

An Evaluation of the CLTS Implementation Process from the Beneficiary Perspective: A Cross-sectional Study from the Bole District of the Savannah Region, Ghana

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Abstract: CLTS is by far the most widely implemented rural-based sanitation intervention across lower middle-income countries worldwide. Today, within the National Environmental Sanitation policy (NESP), CLTS has been acknowledged as the preferred approach to scale-up rural sanitation and hygiene in Ghana. The approach focuses on igniting a change in sanitation behaviour rather than constructing toilets. This research was intended to evaluate the CLTS implementation process from the beneficiary perspective in Bole District. The cross-sectional study employed the mixed method approach using questionnaires, focus group discussions and in-depth interviews in collecting data from a sample of 137 households from 20 communities. In addition, 2 Environmental Health Officers, 10 Natural Leaders and 1 management team member of Bole District Assembly were also interviewed. The qualitative data were manually analyzed using thematic content analysis and the quantitative data were analyzed using the SPSS version 22.0. The findings of the study revealed high level of knowledge about the CLTS concept among the participants (66.3%). The study further revealed that the entire CLTS implementation process within the district was largely in line with established CLTS implementation processes and procedures. However, specific activities such as enactment of community regulations, children and local authority involvements in the implementation process was either not carried out or was poorly done. In terms of the general impression of the participants about the CLTS implementation process, majority of the respondents rated the process as below standard. The study recommends the development and enforcement of a comprehensive CLTS implementation framework by the government.

Keywords: Sanitation, Community, Open Defecation, Triggering, Latrine Construction, Implementation, CLTS

1. Introduction

The Community Led Total Sanitation (CLTS) concept is a rural sanitation approach which was developed by an Indian Consultant Dr. Kamal Kar, while working on Water Aid project in Bangladesh in 1999. The innovation was as a result of failed previous sanitation campaigns such as the subsidy approach which aimed at eliminating Open Defecation (OD) through a top-down approach in delivering basic sanitation results [1].

The CLTS approach focuses on igniting a change in

sanitation behaviour rather than constructing toilets. It does this through a process of social awakening that is stimulated by facilitators from within or outside the community (Kar & Chambers, 2008). CLTS according to Kar in its fullest sense includes a range of behaviours such as: stopping all open defecation; ensuring that everyone uses a hygienic toilet; washing hands with soap before eating and after using the toilet etc. CLTS concentrates on ending open defecation (OD) as a first significant step and entry point to changing behaviour [1].

CLTS has been the most widely implemented rural-based sanitation approach in Asia, South America, Middle East and

Africa and thus far has proven to be the only approach that has demonstrated the potential to ending OD and increasing uptake and use of latrines at scale in rural communities [2]. Like any other project, the CLTS concept goes through a sequence of steps in its implementation process. There are three main stages involved in the CLTS implementation process. These include; pre-triggering, triggering and the post-triggering stages. There is also a fourth stage known as the Scaling up which most people don't usually refer to in their CLTS activities.

The potential success factors which must be considered during CLTS implementation process includes ensuring or recruiting qualified facilitators who will not only facilitate latrine construction but be persuasive and liberal to ensure success, a minimum of 17 follow-up visits and the attitude of the facilitator [3–6]. Additionally, the involvement of trained natural leaders from within the community, community participation including involvement of children and local authorities to further enhance or increase the chances of ownership, and finally community regulations to compel people from practising OD are success factors that are or must be considered [7, 8].

Each of the stages and potential success factors discussed in preceding paragraphs has specific favorable conditions that must be noted to make the implementation process holistic, a deviation from any of the processes at each stage renders the concept incomplete making it impossible to meet set goals [9, 10]. Understanding the case of Bole District in the midst of poor performance in open defecation free attainment is essential to unearth the specific adopted process to determine whether they are up to standard or not.

After 13 years of implementation of the CLTS approach in Ghana, Bole District still performs poorly in terms of the open defecation fight. For instance, a baseline survey conducted by Ewag in 2016 revealed that Bole District has 97% of its population engaged in open defecation despite the ongoing implementation of the CLTS approach. In fact, the district currently places 24th out of 28 districts on the ODF league table for the then Northern Region even though its sister district Sawla Tuna Kalba (STK), places 5th behind Tatale Sangule, Kpandai, Mion and East Mamprusi. [11].

It is against this background that this study evaluated the implementation processes of the CLTS approach in Bole District from the beneficiary perspective.

2. Material and Methods

2.1. Study Settings and Design

The study was conducted in the Bole District of the Savannah of Region of Ghana. The district was established by Legislative Instrument (L.I) 1786 and is located at the extreme western part of the Savannah region and is situated between latitudes 8°10.5' and 09° and longitude 1.50E' and 2.45 W. The district covers an area of about 4,800 square km (ghanadistricts.com update, 2019).

The cross-sectional survey design with the sequential mixed approach was adopted for the study among selected ODF and

non-ODF communities in the Bole District. The qualitative phase followed the quantitative phase as a further explanation of the result obtained during the quantitative stage. This methodology provided an overall snapshot of the characteristics, frequency, or occurrence of the targeted data point, at the specified time, among the population studied [12].

2.2. Study Population and Sample Size

Purposive and simple random sampling techniques were employed to recruit communities and the respondents for the study. Purposive sampling was adopted because, to satisfy the inclusion criteria, the community must be a beneficiary of the CLTS programme. It was also used in selecting qualitative (interview) participants in the selected ODF communities.

Simple random sampling was used in selecting 166 households drawn from 5 ODF and 15 non-ODF communities, making a total of 20 communities. Ten [10] households who did not own a latrine and were engaging in OD, three (3) officials of the District Assembly comprising of 2 Environmental Health Officers and 1 management team member and 10 Natural Leaders from both OD and non-OD communities were recruited for interviews purposively. The survey sample was determined using the Cochran formula [13]. In every household, members who were 18 years and above and were part of the CLTS programme were involved in the study. This was to ensure that issues that were to be explored were well appreciated and understood by household respondents.

2.3. Data Collection Tools and Techniques

Semi-structured questionnaire with both closed and open-ended questions was adopted from related studies [14] and key informant interviews were used for primary data collection. The interviewer assisted and the one-on-one interview approach were adopted for quantitative survey and qualitative (interviews) data collection respectively.

The interviewer-assisted approach was adopted because most respondents (households) were illiterates and could not understand most of the items in the instrument and hence needed explanations. It also provides the researcher the opportunity to read both verbal and non-verbal signs from the respondent (such as gestures, postures etc.).

For the key informant interviews, face-to-face interaction helped the researcher to collect detailed information from Natural Leaders and the officials of the district Assembly on the CLTS implementation processes. For the Natural Leaders, interviews were conducted in both ODF and OD communities using the interview guide. Both survey and interview data were collected over a 3-week period.

2.4. Validity and Reliability

For validity purposes, the study instruments were pretested in two ODF and non-ODF communities and all necessary modifications and corrections were effected before the main study. A reliability coefficient of 0.75 and 0.84 for pretest and main study respectively ensured the reliability of the instrument.

2.5. Data Analysis

Data collected were cross-checked for validity, cleaned, coded with excel before being exported to SPSS version 21 for analysis. All quantitative data (variables) were analyzed descriptively (frequencies, percentages). The researchers then assessed the overall or general percentage response (perception on the CLTS implementation processes). To determine this, all positive responses to questions that required positive responses were coded as one (1) while all negative responses to negative required responses were coded as zero (0). A composite mean of all the questions or variables were then determined. A cumulative mean of all composite means were also calculated. To obtain the binary data for the overall perception, composite means scores that were below the cumulative mean were again coded zero (0) while those that were equal to or above the cumulative mean were coded one (1). The binary data was then analyzed descriptively to obtain perceptions on CLTS implementation processes that were below or above the required standards.

Upon field data transcription, cleaning and validation, thematic content analysis was used to analyze the qualitative data and presented in themes with quotations as examples in support of survey data gathered.

3. Results

3.1. Demographic Characteristics of Respondents

Out of the 166 participants engaged for the survey, majority (65.7%) were males as against 34.3% females. The minimum and maximum age of the respondents was 18 and 90 respectively with mean age of 42.77 ± 16.119 . Respondents with no form of formal education or those with non-formal education were 60.6% while the remaining had some form of primary through to tertiary education. Both urban (38.0%) and rural (62.0%) dwellers with divergent ethnic background were engaged in the study.

3.2. Knowledge on CLTS Approach

From table 1, 66.3% of participants had knowledge on the concept of Community Led Total Sanitation (CLTS), while 33.7% did not. Global Communities (an international NGO) in the WASH sector served as major (53.6%) source of knowledge on the concept. About 31.7% of the participants indicated that CLTS motivated them to constructs latrines.

Table 1. Knowledge on the Concept of CLTS.

Variables	Frequency	Percentage
Do you have any knowledge about CLTS		
Yes	110	66.3
No	56	33.7
Total	166	100.0
Source of knowledge		
Global Communities	89	53.6
UNICEF	16	9.6
Environmental Health Unit	5	3.0
Department of community development	9	5.4
Others	47	28.3

Variables	Frequency	Percentage
Total	166	100.0
CLTS led to the construction of my latrine and hand washing facility		
Yes	51	30.7
No	115	69.3
Total	166	100.0

3.3. Qualitative Results

To further confirm the knowledge of respondents on the CLTS concept, they were asked to explain the concept based on key indicators mentioned which was actually a part of CLTS approach. The interview responses revealed appreciable knowledge of the participants on the concept. These were some of their explanations;

"Is about digging toilets by our houses and use them so that we can stop going to the bush because it gives a lot of sicknesses" FGD Male 1.

"Is about digging toilet in every house" FGD Male 3.

"Is about stopping Open Defecation" FGD Male 4.

"Is about digging and building toilets in the houses and using them and washing our hands after using the toilet" FGD Female 1.

In confirming the communities' holistic understanding of the concept from the perspective of the officials of the district assembly (key informants), that is, District Coordinating Director and the Environmental Health Officer of the Bole District, a key informant interview was conducted. The results show that both officials had adequate knowledge on the CLTS concept. According to the District Coordinating Director;

"The Community Led Total Sanitation (CLTS) concept is an innovative methodology for mobilizing communities to completely eliminate open defecation. This is facilitated by external experts such as the EHAs and CDOs guiding rural people to do self-assessment on their sanitation situation and then suggest their own actions to combat OD and become ODF"

The District Environmental Health Officer (DEHO) similarly explained;

"CLTS is a rural sanitation approach which is used to guide communities to analyze their Open Defecation situation in order for them to take their own initiative to stop Open Defecation. This is normally done with support of facilitators and partners such as Global Communities to ensure that households have access to toilets to prevent OD.

3.4. CLTS Implementation Process

The main stages in the CLTS implementation process involve pre-triggering, triggering and post triggering activities. It is worth noting that these activities take place at different times with the same community perhaps with the same or different participants. From the participants or beneficiaries' perspective as indicated in table 2, 57.8% respondents said that pre-triggering activities took place in the past CLTS implementation process while 42.2% respondents said that pre-triggering did not take place in the last CLTS implementation. On how triggering was done, 62.0% of the respondents said

triggering activities were carried out to map defecation area. About 57.2% said yes natural leaders were involved in the CLTS implementation process while 42.8% was recorded for a No response. The Community was not allowed to assess its progress at every stage of the CLTS process as this recorded response of only 16.9%.

Table 2. CLTS implementation processes.

Variables	Frequency	Percentage
Was pre-triggering activity carried out		
Yes	96	57.8
No	70	42.2
Total	166	100.0
Did triggering activities take place		
Yes	103	62.0
No	63	38.0
Total	166	100.0
Was follow up activities carried out		
Yes	149	89.8
No	17	10.2
Total	166	100.0
How many visits		
17 visits	42	25.3
24 visits	14	8.4
30 visits	13	7.8
Other	26	15.7
Total	95	57.2
Involvement of natural leaders		
Yes	71	42.8
No	95	57.2
Total	166	100.0
Entire community involved in CLTS process		
Yes	80	48.2
No	86	51.8
Total	166	100.0
Community allowed to assess its progress at every stage of the CLTS process		
Yes	28	16.9
No	138	83.1
Total	166	100.0

The quantitative results were confirmed in a Focus Group Discussion that was held with natural leaders.

Results from the focus group discussion indicates that indeed the stages of the CLTS implementation process was actually followed as respondents noted series of activities that characterized the stages of the processes involved in CLTS implementation. For example, regarding the *pre-triggering stage* a participant (FGD Male 6) said,

“We were there one day and Global Communities people came and said they want to meet the chief and the elders and the Assembly man and we led them to the chief palace and they met the chief and the elders. After the meeting, the chief told us that they want to come and work in this our community with some project”

From the triggering stage another participant added:

“After that, another time the chief made them to beat ‘gongong’ that Global Communities people are coming to meet the whole community, everybody should come to the chief palace. After that the next day, they came and we held a meeting and they told us to draw our community on the ground and show them where we defecate and our houses and everything in our community. After that they

showed us that the way we are defecating outside, the faeces will come to us and we will eat again which is not good, then they asked whether we like it and we said no and they now told us to construct toilets” (FGD male 3).

And with post-triggering stage a female participant shared her views saying:

“After that we started the project and they were always coming to teach us till the time everybody finished and some people came from Bole and Tamale and check and said we had passed” (FGD Female 3).

From table 3, about 60.2% of the participants said children were not involved in the CLTS implementation process as against 39.8% who said children were actually involved. Again, 44.0% rated community-CLTS facilitating team relation as good, 12.0% rated it as bad while the remaining 44.0% were neutral. Results of the study further revealed that 79.5% of the respondents indicating district assembly authorities were not actively involved in the CLTS process while 20.5% said they were actively involved. Again, 91.0% and 89.2% of respondents indicated that DICCS and RICCS assessment or declaration and certification as ODF-B and ODF respectively were not carried out. At the time of data collection and considering the past or on-going CLTS project, only 6.0% of the respondents noted that their latrines were still being maintained while 7.2% said the community was still being visited by the CLTS facilitating team.

Table 3. CLTS implementation processes and stakeholder involvement.

Variables	Frequency	Percentage
Were children involved in the entire CLTS process		
Yes	66	39.8
No	100	60.2
Total	166	100.0
Relationship between the CLTS facilitating team and the community		
Good	73	44.0
Bad	20	12.0
Don't know	73	44.0
Total	166	100.0
District authorities actively involved in the CLTS process in your community		
Yes	34	20.5
No	132	79.5
Total	166	100.0
Was the community assessed by DICCS and declared ODF		
Yes	15	9.0
No	151	91.0
Total	166	100.0
Was the community assessed by RICCS and certified as ODF		
Yes	18	10.8
No	148	89.2
Total	166	100.0
Every household in this community has and still maintain their CLTS constructed latrines		
Yes	10	6.0
No	156	94.0
Total	166	100.0
CLTS facilitating team still visits your community		
Yes	12	7.2
No	154	92.8
Total	166	100.0

In line with involvement of district assembly authorities

in the entire CLTS process, the quantitative results confirmed an interview conducted with a key informant; who noted a poor involvement of authorities in the CLTS activities, citing lack of logistics and political commitment as major challenges.

He (KI 1) said,

“There is low/poor level of involvement by top-level management in the CLTS activities, for instance, as I speak, there are no logistics here at Assembly for CLTS activities, no means of transport to go to field and also no political commitment. That is the problem we face”

3.5. Support and Training in Relation to CLTS Implementation Process

As shown in table 4, 45.8% said technical support was given during the CLTS implementation process while 54.2% said no. A total of 55.4% said the community was supported by a trained CLTS officer. Only 28.3% affirmed receiving technical support to enact by-laws against OD. Majority 92.2% said they did not receive any subsidies while constructing their latrines. About 59.6% noted that natural leaders were given training to build capacity of the community. The major types of training received were, construction of hygienic latrine (38.0%), and role of natural leaders (36.7%).

Table 4. Support and Training in Relation to CLTS Implementation.

Variables	Frequency	Percentage
Technical support given during the time of follow up		
Yes	76	45.8
No	90	54.2
Total	166	100.0
Supported by trained CLTS officer/s		
Yes	92	55.4
No	74	44.6
Total	166	100.0
Supported by trained CLTS facilitating team to enact bye laws against OD		
Yes	47	28.3
No	119	71.7
Total	166	100.0
Were you given some form of subsidy		
Yes	13	7.8
No	153	92.2
Total	166	100.0
Natural Leaders received training on CLTS for the capacity building of the community		
Yes	99	59.6
No	67	40.4
Total	166	100.0
Types of training received		
Construction of hygienic latrine	63	38.0
Management training	44	26.5
Role of Natural Leaders	61	36.7
Faeco-oral transmission	20	12.0
Gender training	20	12.0
Kitchen gardening training	62	37.3
Improved cooking stove use training	66	39.8
All of the above	66	39.8

In connection with the few respondents who received

subsidy, the FGDs revealed that indeed they were given some form of subsidy, in the form of cement and vent pipe at a reduced price. A 39-year-old natural leader said,

“They brought cement and vent pipes and reduced the prices for us so that we could buy and build strong latrines.” (FGD 2 Male 2).

A female respondent added:

“.....some of us were able to buy, some of us too were not able to buy, but everybody has built their toilets in this our community and using it” (FGD 2 Female 3).

3.6. Overall Impression (Perception) of the CLTS Implementation Process

An overall impression of the CLTS implementation processes from the perspective of the sampled communities revealed 54.2% of the respondents perceived the CLTS implementation processes not to be up to standards or processes not adequately carried out while the remaining 45.8% perceived the processes to be above standard as highlighted in figure 1.

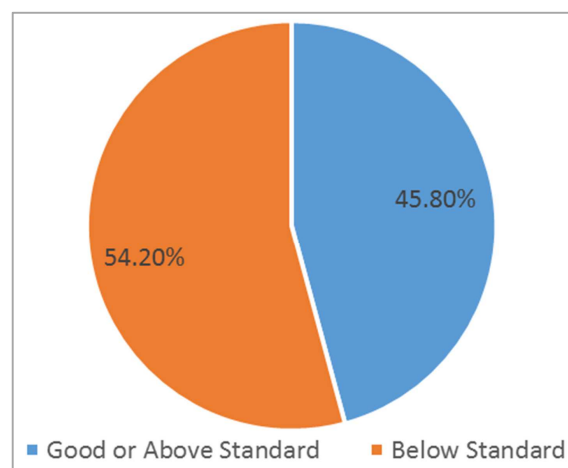


Figure 1. General Impression of the CLTS Implementation Process.

4. Discussion

CLTS is a rural sanitation model which uses Participatory Rural Appraisal (PRA) methods to enable local communities to analyse their sanitation conditions and collectively internalise the terrible impact of Open Defecation on public health and on the entire neighbourhood environment [1]. They pointed out that its main focus is not to construct latrines but to change sanitation behaviour by focusing on ending open defecation [1]. CLTS in its broader sense encompasses stopping all forms of open defecation; ensuring that everyone uses a hygienic toilet; washing hands with soap before preparing food and eating, after using the toilet, and after contact with babies' faeces or birds and animals; handling food and water in a hygienic manner; and safe disposal of animal and domestic waste to create a clean and safe environment [1].

The result of this study revealed some high level of understanding about the CLTS concept among the

participants which is in line with what the proponents of the CLTS concept have explained it to be. In the study the participants were able to explain what the CLTS concept is about as presented in the results. They were however, not comprehensive in mentioning other areas of the concept such as disposal of animal faeces, environmental cleanliness, handling of food and water in a hygienic manner etc. and only limited themselves to latrine construction and ending of OD. But it is important to note that these were just local communities and will not be able to keep and say everything. However, since they were able to identify the main focus of the CLTS approach which is about ending open defecation and getting households to use simple latrines, it proved their deep knowledge in the CLTS concept.

Kar & Chambers [1] believe that for a successful CLTS implementation process, it must go through three main stages of implementation thus Pre-triggering, Triggering and Post-triggering stages [1].

This study found that the CLTS implementation process in the study communities have respected the above protocol proposed by the proponents of the CLTS concept. For instance, a focus group discussion touched on the initial community entry processes as well as the triggering day meeting and the subsequent visits by the facilitators usually at the post-triggering stage.

“In terms of the Post-triggering stage, the ministry of Local Government and Rural Development (MLGRD) in 2013 had developed a guideline which requires CLTS implementers in Ghana to carry out a minimum of 17 major follow-up visits before a community becomes ODF [4]. Even though the above guideline is not “cast in stone” it provides a perfect guide for CLTS facilitators to appropriately go about follow-up activities. This research has found that in line with the above guideline, 17 major visits were actually carried out during the follow-up process of the implementation stage suggesting that the right thing was done. Even though, most of these communities are still OD after these visits, this might suggest other challenges such as cultural and financial other than implementation.

Meeks in 2102 emphasized that follow ups are very crucial after triggering and that what is more crucial is the fact that CLTS facilitators are available to provide technical support to the households, especially in the areas of latrine construction [15]. Kar & Chambers [1] in the CLTS handbook said that the technical role by facilitators after triggering is crucial. They outlined that they support in the formation of sanitation action committees, help in using the map of households to show sanitation progress, help in developing individual family plans to stop open defecation, guide households in digging pits and using them as makeshift latrines for the short term, getting commitments from better-off families to start constructing latrines immediately etc.

This study found that technical support was actually provided to households by facilitators during the follow-up stage but in a limited scope as only 45.8% of the respondents confirmed the support. A household member explained the following; *“when they came they showed us how to dig our*

pits and they said we should dig like a bucket shape and should be at least 7fit deep” In view of this, the finding is in line with what is expected to be done on the field during the CLTS implementation process but in a limited scope because some facilitators may not be doing the right thing as expected.

The study has established that even though Natural Leaders emerged during the triggering stage and had been involved in the implementation process, they were not trained to support the process which is at variance with what is supposed to be done in practice [1]. This can negatively affect the success of the CLTS process. Evidence from Ghana found a superior effect of CLTS in latrine coverage in communities where natural leaders were not only selected during the CLTS process, but also received a specific training [5]. Communities in which Natural Leaders received training showed a 19.9% reduction in OD than in communities with only CLTS implementation.

The CLTS concept as stated by [1] requires a broad base participation of the entire community. This participation should involve everybody including children, men, women, the disabled, old, young, etc [1]. Chambers [16] in his work going to scale with CLTS stressed the importance of broad community participation in the success of the CLTS concept. A study in Ethiopia showed that the probability of latrine ownership among households which participated in CLTS triggering process was three times higher than households that did not participate [7]. Additionally, a cross-sectional study in Mozambique found similar results of higher probability of latrine ownership for CLTS participants [17].

This study revealed that the entire community was involved in the implementation process, however, it stated that children were not involved which goes contrary to the principle of the CLTS concept. Kar & Chambers [1] have stressed the importance of children in ensuring the success or otherwise of the CLTS concept. No community can ever become open defecation free if it ignores its children in the CLTS implementation process. Perhaps it is one of the reasons why some communities could not become ODF even though the CLTS process has been ongoing in them for a long time.

Another area which is very crucial for the success or otherwise of the CLTS concept is community regulations. The proponents of the CLTS concept have identified community regulations against OD as a very important step to ending open defecation. Community regulations will compel people from practising OD, to owning simple household latrines [1]. In communities where community regulations do not exist or are not effective, it will be difficult to end OD.

This study however, found that community regulations have not been instituted in most communities. Even in situations where they exist, they are not effective enough to deter people from practising open defecation. Community regulations must be taken seriously if the CLTS concept is to succeed.

The CLTS handbook according [5] provides recommendations on what an enabling environment for CLTS implementation should look like. These include

support from local governments and favourable physical conditions (e.g., moderately soft soil, access to water) [1]. This study has revealed a very poor participation of the district officials in the CLTS process. Out of the 166 study participants, 75.9% said the district officials have not been actively involved in the CLTS activities.

In terms of subsidy which is the major principle of the CLTS approach as stated by [1], the study revealed that no subsidy was given to households during the implementation process. This is what makes CLTS distinct from the previous sanitation programmes which failed and therefore, any actor into the implementation of the CLTS approach must take cognisance of the fact that it does not give subsidy to communities or households.

ODF verification and certification process is recommended by Kar & Chambers in the CLTS handbook as part of the CLTS implementation process. The process which involves an official recognition is important as it serves as a motivation to other communities to stop the practice of OD or motivates the community been recognised to move to the next level on the CLTS ladder [1]. According to the handbook, the verification and the certification processes must be country specific. In view of this, the ministry of Local Government and Rural Development (MLGRD) in 2013 developed an ODF verification protocol for Ghana, which mandated the District Interagency Coordinating Committee on Sanitation (DICCS) and the Regional Interagency Coordinating Committee on Sanitation (RICCS) to carry out ODF verification activities in communities upon their request [4]. However, as at the time of this study, it was revealed that there hadn't been verification activities whether DICCS or RICCS in the study communities. In this case, two things might have occurred, either the communities were not ready and that they did not request for verification or they requested and the request wasn't honoured by the authorities since it has already been revealed that the authorities were not actively involved in the process. Whatever way you look at it, DICCS and RICCS verification activities are crucial for the success of the CLTS concept.

On the general impression about the entire implementation processes, 54.2% of the respondents rated the process as below standard while the remaining 45.8 rated the process as good and above standard. However, it is important to note that the participant's response to the specific implementation variables have been considerably rated well, except in a very few circumstances such as lack of children involvement among others. This outcome may be attributed to the fact that several organizations are involved in the same process and therefore, are likely not to be providing the right information. Alternatively, it is possible the participants were unable to gauge their overall impression about the implementation process to reflect their responses in the specific implementation variables as shown in Tables 1, 2, 3 & 4 in the results section.

5. Conclusion and Recommendations

The findings revealed a very high level of knowledge

about the CLTS concept which most participants have attributed to the work of Global Communities, an international NGO working in the district and facilitating for Communities to achieve Open Defecation Free (ODF) status.

The findings have also revealed that the entire CLTS implementation process within the district was largely in line with established implementation processes and procedures, including going through the main stages of the implementation process, thus pre-triggering, triggering and post-triggering stages as well as associated implementation activities such as required number of visits, Community participation, involvement of Natural Leaders etc.

However, specific activities such as enacting community regulations, children and local authority involvements in the implementation process, training of Natural Leaders, providing technical support, latrine siting etc., was either not carried out or was poorly done. Additionally, most participants having responded favorably to most specific implementation activities, still believed the implementation process did not meet their expectation and thereby rating the overall process as below standard.

Therefore, the study recommends that the Ministry of Sanitation and Water Resources (MSWR) and its sector agencies in charge of rural sanitation must develop a comprehensive CLTS implementation framework that spell out the guidelines for activity implementation as well as the role of MMDAs and WASH sector players to ensure that all the nitty-gritties in the CLTS implementation processes are strictly ahead to. This should include; latrine siting, Natural Leaders training etc. Also, the MSWR must develop clear guidelines on how children must be involved in the CLTS implementation process. This will enable the CLTS approach to first of all, end open defecation easily and also ensure that children grow into adults knowing how to manage their basic sanitation effectively using the CLTS processes.

Abbreviations

CLTS: Community Led Total Sanitation
DEHO: District Environmental Health Officer
DICCS: District Interagency Coordinating Committee on Sanitation
MLGRD: Ministry of Local Government and Rural Development
NESP: National Environmental Sanitation Policy
OD: Open Defaecation
ODF: Open Defaecation Free
PRA: Participatory rural appraisal
RICCS: Regional Interagency Coordinating Committee on Sanitation
SPSS: Statistical Package for Social Sciences.

References

- [1] Kamal Kar RC. Handbook on Community-Led Total Sanitation. Vol. 44. 2008. 1–51 p.

- [2] Appiah-Effah E, Duku GA, Azangbego NY, Aggrey RKA, Gyapong-Korsah B, Nyarko KB. Ghana's post-mdgs sanitation situation: An overview. *J Water Sanit Hyg Dev.* 2019; 9 (3): 397–415.
- [3] O'Connell K. What Influences Open Defecation and Latrine Ownership in Rural Households?: Findings from a Global Review. 2014; (August): 38.
- [4] MLGRD. FROM TRIGGERING TO OPEN: A Step By Step Guide for CLTS Facilitators. 2013.
- [5] Harter M. Understanding Mechanisms and Effectiveness of Community-Led Total Sanitation (CLTS) in Promoting the Use of Safe Sanitation Services. 2018.
- [6] Lisa Cameron MS. Discussion Paper Series Scaling Up Sanitation: Evidence from an RCT in Indonesia. 2017; (10619).
- [7] Alemu F, Kumie A, Medhin G, Gasana J. The role of psychological factors in predicting latrine ownership and consistent latrine use in rural Ethiopia: a cross-sectional study. 2018; (February): 0–12.
- [8] Harter M, Mosch S, Mosler HJ. How does Community-Led Total Sanitation (CLTS) affect latrine ownership? A quantitative case study from Mozambique. *BMC Public Health.* 2018; 18 (1): 1–10.
- [9] Alhassan A, Anyarayer BK. Determinants of adoption of open defecation-free (ODF) innovations: A case study of Nadowli-Kaleo district, Ghana. 2018; 5 (2): 54–69.
- [10] Mehta L, Marshall F, Movik S, Stirling A, Shah E, Smith A. Community-Led Total Sanitation (CLTS): Challenges and opportunities. 2009.
- [11] RCC. 7th Open Defaecation free League Table. Environmental and Sanitation Unit. Northern Regional Coordinating Council. 2019.
- [12] Gaille L. Reseach Methods, advantages and disadvantages: second edition. 2018.
- [13] Cochran WG. Sampling techniques (3rd ed.). New York: John Wiley & Sons. 1977.
- [14] Adjibolosoo SVK. Behavioural and Cultural Factor that influence Open Defaecation among first cycle School Pupils in the Eastern and Volta Regions of Ghana. University of Ghana; 2017.
- [15] Meeks JV. Willingness-to-pay for maintenance and improvements to existing sanitation infrastructure: Assessing community-led total sanitation in Mopti, Mali. 2012; (January): 173.
- [16] Chambers R. Going to Scale with Community-Led Total Sanitation: Reflections on Experience, Issues and Ways Forward. 2009; 2009 (1).
- [17] Mosler H, Harter M, Lilje J, Sciences ES. Implementation factors enhancing the effectiveness of CLTS on latrine coverage in communities of rural Ghana. 1–10.