of respect. Promotional efforts on the scale of the entire community should be guided by extension agents and when present, local WATSAN groups.

Sanimarts potentially show a valuable contribution in promoting sanitary facilities based on locally available materials. Further research should focus on the role of these markets on community members decision making processes. In this research quality of latrine facilities showed higher for those communities in which extension agents operated, indicating extension agents' supportive and endorsing role.

Chief elders take up a central position in traditional community structures. Incorporating rules set by them in community intervention programs allows for approaching and tackling on going open defecation practices from a local set of norms. Further research should disclose whether open defecation on a community members' own premises can also be penalized under this local set of norms.

Involving pupils in decisions on the design and site selection of the school's latrine facility ensures future utilization, avoiding privacy issues and distance problems.

Teachers act as a nexus between extension agents and school children. They can inform their pupils on hygiene and sanitation related issues and are able to ensure continuous application of hand washing and safe defecation practices within their schools. Further from their respected positions they can endorse sharing of HSPs by pupils in their households.

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7. Annexes

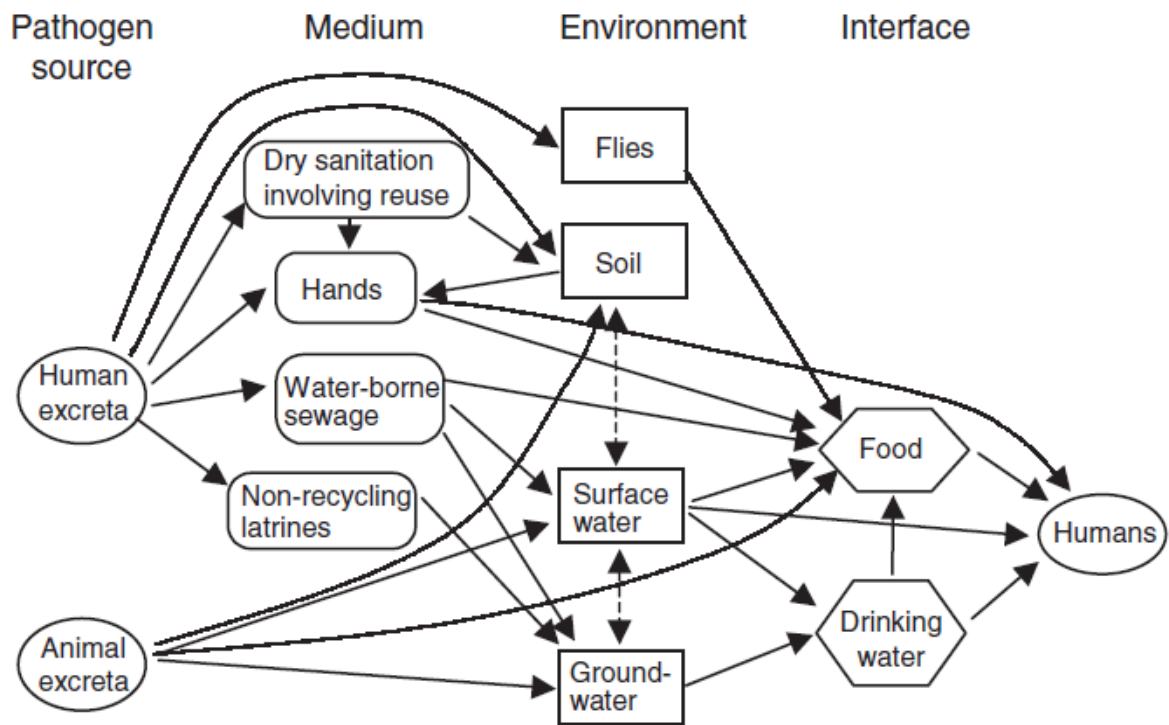


Figure 1: transmission pathways of human & animal excreta pathogens, source: Prüss-Üstün *et al.*, 2004



Figure 2: Hand washing kit presented by the teacher and children from Koliete school



Figure 3: example of the set-up of a sanitation market in the north of Ghana, source: Elvis Abodo, WATSAN advisor Plan Ghana