UNIVERSITY OF CAPE COAST

AN OVERVIEW OF THE COMMUNITY LED TOTAL SANITATION APPROACH IN SOME SELECTED COMMUNITIES IN THE CENTRAL REGION

BY

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DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original work and that no part of it has been presented for another degree in this University or elsewhere.

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Supervisors' Declaration

We hereby declare that the preparation and the presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

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ABSTRACT

This study was to assess the Community Led Total Sanitation (CLTS) approach to sanitation delivery in selected communities in the Central region.One hundred and forty–five householders were randomly selected from four communities. Interview guides, interview schedules and observational checklists were used to obtain the data from respondents. Frequencies, percentages, tables and cross-tabulations were used to analyse the data.

The study revealed that the practice of open defecation was eradicated after CLTS implementation and community members adopted improved household latrines. Again, the findings showed the triggering of community members was handled mainly by Local NGOs with the support of Plan Ghana and Community Water and Sanitation Agency (CWSA).The study identified a number of institution involved in CLTS implementation such as CWSA, Plan Ghana, Water and SanitationCommittee Members (WATSANs) and District Water and Sanitation Teams (DWSTs). Findings revealed that these institutions knew exactly what their roles were and roles of their partner institutions. However, the study revealed some major institutional challenges including inadequate funds for CLTS monitoring and WATSAN activities, inadequate logistical support for the WATSANs and the DWSTs, limited number of staff and capacity at the district level among others.

It is recommended that the banks must assist community members through micro-credits for latrine construction;WATSANs given adequate financial motivation; adequate funds provided by the district for follow-up activities etc.

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DEDICATION

To Miss Margaret Tagoe, my dear mum and the entire Etherean family for their prayer and support.

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LIST OF ACRONYMS

AfDB	African Development Bank
AFD	Agence Francaise de Development
APDO	Afram Plains Development Organisation
CARE	Cooperative for Assistance and Relief Everywhere
CDO	Community Development Officer
CBO	Community-Based Organization
CBHV	Community-Based Health Volunteer
CIDA	Canadian International Development Agency
CLTS	Community Led Total Sanitation
CMs	Community members
CPM	Community Participation Model
CWSA	Community Water and Sanitation Agency
CWSH	Community Water Services and Health
DA	District Assembly
DANIDA	Danish International Development Agency
DCE	District Chief Executive
DEHU	District Environmental Health Unit
DESSAP	District Environmental Sanitation Strategic Action Plan
DFID	UK Department for International Development
DP	Development Partners
DWST	District Water and Sanitation Team
EHA	Environmental Health Assistant

EHO	Environmental Health Officer
EHS	Environmental Health and Sanitation Unit
EHSD	Environmental Health and Sanitation Directorate
EU	European Union
Ft	Facilitator
GDP	Gross Domestic Product
GSS	Ghana Statistical Service
HA	Health Assistant
HHs	Households
HHL	Household Latrine
HWF	Hand Washing Facility
ICD	Integrated Community Development
IDA	International Development Association
JMP	Joint Monitoring Programme
KVIP	Kumasi Ventilated Improved Pit Latrine
LNGOs	Local Non Governmental Organisations
MDGs	Millennium Development Goals
MIC	Multiple Indicator Cluster
MLGRD	Ministry of Local Government and Rural Development
MMDA	Metropolitan, Municipal and District Assembly
MoE	Ministry of Education
MWRWH	Ministry of Water Resource, Works and Housing
M&E	Monitoring and Evaluation

NCWSP	National Community Water and Sanitation Programme
NESP	National Environmental Sanitation Policy
NESSAP	National Environmental Sanitation Strategy and Action Plan
NGOs	Non Governmental Organisations
NLs	Natural Leaders
NTWG	National Technical Working Group
OD	Open Defecation
ODF	Open Defecation Free
OPT	Operant Conditioning Theory
OSTOM	Open Shit to Open Mouth Procedure
PLAN	Plan Ghana
PNDC	Provisional National Defence Council
PRA	Participatory Rural Appraisal
RCC	Regional Coordinating Council
REHO	Regional Environmental Health Officer
RP	Rupee
RWST	Regional Water and Sanitation Team
SLTS	School Led Total Sanitation
SM	Sanitation Marketing
SP	Subsidy Approach
SPSS	Statistical Product and Services Solutions
TAM	Twifo Atti Markwa District
TREND	Training Research and Network for Development

TSSM	Total Sanitation and Sanitation Marketing
UNICEF	United Nations Children Education Fund
US	United States
USAID	United States Agency for International Development
USD	United State Dollar
VERC	Village Education Centre
VHT	Village Health Assistants
VIP	Ventilated Improved Pit Latrine
WASH	Water, Sanitation and Hygiene
WATSAN	Water and Sanitation Committee / Team
WHO	World Health Organisation
WSDB	Water and Sanitation Development Board
WSLIC	Water and Sanitation for Low Income Communities
WSMP	Water and Sanitation Monitoring Platform
WSP	World Bank Water and Sanitation Program

CHAPTER ONE

INTRODUCTION

Background to the Study

The challenges facing many countries in the world today in their struggle for economic and social development is increasingly related to water and sanitation. One of the international goals set for the year 2015 on sustainable development is reducing the proportion of people without adequate access to water and basic sanitation by one-half. Worldwide, an estimated 2.5 billion people lack access to basic improved sanitation, and 780 million lack access to improved drinking water (UNICEF&WHO, 2012). According to the World Health Organization (WHO) and United Nations Children's International Education Fund (UNICEF) (2006), the world has met the 2015 millennium development goal (MDG) for improved water but will miss the goal for improved sanitation by half a billion people. Unless the pace of change in the sanitation sector can be accelerated, the MDGs target 2015 will not be reached until 2026(UNICEF, 2006).

Improving sanitation is the key to achieving the health-related Millennium Development Goals (MDGs) of reducing child mortality and combating disease. Access to sanitation is now recognized as a basic human right that safeguards health and human dignity. Every human being deserves to be protected from the many health problems such as dysentery, cholera, typhoid and other serious infections posed by poor disposal of excreta. Children, usually the first to fall sick and die from these deserve better (UNICEF, 2000).

Globally, different sanitation delivery approaches have been adopted by various governments, development agencies, non-governmental organisations (NGOs) and water and sanitation (WASH) institution such as UNICEF, USAID, WaterAid, World Bank Water and Sanitation Program (WSP), Plan International, World Vision etc. These approaches include the Subsidy approach (SP), Sanitation or Social marketing approach(SM), Total Sanitation and Sanitation marketing (TSSM), School Led Total Sanitation (SLT) and the Community Led Total Sanitation approach (CLTS).The SP involves any financing for sanitation which does not flow directly from the immediately-benefiting household to the service provider (Evans, B., Van Der Voorden, C., &Peal, A., 2009). It is based on the assumption that sanitation is expensive and many cannot or will not afford it (Kar & Bongartz, 2006). The benefit of the SP is evident as it results in increased number of latrines (coverage) but doesn't necessary result in latrine usage.

Sanitation marketing(SM) approach concerns the application of commercial concepts and principles on the promotion of latrines (Budds, J., Curtis, V., Howard, G., & Saywell, D., 2001).SM adapts the marketing mix commonly referred to as the four P's of marketing i.e. product, promotion, place and price. It aims at enhancing the demand for sanitation goods and services using effective well targeted promotion or advertising messages for sanitation behaviour change. SM is complemented by the establishment of sanimarts.The Total sanitation and Sanitation marketing approach (TSSM) is a combination of CLTS and Sanitation marketing. TSSM focuses on generating demand and increasing

supply of sanitation products and services, and creates drivers for good hygienebehaviour (WaterAid, 2013).

School Led Total Sanitation (SLT) places children at the centre of catalysing total sanitation in schools, homes and communities. SLT was developedby UNICEF and the Government of Nepal in 2005and uses elements from different community approaches to total sanitation to create a complete package of sanitation and hygiene programming that begins at the school and extends through the community (UNICEF, 2009). The relevance of these sanitation delivery approaches include increasing sanitation coverage, eliminating open defecation, creating demand for sanitation hardwares, gets people to in sanitation, enhances personal, household and environmental hygiene behaviours etc (Godfrey, A., Hart, T. & Rosensweig, F., 2010; UNICEF, 2006; Water Aid, 2013).

In Ghana, the subsidy, sanitation marketing, sanitation credit schemes and CLTS approaches are being used by various water, sanitation and hygiene (WASH) institutions in a bid to increase coverage and improve sanitation practices in general. The subsidy and CLTS is the main approach with sanitation marketing and sanitation credit schemes as complementary approaches. The subsidy approach (SP) to sanitation delivery emerged during the Provisional National Defense Council (PNDC) era.

During this era, individual households in the rural areas were given subsidies by the government on sanitation hardwares and were expected to raise the counterpart funding by themselves before they could own a latrine. The main

objective of this approach was to reach a larger majority of the rural people especially the poor who could not afford to build their own household latrines. This way, the government assumed that as many people (households) constructed their own toilets, others (especially the so called “rich” by the village standards) will emulate this gesture and build theirs as well. Consequently, the entire village or community would build their latrines.

The Community Led Total Sanitation (CLTS) approach has in recent times come up as a participatory (bottom-up) approach to accelerating sanitation coverage in rural communities as the previous top-down approaches (subsidy, credit schemes and sanitation marketing) have failed to yield the needed MDG target of 54 percent for sanitation putting Ghana at 14 percent coverage. 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 CLTS approach, according to Kamal Kar (pioneer of CLTS) conveys two concepts; Community-Led and Total sanitation.

Community Led concerns active participation of the entire community in assessment, planning, implementation, monitoring and evaluation, decision making in a sanitation project.Total Sanitationdepicts a desired situation in which all households of the community, social institution (such as mosques schools), and all public places (such as markets) have access to and use appropriate sanitation systems (Kar & Chambers, 2008).The CLTS is an approach to rural sanitation that helps communities to recognise the problem of open defecation (OD) and take action to become open defecation free (ODF). It also touches on

issues of hygiene and imbibes into community members (CMs) the attitude of keeping the environment clean (Water Aid, 2013).CLTSis based on the premise that subsidies can slow and inhibit the development of sanitation, and advocates expenditure not on hardware, but on training and supporting facilitators who will then help the communities to achieve ODF and spread sanitation to other communities (Kar & Bongartz, 2006).

The overall premise of CLTS is community self-help or the "determination to do by community members themselves". That is, it builds communal self helping spirit where CMs rely on themselves to solve communal problems (Kar & Chambers, 2008). This argument is consistent with Etzioni's (1996) communitarian theory which posits that efforts to address local issues strengthens social bong among CMs and motivates them for self help community development. CLTS emphases community action and behaviour change as the most important elements to achieving better sanitation.

CLTS enables the local community to analyse the problems of faecal-oral routes of disease spread, and finding locally appropriate solutions rather than outsiders offering prescribed solutions. The aim is the total elimination of OD because it is assumed that if a few individuals continue to openlydefecateit poses a risk to the whole community (Bongartz & Movik, 2009). Through the use of transect walks, mapping of defecation etc, powerful emotions (i.e. shame and disgust) are generated which fuels a desire to change behavior in order to improve sanitation situations. A process is then ignited where residents draw on local

resources and knowledge to construct sanitary facilities that fit their particular needs and desires (Kar & Pasteur 2005).

The use of “shame and disgust” by the CLTS approach is in line with the Operant conditioning theory which postulates that psychological punishment such as shame and disgust can be used to change behavior. According to the theory behavior can be shaped through the use of reinforcements and punishment (Skinner, 1979). CLTS is largely a rural phenomenon.The relevance or benefits of CLTS are several. It adopts a bottom-up approachwhere local people analyze their sanitation situation and take collective action to end OD. Householders construct their own toilets using affordable or locally available materials.

Again, CLTS pushes communities to achieve ODF, thereby creating competitive spirit within the community and with other communities. It gives households the option to build the toilet of their choice and does not insist on a particular technology. Therefore the CLTS approach is the only one so far that has demonstrated the potential to end OD and increase uptake and use of latrines at scale in rural communities (Godfrey et al., 2010).

The implementation of CLTS in Ghana started in 2007 with various agencies including CWSA, UNICEF, Plan Ghana and WaterAid. The CLTS approach was piloted in 308 communities in Northern, Upper West, Eastern, Central and Greater Accra Regions. These four organizations set up the pilot exercises independently of each other and adopted slightly different institutional arrangements, drawing facilitators from different local government departments and NGOs.

In Ghana, several institutions play various roles in CLTS implementation noticeable among them are the Ministry of Water, Works and Housing (MWRWH), Ministry of Local Government and Rural Development (MLGRD), Environmental Health and Sanitation Directorate (EHSD), Community Water and Sanitation Agency (CWSA), District Assemblies(DAs),Water Aid Ghana, Plan Ghana, USAID, UNICEF Ghana, among others.

Statement of Problem

Sanitation remains one of the biggest development challenges of our time, and a long-neglected issue associated with taboos and stigma. Despite growing attention and efforts, many top-down approaches to sanitation have failed, reflecting that simply providing people with latrines or toilets does not necessarily guarantee its use(Mehta & Movik, 2011).Globally the WASH sector has had to grapple with the challenge of increasing sanitation coverage in developing countries and diarrheal diseases, whose roots are in poor sanitation are the major cause of death especially in children under five years in these developing countries.

In Ghana, various institutions (such as CWSA, UNICEF, Plan Ghana, WaterAid) in the WASH sector have employed different top-down approaches such as the Subsidy approach, Sanitation marketing and sanitation financing schemes (Plan, 2010). These top-down approaches have attempted to tackle the issue of poor sanitation by trying to improve coverage with financial support for constructing toilets. However, for many years it has been evident that providing

subsidies or credit systems for construction of toilets alone does not necessarily translate into usage and also does not lead to improved sanitation and hygiene (Water And Sanitation program 2007). Thus, no significant results have being achieved through these top-down approaches.

Additionally, some institutional problems have further worsened the sanitation situation and led to the failure of these sanitation approaches. The major challenge here is that, there is not effective inter-institutional coordination and collaboration between the various WASH institution(i.e. MWRWH,MLGRD,EHSD,CWSA) and the limited number of staff and technical capacity to direct and support the District Assemblies (DAs) in the provision of environmental sanitation services (CWSA, 2008; GoG, 2008).

The WHO and UNICEF Joint Monitoring Programreports, 2012 indicated that out of 54 African countries, Ghana placed 48th with sanitation coverage of 14 percent. Today, Ghana is considered “off track” when it comes to access to improved sanitation and the gap between the present national coverage (both rural and urban) of 14 percent and 54 percent target by 2015 indicates that there must be about four times increase in coverage to be able to meet the MDG target. Since, 1990 to 2010, sanitation coverage has increased from 8percent to 14percent indicating only 6 percent points increase within a span of 20 years(WHO/UNICEF, 2012).

Sanitation coverage in the Central region is very low (13.3 percent) indicating that only a hand-full of its populace have access to improved sanitation (Ghana Statistical Service, 2011).Due to this, open defecation is widespread in the

Region where 18.1 percent (about 396,335 people) of its population practices open defecation (OD) because they do not have a toilet facility (Water And Sanitation Monitoring Platform, 2008). This low coverage and its associated OD practices is as a result of the failure of sanitation approaches being implemented in the region.

The search for a new approach to sanitation is necessary as the previous approaches have failed and it is in this background that the significant results demonstrated by the CLTS approach adopted in South Asia has drawn attention. Empirical findings from Bangladesh, India, Indonesia etc have demonstrated that the CLTS approach offers tremendous potential of ensuring ODF communities, improves sanitation and hygiene behavior, and thus increases sanitation coverage (Kar, 2008; Kar, 2003; Kar & Bongartz 2006).

An analysis of CLTS' contribution to coverage conducted by Roberts and Malaga (2009) showed that CLTS pilot projects had contributed 4 percent to sanitation coverage in the intervention communities within 18 months of its implementation (i.e. 2007 to 2008). This increase was 8 times more than the annual percentage increase witnessed from 1990 to 2006. This demonstrates the potential of CLTS and why it was acknowledge by government and adopted into the National Environmental Sanitation Policy (NESP).

The CLTS approach hasbeen implemented in the Central region for years but there hasn't been any research to ascertain its effectiveness. An empirical study to assess the effectiveness of the approach in Central region is therefore imperative.

Objectives of the Study

The main objective of the study was to evaluate theCLTS approach to sanitation delivery in some selected communities in the Central region. Specifically, the study sought to:

1. Examine the processes of CLTS implementation;
2. Examine institutional arrangements for CLTS implementation;
3. Assess the effectiveness of CLTS approach; and
4. Make recommendation for improving the CLTS approach.

Research Questions

The study was guided by the following questions:

1. What are the institutional arrangements for CLTS implementation?
2. What are the processes involved in CLTS implementation?
3. How effective is the CLTS approach?
4. How can the CLTS be improved to enhance sanitation delivery?

Significance of the Study

This study aims to draw government's attention to the role CLTS is playing in improving sanitation in rural areas. Further, it aims at examining the challenges and strengths associated with CLTS so that findings can inform implementing agencies on how to improve the approach. This study will serve as a guide to stakeholders and policy makers when developing a national CLTS strategy and action plan.

Again, the study aims at providing a useful guideline for developing key CLTS monitoring indicators for District assemblies, NGOs, Environmental Health

Assistants, implementing agencies etc. Findings will also help strengthen institutional coordination at the national, regional, district and community levels. The study again aims at generating interest in sanitation delivery approaches especially among WASH researchers. It is therefore expected to engender further studies in this area. Based on the findings of this and other related studies, interest into further studies of the CLTS approach can be generated.

Finallyit can provide a useful academic material for referencing. Students, NGOs, WASH researchers and other sanitation actors who want to undertake research into sanitation can use this study as reference.

Organization of the Study

Chapter One introduces the study. It covers the background, statement of the problem, the scope, objectives, research questions and the significance of the study. Chapter Two focuses on the reviewof the relevant literature. It discusses the theories underpinning the study, concepts and definitions, and empirical reviews of cases. Chapter Three is devoted to the research methodology. It covers the design, population, sampling procedures, instrumentation, fieldwork, data processing and analysis. Chapter Four presents the findings and discussion of the results of the study. Finally, Chapter Five presents the summary, conclusions and recommendations.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Introduction

This chapter reviews relevant literature for the study. The literature review is divided into three main sections; theories,concepts and empirical evidence. The first section reviews theories underpinning the study and its relevance to the study. The second, reviews conceptual definitions such as sanitation ladder, improved sanitation, sanitation marketing among others. The third, examined empirical literature by Kar (2003), Kar and Bongartz (2006) among others.

Theoretical review

This study considered three maintheories and these were the Operant conditioning theory; Community participation model; and the Communitarian theory. It also discussed the relevance of these theories to the work.

Operant conditioning theory

The Operant conditioning theory also called Operant learning theory (OPT) was developed by Burrhus Ferederic Skinner who was a behaviour psychologist. This theory is a behaviour theory which posits that behaviour is shaped or changed through reinforcement and punishment. Behaviour theorist argues that learning experiences that occur during the course of a person's life are the sources of behavioural changes. They define learning as a relatively

permanent change in observable behaviour as a result of experience (Kimble et al., 1960). According to behavioural theorist by modifying existing learning opportunities or by creating new ones, the individual's behaviour can be changed. To them, only observable behaviour is useful in understanding learning and development of an individual. Some assumptions of this theory are;

- The organism is neutral and passive unless it is stimulated by environmental stimuli to which it will respond;
- Any type of behaviour can be learned, can be changed when conditions are altered and can be extinguished through punishment; and
- Complex behaviour pattern are built through the additive process and therefore quantitative in kind.

Operant conditioning is a form of learning in which the consequences of behaviour leads to changes in the probability that the behaviour will occur. Skinner called learning from consequences 'operant conditioning' because it is based on how organisms operate on their environment. According to Skinner, if a behaviour has negative consequence, then it is unlikely that behaviour will be repeated in future. However, if a behaviour brings about a consequence that the organism finds pleasant, then that behaviour is likely to be repeated in future. He demonstrated this by conducting an experiment on a rat. He puts a rat in a cage with a lever it can press.

The lever is rigged up to a mechanism that dispenses food, so when the rat presses the lever it gets a bit of rat-food. Initially, the rat presses the lever by accident and could not connect the appearance of the food with the pressing of the lever, but after several tries it connects food with the pressing of the lever. It then starts pressing the lever in order to obtain food in rapid successions. This is

because the rat had learnt that pressing lever brings positive (pleasant) consequence.

After several trials, Skinner then started giving the rat electric shocks anytime it presses the lever. Soon the rat associates pressing the lever with negative (punishing) consequence and completely stopped pressing it. With this discovery, Skinner theorized the Operant conditioning concept (Skinner, 1979). Essentially, Skinners posits that the likelihood of future behaviour is determined by the consequences of past behaviour. Reinforcement and punishment are the two main concepts in this theory.

Reinforcementconcerns any event that increases the probability of the re-occurrence of a behaviour that precedes it (User's guide, 1996). It is also, a consequence that increases the probability that a behaviour will occur (Morris & Maisto, 2001). Thetheory highlights two kinds of reinforcement namely positive and negative reinforcement. Positive reinforcements are rewards given to increase the recurrence of a particular behaviour. Example includes praise, applauds, gifts, money, encouragement, recognition and acknowledgement. Negative reinforcement on the other hand, is removal of something unpleasant with the aim of strengthening a behaviour. For example, if a rat escapes from electric shock by jumping a barrel, that jumping response will recur (Skinner, 1979).

Punishment is the presentation of an undesirable or unpleasant stimulus in order to decrease the probability of that behaviour recurring. The essence of punishment is to weaken or eliminate a behaviour. There are two forms of punishment namely physical and psychological punishment. Physical punishment

includes canning a child for wrong doings, to be slapped by your father for indiscipline, a criminal given an electric shock to confess his crimes, to be secluded from a group, being grounded by your parents etc. Psychological punishment includes verbal insults, being shamed and disgusted upon, to discourage someone or using demoralizing words on a person.

Skinner believes that all human behaviour can ultimately be understood as learned responses to events and that behaviour are selected on the basis of their consequence (Skinner 1977). Conclusively, this theory argues that, behaviour that brings about a satisfying effect (reinforcement) is apt to be performed again, whereas behaviour that brings about negative effect (punishment) is apt to be suppressed (Morris & Maisto, 2001).

Community participation model

The community participation model(CPM)was developed by Botterill and Fisher in 2002.This model recognizes that "grass-roots community action is an increasingly political attractive approach to the delivery of public good programs and that while there is increasing cynicism about governments' capacity to deliver solutions, there appears to be a growing belief in the mystical qualities of communities as entities with the wherewithal to solve complex social, economic and environmental problems" (Botterill & Fisher, 2002). This model believes in the use of bottom up approach which uses community capacities as an effective means and mechanism for solving all manner of social problems.

According to Botterill and Fisher (2002), this model can be effectively be applied to all sectors of the society to address issues ranging from regional

economic development; family functioning, education and schooling; childcare; health issues and problems; substance abuse; crime control and prevention; biodiversity; natural resource management; and rural and urban revitalization and renewal. The Community Participation Model is based on the premise that:

- Top down approaches through which government and other experts have identified and imposed solutions have failed in the past to resolve these intractable problems;
- The relevant community has a better knowledge of the problem and workable solutions so the problem will be solved;
- Involving the community will mobilize many more human resources than could be marshaled by government and acting alone;
- Participative programs will build the capacity of the participators to tackle any future problems on their own i.e. they will become self-reliant; and
- Involving the affected population in deciding their future is a good thing in itself and is a more popular policy approach.

Communitarian theory

Communitarianism is a philosophy that emphasizes the connection between the individual and the community. It is also a social philosophy that maintains that societal formulations of the good are both needed and legitimate Hence, its interest in communities and moral dialogues within them; that is thevalues and mores transmitted, and the societal units that transmit and enforce values such the family, schools, social clubs, churches etc (Etzioni, 2010).The basic assumption of Communitarian theory is that individuality is a product of community relationships rather than only individual traits (Etzioni, 2003).

Communitarianism originated in the 20thcentury and the term was coined by John Goodwyn Barmby(leader of the British Chartist movement) in 1841 who

used it to refer to utopian socialists and others who experimented with unusual communal lifestyles. However, it was not until the 1980s that the term gained currency through its association with the work of a small group of mostly American political philosophers. The term is found in the Old and New Testaments, Catholic theology and more recently on socialist doctrine.Among early sociologists whose work is focused on communitarian issues are Ferdinand Tönnies, Emile Durkheim and George Herbert Mead. Other early relevant sociological works are those of Robert E. Park, William Kornhauser, Nicole Porter, Amitai Etzioni and Robert Nisbet.

According to Porter (2010), Communitarianism is a set of ideas centered on issues of community, moral education and shared values. It rests on the idea that we have a mutual responsibility to each other as citizens and that a stable political community depends on this shared responsibility. Communitarian theory argues that the community is a place where people really care about one another and that one of the most important communities to which we belong is our families(Porter, 2010).Etzioni (1996) notes that our families and communities are the ground-level generators and preservers of values and ethical systems. Communitarians believe that we all learn moral values through the communities to which we belong and as humans we depend on each other for the formation of our personalities.

The central tenet of communitarian theory is belonging. That is, the essence of the human being is her relationship to others and to her community. Thus, Communitarians' core value entails concern for others and the "commons

we share" (Porter, 2010). The communitarian theorists recognizes the need for protection of the self, for communities could not exist without individuals (with a sense of self) to animate them. However, one's identity, one's sense of self is shaped by others in the community. Thus, to claim a protective ownership of our individual identities is to claim ownership of the communities that constitute each of us. The theory believes that the community bears the responsibility of each individual member of the community (Porter, 2010).

Communitarian theorist contend that efforts to address local development issues strengthens the social bond among community members, develop responsible local leadership, create or revitalize local institutions and motivate community members for self-help community development (Barker,1995). According to Simmons (1994), the theory regards the rebuilding of community as a social and moral project by strengthening relationships, enhancing processes of participation, developing the capacity for communal self-help,promoting feelings of empowerment and connectedness in a sphere that is distinct from market and polity.According to the theory, moral judgments are best made at the community level rather than from the higher governing bodies (Etzioni, 2003).

The Communitarian theory provides an opportunity for people to concentrate upon the ideals of cooperation and participation to implement self-help development activities to address communal challenges (Etzioni, 1996). Such a concerted effort often results in the discovery of innovations in social organizations, political processes, economic systems or technological designs(Manteaw,2008). Conclusively, Geoghegan and Powel (2009) postulates

that by encouraging members of a community to provide mutual services through their own efforts, the potential results is a high level of satisfaction and the feeling of ownership among members in the development process and outcome.

Relevance of the theories to the study

Firstly, the study applies the Operant conditioning theory (OPT) and its basic premises to the CLTS approach. TheCLTS concept involves the use of "shame and disgust" to trigger collective action by community members to stop OD and reduces the health risk associated with diarrhea, dysentery, malaria, schistosomiasis. This method employs psychological punishment to change undesired behaviour and it is in line with the OPT which focuses on changing behaviour through punishment.

In addition, CLTS uses reinforcements (rewards) in a form of holding ceremonial gathering to celebrate communities who have achieved ODF and encourage them to sustain the changed behaviour. Other rewards include issuing certificates and mounting sign boards with ODF inscription on them. These are done to recognize and acknowledge the community for their proper sanitary behaviour achieved (i.e. ODF status). Thus, the OPT is relevant to the CLTS concept because they both concern using reinforcement and punishment to change undesired behaviour.

Secondly, the study applies the Community participation model and its basic premises to the CLTS approach. The model opines that using community capacity is an effective means for solving all manner of social problems. This understanding is congruent with the CLTS which uses community capacity to

solve their sanitation problems. That is, it mobilizes community members to analyse their sanitation situation and collectively take action to stop OD and other insanitary behaviours.

Also, this theory opines that participatory interventions build the capacities of participants to solve problems that may arise in future. This assumption supports the CLTS approach. After CLTS triggering where the community have attain ODF and kept their surroundings clean, Natural leaders (NLs) who emerge during the CLTS process and the sanitation committees that are formed after triggering, are supported and given hands-on training to assist the community to sustain the behaviour change and tackle future sanitation problems that may arise. These NLs and sanitation committees whose capacities have being built spread the CLTS concept within and beyond their community. They also promote latrine construction within and outside their community.

Again, the Community participation model assumes that community members have better knowledge of their problems and can generate workable solutions by themselves. This argument is in line with the CLTS which believes that community members better understand their sanitation situations and the solutions to it lie within themselves. This is why the CLTS approach doesn't prescribe solutions to sanitation problem but allow locals to come up with theirs. For example, it doesn't advice members to stop OD or keep their environs clean, it doesn't prescribe latrine types etc.Thus, CLTS believes in the "can do spirit" of community members.

Thirdly,the study applies the Communitarian theory because within the CLTS approach external funds for latrine constructions are not permissible rather the facilitators draws attention to the community'scapacity to address their own problems using self help mechanisms thatexist within the community. This self help mechanism are internal support systems community members come up with, and these may include periodic targetcontribution schemes, credit forsanitation or seed funds by community members.

Others may include some people (especially the youth) helping other households to construct their latrines; the better off's donating cash to the poor and giving land to the landless to construct toilets; cleaning up exercises within the community and even neighbouring communities etc. The theory opines that efforts to address local development issues through participation strengthens social bond among community members and motivates them for self-help community development. This argument is therefore, consistent with the CLTS approach.

Again the theory contends that participation does not only result in community self-help activities but also innovations in economic systems, technological designs among others. The CLTS approach empowers local people to innovate their own latrine models.As the community becomes empowered, each member attempts to construct their own toilet models within the family's means and capacity. Also,people with innovative ideas in latrine models are identified, encouraged and their work recognized.These empowered individuals (also recognized as Rural Sanitation Engineers) contribute substantially in

developing low cost models and in helping others in constructing toilets in their respective villages and in neighbouring villages. This innovative power of CLTS is in congruence with the communitarian theory assertion that involvement of community results in innovations in technological designs.

Lastly, the Communitarian theory contends that efforts to address local issues creates or revitalizes local institutions and develops responsible local leadership. This assertion is consistent with the CLTS approach as it leads to the creation and reviving of local institutions such as active community groups (WATSANs) who acts as sanitary inspectors monitoring progress towards ODF status. CLTS revives existing groups that have being lying dormant for awhile.

Concept of participation

Participation in development emerged out of the recognition of the limitations of top-down development approaches. Conventional, expert-driven planning and project delivery came under increased scrutiny and criticism since the 1970s. This resulted in a shift towards participatory research and an increase in the adoption of participatory planning methods by the development community. Influential thinkers in this respect were Fritz Schumacher and Robert Chambers, the father of Participatory Rural Appraisal (Chambers, 1983).

Participation often called community participation isa concept that varies with its application and definition.The way participation is defined also depends on the context in which it occurs. Forsome, it is a matter of principle; for others, practice; for still others, an end in itself (World Bank, 1995). The term is often used interchangeably with citizen participation, people's participation, public

participation andpopular participation.The Oxford English Dictionary defines participation as “to have a share in” or “to take part in,” thereby emphasizing the rights of individuals and the choices that they make in order to participate.

Westergaard (1986) defined participation as “collective efforts to increase and exercise control over resources and institutions on the part of groups and movements of those hitherto excluded from control”. Makgoba and Ababio (2004) noted that participation is the involvement of the community in the planning process of the municipality to ensure that such participation results in meeting of their human needs. Also, the World Bank’s annual (1995) defines participation as “a process through which stakeholders influence and share control over development initiatives, and the decisions and resources which affect them”. Participation and development moves hand in hand, this is because most development work involves the participation of the beneficiaries (Smith, 1998). Thus, community participation is an important component of community development and reflects a grassroots (bottom- up) approach to solving problems.

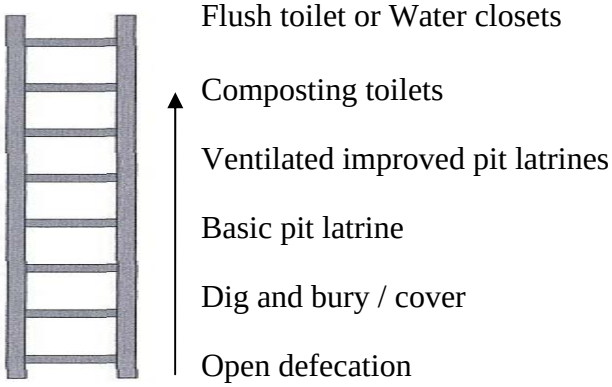
Some concepts in sanitation

- Concept of sanitation coverage

Sanitation coverage is defined as the percentage of households having access to a sanitary latrine or improved sanitation facility (Water And Sanitation Program, 2000).

- Concept of sanitation ladder

Sanitation Ladder is a tool that reflects the different defecation practices starting withopen defecation (OD) and provides a wide range of latrine options which the people can adapt to improve sanitation in incremental stages (Perez, 2011).



The Sanitation Ladder is a model ladder showing a range of latrine options from a relatively unimproved type to a more improved type (Awuah, 2009).

- Concept of improved sanitation

Improved sanitation is defined by WHO/UNICEF as sanitation facilities that ensure hygienic separation of human excreta from human contact (UNICEF, 2006). Included are flush and pour flush toilets with piped sewer systems or septic tanks, soak away pits, ventilated improved pit latrines, pit latrines with slabs, and composting toilets (UNICEF, 2006; WHO& UNICEF, 2012).

- Concept of unimproved sanitation

Unimproved sanitation is defined as any of the above facilities that are shared between more than one household or are public facilities (UNICEF, 2006). Also, the use of facilities such as flush or pour flush toilets without piped sewer systems or septic tank, pit latrines without slaps, hanging latrines, buckets and the practice of OD are regarded as unimproved sanitation (WHO& UNICEF, 2012).

- Concept of sanitation

Sanitation refers to the principles and practices relating to the collection, removal or disposal and treatment of human excreta, refuse, household wastewater, drainage of storm water and treatment of industrial effluent as they impact upon people and the environment (Langergraber et al., 2008). It also concerns the protecting of public healththrough provision of safe drinking water and safe disposal of sewage or waste(www.unicef.org retrieved 14th December, 2013). According to DFID (1998), sanitation concerns safe management of human excreta which includes both the "hardware" (for example, latrines) and the "software" (for example, hygiene promotion) needed to reduce fecal-oral disease.

The term sanitation refers to the process of disposing of human excreta in a manner that protects public and environmental health (McConville, 2008). Sanitations is the means of collecting and disposing of excreta and community liquid waste in a hygienic way so as not to endanger the health of individuals or the community as a whole (Cotton & Saywell, 1998).

- Concept of total sanitation

Total Sanitation depicts a desired situation in which all households of the community, social institution such as mosques, schools, and all public places such as markets have access to and use appropriate sanitation systems (Kar, 2008). According to UNICEF, total sanitation means zero open defecation and 100 percent of excreta hygienically contained. WaterAid identifies several practices that constitutes total sanitation these include complete use of hygienic latrines, no open defecation, well maintained hygienic latrines,good personal hygiene practices, effective hand washing after defecation and before taking or handling food, well managed water points, safe water use for all domestic purposes, food and water well covered, garbage disposal in a fixed place and domestic animal excreta disposed of in a hygienic way,disposal of wastewater in a hygienic way, clean courtyards and roadsides etc (WaterAid, 2007).

- Concept of hygiene, hygiene education and promotion

Hygiene is a concept closely tied to sanitation, defined as“removal of dirt and disease causing elements from humans and their surroundings” (Rylander, 2009). Hygiene comes from Greek’s word ‘hygies’ meaning good health or living well. Hygiene promotion and hygiene education are similar concepts but have different definitions. According to Boot and Cairncross (1993),hygiene education is all activities aimed at encouraging behaviour which will help to prevent water and sanitation-related diseases. On the other hand, hygiene promotion is a continuous process aimed at promoting conditions and practices that helps to prevent water and sanitation related diseases etc. Its focus is to

ensure safe confinement of excreta and other waste, safe handling and use of water, regular hand washing with soap at critical time and personal, domestic and environmental hygiene (CWSA, 2013).

Previous sanitation delivery approaches and its relevance

Subsidy Approach

In the 1960s, development specialists approached sanitationfrom a technical point of view, which meant looking at sanitation in terms of providing "hardware" (the materials necessary to build the latrine) usually at no cost to the recipient. This hardware approach (often called subsidy approach) operated on the assumption that sanitation is expensive and the poor could not afford to pay (Kar & Bongartz, 2006). The poor could not invest money into sanitation because of a number of reasons.Firstly, the money forsanitation and hygiene infrastructure is simply not available for many poor families.Secondly, the advantages of access to sanitation are seen on a community-wide level. Individual families that may invest in sanitation do not see the benefits if the entirecommunity does not decide to invest along with them (Evans etal., 2009; Oti, 2012).

The Subsidy approach (SP) involves any financing for sanitation which does not flow directly from the immediately-benefiting household to the service provider (Evans et al., 2009). Subsidies for sanitation mostly flow from governments, development agencies and non-profit organization. There are several forms of sanitation subsidies namely direct subsidy, infrastructural subsidy, operational subsidy, connection subsidy, out-based subsidy etc (Evans etal., 2009).

The Subsidy approach (SP) to sanitation development in Ghana emerged during the PNDC era. During this era, individual households in the rural areas were given subsidies by the government on sanitation hardwares and were expected to raise the counterpart funding by themselves before they could own a latrine. The main objective of this approach was to reach a larger majority of the rural people especially the poor who could not afford to build their own household latrines. This way, the government assumed that as many people (households) constructed their own toilets, others (especially the so called rich by the village standards) will emulate this gesture and build theirs as well. Consequently, the entire village or community would build their latrines.

After several years of its implementation, the SP became a failure because it could not make its intended impact and did not achieve its main objective. This was due to the fact that, only the few so called "rich" people by the village standards were able to raise the counterpart funding. Therefore, the poor people in the village could not take advantage of the SP and only the wealthy people benefitted. As a result only few people build the latrines in rural communities. Additionally, it was evident that given subsidies to build latrines did not necessarily lead to its usage because open defecation still persisted in many rural areas in Ghana (Personal interaction with Mr. Oduro, WASH expert at Pronet).

The government realising that monies being pumped into the SP wasn't yielding the expected outcome decided to invest in software approaches. The WASH sector practitioners in a stakeholders meeting came up with CLTS concept in 2004 which government later adopted as the preferred approach to rural

sanitation. Today, funds are being channeled to facilitate CLTS projects in many rural communities in Ghana (Personal interaction with Mr. Oduro, WASH expert at Pronet).

Relevance of subsidy approach

The main benefit of SP is that, it increases coverage or the number of people who have access to improved sanitation facilities. According toEvans et'al (2009), hardware subsidies are morally and economically necessary as it increases sanitation coverage in the poorest areas of the world. A study conducted by Onyilo and Osaigbovo (2003) in Nigeria revealed thatwith subsidy, there was an evident increase in the number of latrines construction because everybody will buildlatrines if given hardwares for free.

Sanitation marketing

Sanitation marketing also called social marketing(SM) is a demand-led approach to sanitation development. Like the CLTS, SM also refers to the concept of 'sanitation ladder' so as to assist communities to acquire improved sanitation.It focuses on understanding the households' current sanitation behaviours and determinants for sanitation improvements in order to find the most appropriate sanitation intervention(s) (Perez, 2011). Sanitation marketing approach aims at enhancing the demand for sanitation goods and services using effective well targeted promotion or advertising messages for sanitation behaviour change.

It also strengthens and supports the supply side by supporting the private sector in its performance and capacity. SM also promotes positive hygiene behaviours and relies on commercial marketing concepts and tools to influence

the voluntary adoption of adequate sanitation (Water And Sanitation Program, 2004). SM is complemented by the establishment of SaniMarts. According to Cairncross (2004), SM approach adapts the four P's of marketing and these are;

- Product: Latrine designs must respond to what community members want, rather than what sanitary engineers believe they should have.
- Price: Keeping price down and marketing a range of products with various price tags so that local people can afford.
- Place: The supply chain must reach each household. This can be achieved by training local masons and artisans. Also, Sanitation marts must be set up i.e. a one-stop shops selling a variety of sanitation products and provide information on different latrine options, hand washing facilities, material for construction and available artisans to support construction works in communities (Perez, 2011; WSP, 2004).
- Promotion: Communicating with households about the product or services can include advertising, mass media, word of mouth, demonstration of latrines, time-limited special offers, door-to-door sales etc.

Relevance of sanitation marketing

Firstly, Cairncross (2004) point out four relevance of SM. He argues that SM ensures that people choosewhat they want and what they are willing to pay for; SM is financially sustainable as opposed to the Subsidy approach; it is cost-effectiveand can be taken to scale; and allows a true behaviour change to take place because those who purchase sanitation tend to value it and consequently maintain it. Again, SM can be used in all types of settlements including small to

large rural communities, small towns, and peri-urban centres (Godfrey et al.., 2010). Also, SM focuses on both demand generation and improving the supply of sanitation goods and services.

A case study conducted in Andhra Prades, India by World Bank's Water and Sanitation Program, indicates that SM gets people to invest in sanitation improvements, increases latrine coverage and decrease the diarrhea disease burden of communities (WSP, 2000). In addition, mechanisms are put in place to help eliminate the barriers faced by households in acquiring improved sanitation. These include one-stop shops (Sanimarts) where sanitation products and service, and credit facilities are made available(Godfrey et al., 2010).

Evolution of Community Led Total Sanitation

The CLTS approach was first pioneered in 1999 by Dr. Kamal Kar working with the Village Education Resource Centre (VERC) and supported by Water Aid, in a small community of Rajshahi district in Bangladesh.Dr. Kar's evaluation of WaterAid's BangladeshWASH projects with its local partner organization (VERC) led to the discovery of the CLTS approach.Kar was called on to evaluate this projects because WaterAid couldn't understand why its Bangladesh branch had been building latrines for years, but 40 percent of the country's illnesses were still excrement-related (Kar, 2008). CLTS takes into account both consumer demand and community involvement. The overall premise of CLTS is self-help (Kar, 2008).

The CLTSwas born from theParticipatory Rural Appraisal (PRA) method. It uses PRA methods (such as transect walk and mapping) to enable local

communities analyse their sanitation conditions and collectively internalise the terrible impact of open defecation on public health and on the entire environment. The PRA principle that “We can do it” is a fundamental element of CLTS.Today, CLTS approach has spread across Asia and Africa and is being implemented in countries such as India, China, Pakistan, Indonesia, Uganda, Kenya, Nigeria etc.

According to Kar, CLTS conveys two concepts; Community led and Total sanitation. Community Led refers to active participation of the entire community in assessment, planning, implementation, monitoring and evaluation, and decision making in a sanitation project.Total Sanitation depicts a desired situation in which all households of the community, social institution such as mosques schools, and all public places such as markets have access to and use appropriate sanitation systems (Kar, 2008).

History of CLTS in Ghana

The CLTS approach was first introduced to Ghana through a series of round table discussions among sector practitioners in 2004/5. At that time, it was clear that the nation needed a more radical approach to resolving the challenges posed by sanitation as the country worked hard towards meeting its targets for the MDGs. The first effort to actually implement CLTS was in 2006 in the Central Region where the CWSA regional office working with a Consultant, piloted it in four communities in the Twifo Heman Lower Denkyira district.

The lessons from this pilot and other initiatives from the Afram Plains Development Organization motivated a UNICEF sponsored study tour to Bangladesh and Ethiopia (two countries where CLTS has impacted positively on

sanitation coverage) in 2007. Again, lessons learnt from this study tour set the stage for expanded implementation of CLTS in Ghana.As a result, various development partners supporting water and sanitation in Ghana have piloted CLTS in different parts of the country (Plan Ghana, 2010).

In late 2007, the CWSA, UNICEF, Plan Ghana and WaterAid embarked on CLTS pilot projects in 308 communities in Northern, Upper West, Eastern, Central and Greater Accra Regions with an attempt to scale up hygiene and sanitation improvements at the community level (Roberts & Malaga, 2009).Again, in 2008 the Training Research and Networking for Development Group (TREND) collaborated with the CWSA to facilitate CLTS pilot projects in selected districts in the Central, Greater Accra and Eastern regions. A total of 49 communities were facilitated in the Ga West, Dangme West, Kwahu South, Mfantsiman and Abura/Asebu/Kwamankesse districts.

In the same year, Plan Ghana also initiated CLTS activities inMankessim, Asesewa and Bawjiase its Programme areas. Also, the Environmental Health and Sanitation Unit (EHS)initiated CLTS activities in the northern region with financial support from UNICEF and EU under its I-WASH Project.

The processes of CLTS implementation

The CLTS approach involves three stages namely Pre-triggering, Triggering and Post triggering. The CLTS approach is mainly conducted by a facilitator (Ft) with help from community volunteers or Natural leaders (NLs).

Pre Triggering stage

This stage concerns selecting the community, and community profiling.To select a community for CLTS triggering we need to meet some criteria or conditions first. According to Kar and Chambers (2008), some 'favourable' conditions include communities that are; small settlement;remote; socially and culturally homogenous; visibly filthy conditions and where faecal contamination is evident; high incidence of diarrheal diseases among others. Some challenging (unfavourable) conditions include; large settlement close to towns and main roads; socially and culturally diverse areas etc.

Community profiling in CLTS is aimed at getting to know the community better and building rapport with the leadership and the people generally. This stage is also described as the 'community entry' or 'community mobilization phases'(Plan Ghana, 2010). Here, the facilitators contacts the chiefs and important persons in the community, builds relations with them and later meets the community member to announce their presence. A date is set between the facilitator and community members (CMs) for the day of "triggering" before the end of this meeting.

Most times, the poor people, women and children or people from one particular pocket of the neighbourhood attend such meetings. For different reasons men, the middle or upper class and more influential members of the community may not attend such meeting. It is imperative to know, that absence of people from all works of life might weaken the collective power of the 'triggering' exercise when it is organized later on. The time frame for this stage

ranges from half a day to one week. Thus, Pre-triggering stage helps in mobilizing CMs for the triggering exercise later on(Kar& Chambers, 2008; Meeks, 2012).

Triggering stage

This stage involves stimulating a collective sense of disgust and shame among CMs as they are confronted with their practice of OD and its negative impact on the entire Community. The goal of the Ft here is to help the CMs see for themselves that OD has disgusting consequence and create unpleasant environment. It is then up to them to decide how to deal with it and take action. Triggering stage involves Sanitation Profile Analysis, the Ignition moment and Community Action Planning (Kar & Chambers, 2008; Meeks, 2012).

A. Sanitation profile analysis

Sanitation profiling of communities involves the use of CLTS process tools such as Transect walk, Defecation mapping, Shit calculation, Medical expense calculation, Glass of water, Open “shit” to open mouth and F-diagram.

i. Transect walk / Walk of Shame & Disgust / “Shit Walk”

Transect walk also called Walk of shame and disgust or “Shit Walk” is the first step in assisting communities to analyses their sanitation conditions. It is the first introduction of theCMs and the outsider (facilitator) to the primary effects of OD (Kar & Chambers, 2008). ”Shit walk” is a powerful tool for promoting disgust at OD. During Transect walk, the facilitator asks CMs to show him the places where people openly defecate and the places where latrines are sited. Much time is spent in these areas to maximize the feeling of disgust as the Ft is being shown the most private, and often unspoken of, areas of the community.

The Ft then starts to ask leading questions such as ; “do flies like dry shit or wet shit?”, “When it rains where does this shit go?”, “ Are these flies that you see around here different from the flies that are around your house and those that land on your food?” (Kar, 2010).Other villagers who see the stranger (facilitator) and the CMs walking through their area of OD become interested and follow the crowd. The Ft then directs the CMs to a large open gathering place, like the school or the village square, and commences with the making of a community map (Kar & Chambers, 2008; Kar, 2010).

ii. Mapping of defecation areas

This is the second step and concerns drawing the map of the community on the ground and showing where people live and where they defecate. Materials like chalks, rice husks, sand, paper, stones, card, leaf etc are used to mark out important village landmarks, household latrines (HHLs) and areas of open defecation (Roberts & Magala, 2009; Kar & Chambers, 2008).

First and foremost, theFt asks CMs to mark their houses and the main areas they openly defecate. Then, the Ft also asks them to mark the places that they and their families go to defecate in emergencies or when sick. Again, they are asked to locate a leaf or stone to show whether they have a latrine or not. Usually the areas of OD is shown with a coloured powder and lines are drawn to connect them to the household (HH) that visit them. As a result, CMs realize that not only are their neighbours often defecating at their backyards but also nearly all the community is covered with faeces (Kar & Chambers, 2008; Kar, 2010).

During mapping, the facilitator asks CMs to stand in small groups according to their neighbourhood and ask them to discuss the dirtiest neighbourhood, the second dirtiest and so on, and note it on a paper. He collects the paper and read it out to them. Usually, the CMs will find out that the same or two neighborhoods are the dirtiest and that the dirtiest and grossest neighbourhoods are often the poorest. Also, the people in the dirtiest neighbourhood realised that other people have being defecating in their neighbourhood and labeling them as dirty. This discovery triggers immediate action to stop strangers from coming to defecate in their area. Together, the CMs come to the realisation that they need to work to stop the dangerous practice of OD. The next step is shit calculation (Kar & Chambers, 2008; Kar, 2010).

iii. Shit calculation

This involves the calculation of the quantities of shit and here the crude local word for shit is used by the Ft. Each individual or household (HH) calculate how much excrement they produce in a day, month and year leading to the realization that huge amount of faeces is being left in the open. This process is done by first allowing each individual or household to calculate how much excreta they generate in a day by using their own local method and measures for the calculation. Then the sum of each HH is added up to produce a figure for the entire community.

A daily figure can be multiplied to know how much shit is produced per week, per month or per year. The quantities can add up to a matter of tonnes which may surprise the community. The Ft can make this process exciting by

asking which HH produce the most and least shit. He then asks everyone to clap for those who produce the most and congratulates them. For those who produce the least, he asks them to eat more and shit more. Similarly, he identifies the second, third and so on and appreciates their contributions as well. All these generate a lot of fun but silently villagers are being made aware the quantum of feaces they are leaving in the open.

iv. Medical expense calculation

This activity helps CMs to find out how much they spend on the treatment of diarrheal, dysentery, cholera and other sanitation related diseases per month and each year. During this process, the facilitator together with CMs stand around the map and ask them to write how much they spend per month on the treatment of these diseases on the cards placed next to their HH. This monthly amount can be multiplied to find out how much each HH spend in a year.

This process can also generate a lot of fun by asking CMs the HH who spends the most, least, second and so on. The facilitator should also point out if those who spend the most live close to the defecation area or the dirtiest neighbourhood and whether they are rich or poor. Again, the facilitator should put up a flip chart and ask them to calculate how much the whole community spends on treatment in a month, a year, and then over ten years. This chart should be put next to the calculation of amounts of shit by month, year and ten years.

v. Faecal-oral transmission routes

This is where the facilitator triggers disgust pathways of faecal contaminations. This process involves two activities namely “shit and food”

contamination or “Open shit to open mouth” and “shit and water” contamination or Glass of water (Kar & Chambers, 2008; Plan Ghana, 2010; Meeks, 2012). The Ft should ask CMs the agents which bring shit into the home. For example, flies, rainwater, bicycle tyres, contaminated water, shoes, feet and wings of animals that eat shit etc. Then ask how the shit gets into the mouth. For example, by hands, fingernails, utensils washed in contaminated water, dog licks etc. The Ft should never suggest the pathways of faecal contamination but let them identify, discuss and write it themselves. After this, the “shit and food” contamination and “shit and water” contamination (Glass of water) can be performed.

In the “Shit and food”contamination (Open shit to open mouth) procedure, the Ft collects fresh excrement from the places of OD and brings it to the gathering. He brings a plate of food and asksCMs if they will eat and obviously most people will say “yes”. The Ft then puts this food next to the fresh excrement for all to see and continues to talk about something else. With time the people realised that the flies keep moving from the excrement to the food and thus when the Ft asks again if they will eat this food, they now reject it totally.

The second procedure, Glass of water involves the Ft offering to the CMs a glass or bottle of clean water to take a sip. Then, he plucks his hair or pulls out a thread and dips it in the fresh excrement. He dips this dirty hair or thread into the glass or bottle of water and offers it again to the CMs. Out rightly, they all reject the water saying that it is contaminated with faeces even though they could not see it in the water. The Ft poses an interesting question to them “how many legs

does the fly have" and whether it carries shit away with it. This helps CMs to realise the number of legs the fly uses to contaminate their water.

These two activities (procedures) are powerful catalyst for behaviour change because it helps the community come to the realisation that they are "eating their own shit". This triggers behaviour change and leads to the Ignition moment. Consequently, community member can now make their own version of the "F-diagram" (flow-diagram) which is shown in figure 1.

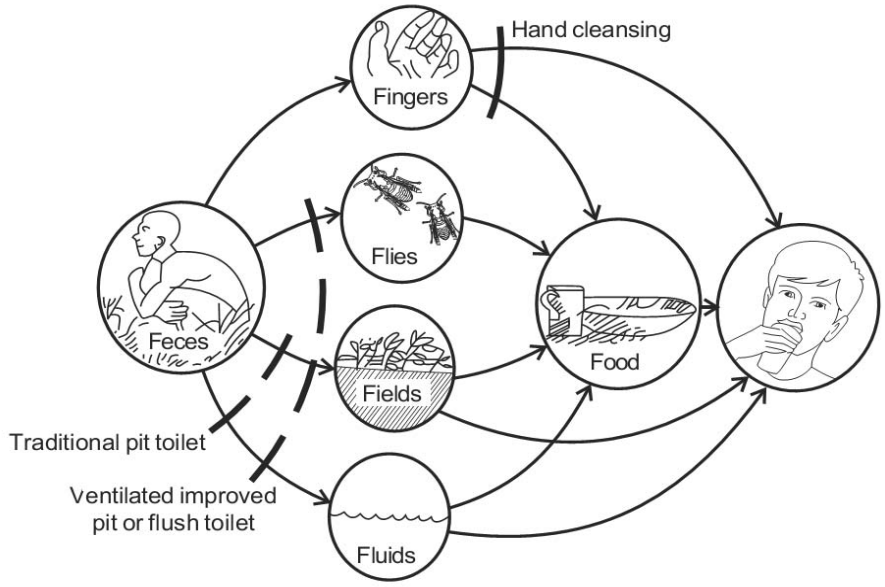


Figure 1: **Flow diagram**
Source**;** Water and Sanitation Program (2011).

B. Ignition moment

This is the point where the entire community realises that they are ingesting each other's faeces and as long as OD goes on, it will continue. Once this is stated in public, theFt will repeat and reinforce this idea while continuing the process. It is this idea that must be embedded into the hearts and minds of the people. The shame and disgust will build up to critical levels and then will break

loose at the “ignition point”, where the CMs say “we are eating our own shit, and we are going to do something about it”. Often there are high and violent arguments among the CMs as to how to stop OD.

At this point, the Ft should not interrupt or advise and when questions are thrown to him, he should tell them he has little local knowledge and that they know much better than him on what is the best thing to do in their situation. Also, the Ft should tell them not to misunderstand him as a promoter of latrines and that they should continue their practice of OD.

At some point, some people will say they want to stop OD but they are constrained by the fact that latrines are costly. The Ft must ask how much it cost, and usually they say 100 to 250 dollars .The Ft should tell them there are low cost latrines constructed elsewhere between 3 to 4 dollars. Ask those who are interested to raise their hands and quickly draw a simple pit latrine on the chart paper. Ask them how much they think this simple latrine will cost and how it will be constructed. Also, let them know it was design by poor people in one of the poorest countries. Now, the CMs will tell you (Facilitator) this simple latrine will cost a less amount than what you said earlier (i.e. 3 to 4 dollars) and thus they will go ahead and construct one by themselves. The Ft can also share experiences of other communities who have achieved some successes with CLTS with them.

Remember, do not prescribe latrine models to them at first, the central ideal of CLTS is to initiate local community action to find their own alternative to OD. Also, do not worry if no one talks about starting local action there and then. In this case, thank everyone and tell them you will record them as a village where

people are willing to continue OD and eat each other's shit. As a Ft, do not think you have failed, for you have probably started a process (Kar & Chambers, 2008).

It is important to note that during ignition moment or triggering, Natural leaders (NLs) emerges. NLs are men, women, children, youth, religious leaders etc who offer services to the community (Kar & Chambers, 2008). They are active in latrine construction, innovation, monitoring and evaluation, developing and enforcing community norms and rules, and spreading the construction of latrines within and beyond the community. NLs are also volunteers, activists and enthusiasts who emerge and take the lead during CLTS processes.

These individuals should be brought out of the crowd and applauded for being willing to help their community to become clean and healthy.These first NLs will then be asked tohelp the facilitator to continue with action planning. Thus, when triggering is successful, NLs emerge; people dig holes and build latrines; there are no standard models; and construction is by self-help with or without purchase of hardware from the market (Chambers, 2009). A summary of the CLTS process(triggering) tools is shown in the appendix section.

Communities respond to CLTS triggering in different ways. Some are immediately inspired to make change whereas others are indecisive or reluctant at first but may come around after observing how other communities have changed (Kar & Chambers, 2008). The responses ofcommunities are shown below;

- Match box in a gas station; this is where the whole community is ignited and they are all prepared to start local action to stop OD

- Promising flames; this is where majority has agreed to embark on local action but a few are still undecided.
- Scattered sparks; this is where majority are undecided and just a few are thinking of collective action towards ODF status.
- Damp box; this is where the entire community are not interested to do anything to stop OD.

C. Community action planning

Once triggered, community action planning usually follows. Action Plans provides details of activities which community members plan to undertake collectively and also captures individual householders who plan to construct latrines(Plan, 2010).It also concerns getting commitment from the community and plans to eliminate OD. The people willing to take immediate action against OD should be asked to sign their names to a list and applauded for. These change agents can be asked if they are willing to donate to other families without means in the community, and applauded for their promised donations as well. The Ft must ask when the villages can expect to reach ODF status and encourage them to make it on time.

The Ft must work with existing or form Sanitation committees in the community and members of this committee must be given training on hygiene promotion, bookkeeping, basicproject management and other sanitation development issues (WaterAid, 2011).The Sanitation committee will be responsible for keeping trace of community progress towards ODF, making connections with local sanitation hardware suppliers, help with both

technical(construction and design of latrines) and financial (setting up micro-financing group or schemes) support. The Ft with help from the community transfers the ground map onto paper showing important places, homes, OD areas etc. This map will help keep track of houses which have installed latrines and areas OD have been eliminated. The sanitation committee will be responsible for displaying this map and updating it as well (Kar & Chambers, 2008).

Some common features of the community action plans includes enacting and enforcing bye laws outlawing open defecation, householders to construct household latrines and using communal labour to construct communal latrines (Plan Ghana, 2010). Other community actions include taking immediate steps to rehabilitate any existing communal latrines and clearing of weeds and assisting the elderly to dig their pits etc (Plan Ghana, 2010). Before the Ft leaves the community, the Ft should ask the NLs or Sanitation committees to rehearse slogans againstOD to be chanted by children.

Post triggering stage

Before leaving the community after the triggering, a date should be agreed upon when the Ft can return and check on the progress. This stage involves follow ups to monitor the progress of the community towards the achievement of ODF status. Focus should be on the communities with the best responses to triggering. For “match box in gas station” and “promising flames” responses, the Ft should return to the community after few days. Also, communities with “scattered sparks” responses, return after about a week or two and for “damp box” return only when some people want to know more.

During follow ups, the Ft should include local government officials and community leaders as this will increase the pride of the people in showing off their latrines.Enthuse the people byinforming them that if they achieve 100 per cent total sanitation and ODF, many people from outside and neighbouring villages will visit their community to see it and this could make them famous. Also, the Ft should make frequent visits to meet the Sanitation Committees formed on the day of triggering.

The Ft must help this committee to identify and form connections with local sanitation hardware providers, give technical advice and continue to motivate and encourage them to continue their good work. Encouragement can also be offered to the NLs and Sanitation committee through cell phone. Efforts should be made to encourage the affluent families to help the less affluent ones. Donations should be solicited and people who made these donations must be called in front of the meeting and applauded (Meeks, 2012 as cited in Kar& Chambers, 2008).

Throughout the follow up visit, Ft should keep an eye on both positive and negative development in the community. Some positive signs include innovations in latrine design, the use of local materials, affluent people donating money, hardware and land to the poor, other NLs emerging, repair of communal latrines etc. Some negative signs include people saying subsidy may be coming, other organizations offering subsidies and subverting CLTS, doubt being raised on technical grounds etc. These negative signs must be mitigated immediately by the Ft. Effortshould be made to include all interested parties especially newly

emerged natural leader in the post-triggering stage.Facilitators and community leaders should look for and encourage newly emerging NLs, be they women, children, religious leaders, youth groups etc.

Again, children have often been a powerful tool in CLTS; they are taught to chant slogans, or sing songs against OD, they are given whistles and told to identify and call out people defecating openly and even used to as advocates to exert pressure on their parents to build latrines. Religious leaders are also effective agents of social change, and religious reasoning can often be exploited tospur this change. For example, Christians knowing that “cleanliness is next to Godliness” wouldn’t want their clothes to be dirtied or smeared with faece by flies and therefore would keep their surroundings clean including areas of OD.

Monitoring and Evaluation is a key ingredient in this stage. It is the responsibility of NLs and the sanitation committees to monitor the community's progress towards ODF status. Communities should be allowed to specify their own set of indicators and monitor these indicators in their own way. For example,increase in the number of latrines built, reduction inthe amount of flies, a hike in the sales of sanitation hardware in the market etc can be some of these indicators.

Immediately the community attains ODF status some kind of Verification and Certification process must be observed. Verification concerns inspection to assess whether the community is ODF. Certification is confirming the Community as ODF status and an official recognition done (Kar & Chambers, 2008). Verification and Certification must be community driven. ODF

communities must be celebrated by organising ceremonial gathering in which senior officials, politicians, heads of other communities, journalists etc will be invited to make public statements about this progress and achievements. Additionally, certificates can be issued to the Community and sign boards suggesting the achievement of ODF status can be mounted for them. Again, efforts must be made to publicise their attainment of ODF to nearby communities who are yet to attain this status.

The CLTS approach, apart from stopping OD also touches on a wide range of hygiene behaviours such as hand washing at critical times, use of hygienic latrines, hygienic handling of food and water, clearing of bushes and backyards to prevent people from OD, cleaning of dumpsites and refuse bins etc. Therefore, CLTS imbibes into CMs the attitude of keeping their environment. Hygiene education may be introduced during the Triggering or Post triggering stage clean (Roberts & Malaga, 2009; personal interaction with Mr Oduro, Pronet Ghana).

Effectiveness of CLTS approach

The main objective or goal of any CLTS intervention is to end open defecation and increase sanitation coverage through a change in sanitation and hygiene behaviour (i.e. the construction and use of household latrines among others). Others may include improving hygiene practices, ensuring the general environment and dumpsites are clean etc. In sum the focus of any CLTS interventions is to change sanitation and hygiene behaviour.

There are several indicator used to measure the effectiveness of the CLTS approach. Accordingly, PLAN Ghana (2010) identifies some key indicators such as the presence of faeces in the open anywhere and especially at old OD sites or the achievement of ODF status, the state of dumpsites and backyards, general environmental conditions in the community, construction or rehabilitation of communal latrine etc. Again, Ntow (2012) identifies number of household latrines constructed, number of household latrines in use, number ofhousehold latrine with hand washing facility, number of active natural leaders and improved hygiene practices as some indicators.

Kar (2008) also highlights elimination of open defecation, reduction in diarrhoea and sanitation related diseases, reduction in household medical expenses,increase in the demand or sales of sanitation hardwares, setting of community sanitation laws or sanctions against open defecation, revival of community groups or formation of new groups, the emergence of different models of latrine, community self help activities etc as other indicators. Conclusively, it will also be prudent to review some outcome benefits of the CLTS approach in other to assess its effectiveness. The following reviews these outcomes or benefits and also identifies some challenges of CLTS.

- Benefits(outcomes or strengths) of CLTS approach

Firstly, CLTS builds communal self helping spirit which can be tapped for community development. Because of the collective action inspired by CLTS which builds a sense of togetherness and communal spirit, community members take development initiatives on their own without depending on any local

government or external assistance. For instances, empirical evidence from CLTS triggered regions in Bangladesh revealed that more than 3000 people in the Haor region joined efforts to construct a huge dam to protect their rice farms from floods (Kar & Bongartz, 2006).

Another benefit is the development of innovative latrine models. Because CLTS encourages CMs to develop their own latrines models which are affordable and suit local needs and soil condition, many innovative latrine models have being developed. In Bangladesh for example, there are over 20 latrine models innovated by the local people (Kar, 2003).

It adopts a bottom-up approach where CMs analyze their sanitation situation and take collective action to end OD. Thus, CLTS targets the entire community rather than individuals (Godfrey et al., 2010).

According to Godfrey et al. (2010), CLTS is the only approach so far that end open defecation, increases sanitation coverage and use of latrines in rural communities. A case study conducted by Kar (2003) in Bangladesh confirms this argument. According to Kar, CLTS inspires rural forks to use latrines thereby ending OD and accelerate latrine coverage.

According to Jenkins and Scott (2004), CLTS is the only tested approach that triggers and increase demand for sanitation without necessarily having to understand consumer preferences or factors that influences consumer decision to adopt sanitation. It is designed to help a community come to terms with a familiar human sentiment, “disgust” which drives them to invest in sanitation hardwares, thereby increasing the demand (Jenkins & Scott, 2004). Accordingly, Kar and

Bongartz, (2006) found that CLTS implementation leads to an immediate increase in community demand for sanitary hardware which paralyses the supply chain.

Again, Curtis (2007) argues thatCLTS approach has being used successfullyto change sanitation behaviour. This is because it employsthe sense of disgust.Curtis further supported his argumentby exploring into therelationship between disgust and human health which found that humans are hardwired to take actions to prevent disease as a reaction to disgust. This behaviour change may include acquiring improved sanitation facilities, cleaning of backyard and dump sites, handwashing with soap before eating and after defecation etc(Curtis, 2007).

Again, CLTS gives households the option to build the toilet of their choice and does not insist on a particular technology. Households pay for building their own toilets using affordable or locally available construction materials. Consequently, householders' (community members) will have a sense of ownership and maintain the toilets or latrines (Godfrey et al., 2010).

In addition, in communities where CLTS is implemented, they undergo a number of different social changes, including increases in women's rights, reviving or increase in active community or youth groups, increased school attendance particularly among girls, and other social goods (Kar, 2008).

According to Roberts and Malaga (2009) reduction in water and sanitation related diseases is a benefit of CLTS implementation. Findings from their study indicated that previously children could have about 5 episodes of diarrhoea in a month, but this trend had reduced toabout 1 episode per month, thanks to CLTS.

Another outcome observed by Kar (2003) is that communities develop innovative community policing and sanctioning methodologies. Findings from his case studies showed that after CLTS triggering, CMs embarked on night patrols to catch offenders that still used open spaces, undertook early morning raids on defection spots and used the village watchmen to catch and identify offenders. Also, fines were imposed on the offenders while financial rewards were offered to the identifier and the witness.

Again, Kar (2003) noted that a reduction in community expenditure on medicines and visits to the doctor as a strength of CLTS. Reports from his case study of Shibpur and Majchar villages show that previously each household used to spendan average of 200 to 300 Takas for treatment and medicines on intestinal problems. However, by spending only Tk 90 on latrines inspired by CLTS, theseproblems have gone (Kar, 2003).

According to Kar (2003) CLTS programmes save many WASH agenciesa lot of money that previously have been used as subsidies. Because it involves no financial supports to the community, many WASH agencies spend less on theirs WASH programmes as compared to the previous subsidy programmes.Kar's view is also consistent with Haq and Bode (2008) argument that CLTS implementation leads to less budgetary spending as compared to subsidy. Reports from their interviews revealed that Plan Bangladesh spent only 12000 dollars out of a budget of 60000 dollars which constitutes one fifth of their programme cost.

- Challenges of the CLTS approach

Funding challenges

According to Godfrey et al. (2010) the high cost of training facilitators and NLs for CLTS interventions is a major challenge.For example, it costs UNICEF in Mozambique an estimated 16,000 US dollars to send 5 people, including national government staff, to be trained as trainers outside of the country. It then costs another 95,000 dollars to train 74 trainers at the onset. This equates to about 1,300 dollars per trainer, excluding the costs for training community volunteers or NLs.The costs mentioned above cover airfares, hotel accommodation, per diems, consultants fees,logistics for hands-on training etc (Godfrey et al., 2010).

Again, Godfrey et al. (2010) identified inadequate funds for monitoring and evaluation (M&E) of triggered and ODF communities as a challenge to CLTS. Follow up visits to communities to monitor their progress towards ODF is very essential. However this requires funding. According to Plan Uganda (2011) sustaining support for triggered villages until they become ODF is difficult due to poor budgetary support at district level.

Even when communities have achieved ODF, monitoring and evaluation is still required particularly if there will be an award ceremony to recognized them. For example, the cost to evaluate 360 communities by UNICEF Mozambique in 2008 was estimated at 330,000 dollars; excluding salaries of UNICEF, WSP, NGOs and government staff that wereinvolved in the evaluation (Godfrey et al., 2010). Thus, funds for CLTS M&E is on the high side and this monies can’t be raised easily especially by governments.

Again, the release of funds for CLTS implementation at inappropriate or seasonal times is a major setback to CLTS. Funds for CLTS implementation are

sometimes released at periods that do not enhance community action after triggering. When funds are released during the farming season for example, it made it difficult to get CMs to fully participate in the triggering exercise or even participate in the post triggering stage.This situation was peculiar to some UNICEF CLTS communities in Ghana (Robert & Malaga, 2009).

Godfrey et al. (2010) notes inadequate funding for community mobilisation and triggering as a challenge. A key aspect of CLTS is community mobilization and triggering and these activities require necessary logistics. Facilitators would needfood, water, adequate transportation to get to the rural communities etc. All these require adequate funding (Godfrey et al., 2010).

Institutional challenges

Robert & Malaga (2009) noted inadequate technical capacity and number of staffs for CLTS scaling up as a drawback. A key factor to CLTS is the institutional framework needed to create an enabling environment to scale it up. This power lies within the decentralized structures of government. Local government institutions (DAs) are the only ones that have the potential to serve as a vehicle for scaling up sanitation since, by definition, they cover the entire country. Yet some local governments (DAs) may not have the capacity and sufficient number of staff required for CLTS scaling up (Godfrey et al., 2010). In Ghana, the EHAs involved in the CLTS process at the district and community are constrained by their limited numbers and skills(Robert & Malaga,2009).

Fragmented coordination and implementation efforts are also a problem to CLTS. According to Plan Uganda (2011), there is inadequate coordination among

sanitation actors in government, districts and NGOs/CBOs for the implementation and roll-out of CLTS. Robert & Malaga (2009) reinforces this argument by highlighting weak collaboration between DAs and sanitation actors as a problem to CLTS. According to them, the level of collaboration between DAs and implementing agencies seems very weak as DAs are not fully involved in CLTS projects. Sometimes actions of these DAs are at variance with CLTS objectives because they are less involved.For instance,some DAs in Ghana still construct latrines for communities just close to CLTS communities which subvert the potential of CLTS. Consequently, weak coordination threatens the success and sustainability of the CLTS approach(Robert & Malaga, 2009).

Another challenge observed by Kar (2003) is the weakness of the WATSAN committees formed at the community level. He attributed this weakness to financial, technological and facilitation incapacity of the WATSAN committees. A case study of Bangladesh revealed that after CLTS implementation, over 400 WATSAN committees were formed in some communities but none of them had the financial, technological or facilitation capacity to take the CLTS approach forward. Unless these committees are strengthened systematically to emerge as strong community organisations, the risk of losing the momentum will remain(Kar, 2003).

Another challenge has to do with the training organizations of CLTS whether government or NGO. The issue here is that training organisations are likely to have roots inteaching or learning methods which are anathema to the principles of CLTS. Facilitating CMs through the CLTS processes requires

having more trust in theknowledge and abilities of the community and less trust in the knowledge of‘teachers’. It requires facilitating others to reach their own conclusions, notpresenting conclusions to them. Making this change in methodology is muchharder for these organizations who have years of experience with traditional methods (Kar&Milward, 2011).

Inadequate follow-up to CLTS communities was identified as a challenge by Robert and Malaga (2009). According to them, there was inadequate follow-up to the communities by the EHAs to the extent that in some communities the EHAs did not undertake any follow-up visits after CLTS triggering.This argument by Robert & Malaga has been supported and extended by Ntow 2012. According to Ntow, inadequate follow-ups and communication with CMs after triggering is a major challenge to CLTS. Follow-up visits are needed to monitor the progress of the community toward ODF status and effective communication helps identify and solve emerging sanitation issues (Ntow, 2012).

Again, Roberts and Malaga (2009) identified inadequate technical support in facilitating latrine construction as a major challenge. Technical assistance from local artisan or CLTS implementers is an important ingredient to its success. This is because it helps CMs know the soil condition before digging out pits and constructing latrines.According to them, even though local artisan are trained before CLTS implementation, follow up support is weak and inconsistent. As a result CMs were reluctant to construct latrines because they were unsure about the stability of their pits if unlined,others were concerned about the smell emitted from these latrines so didn’t go ahead to construct latrines etc. In Tokpo village

(in the Greater Accra) for example, CMs had their pits caving. It was later,that the EHA advised them to dig a V–shape pit but by then, the rains had started and CMs were getting frustrated about their failures.According to Ntow (2012) because communities are not given the needed technical support, there are several uncompleted latrine particularly in the Kagara village in the Northern region.

Skills and capacity challenges

Quality facilitation skills is a key element to success of CLTS and many have argued that putting an intervention in the hands of one person (facilitator) can be damaging, especially if the Ft lacks the required skills. According to Kar&Milward (2011) poor facilitation skill is a major drawback to CLTS interventions, resulting in the communities still practicing OD after triggering. The quality of training given to the facilitators and the credibility of the trainer is an issue that needs consistent attention especially in Africa (Kar&Milward, 2011).

Subsidy challenges

Again the presence of subsidy programmes in some communities or nearby neighborhoods pose a problem to the success of the CLTS approach (Kar, 2008). CLTS is based on the premises that subsidies can slow and inhibit the development of sanitation and that communities have the capacity to invest in their own sanitation when given the right facilitation. Therefore, the presence of subsidy within a CLTS community or nearby communities creates a dependency situation, where large number of villagers will be waiting for subsidies before they improve their sanitation conditions, and thereby subverting CLTS.

According to Kar (2008), CLTS thrives in communities where there is no current, previous, nearby or national programme of hardware subsidies to households.

Sustainability challenges

CLTS thrive on the philosophy that they are community-led and people-centred, which also means that the decision on the type of latrine builtis left up to the household. The majority of the latrines that have been built as a result of CLTS approach have mainly been traditional latrines, which often do not meet the JMP criteria for improved latrines. Some of these latrines are considered temporal on the assumption that the households will upgrade to an improved latrine at some point. However, many households cannot afford to upgrade to an 'improved' latrine, which can vary in costs from $5 in some countries to more than $200 in others. The soil types also determine the type, cost, and sustainability of a latrine. Unstable soil conditions would require reinforcement without which the latrine will collapse (Godfrey et al., 2010).

Again, the non functional or non existing sanitation markets (Sanimarts) is a constraint to CLTS. The Sanimart which were established to help local people move up the sanitation ladder after CLTS triggering, are non functional.This is because there is no proper defined management structure for the Sanimart centres. They are being managed on a voluntary basis yet they require full time attention if they are to be effective. This presents questions about sustainability of the CLTS considering the manner in which Sanimarts are being run (Robert & Malaga, 2009).

Again, weak community leadership is noted by Roberts &Malaga (2009). There is usually weak community leadership in the areaswhere CLTS doesn't thrive. A good percentage of the chiefs in such areas are non residents and had delegated their responsibilities to caretakers who did not wield the same power as the chiefs.

Institutional arrangement for CLTS implementation in Ghana

There are several institutions that play various roles in Ghana's water and sanitation sector and these include Ministries, Agencies, NGOs, Development Partners, Local Government institutions and the Private sector. The subsequent sub-section highlights the roles played by these institutions in CLTS implementation.

National level Institutions and Functions

Ministry of Local Government and Rural Development and the Environmental Health and Sanitation Directorate

The Ministry of Local Government and Rural Development (MLGRD) is responsible for policy formulation and implementation in environmental sanitation in Ghana. It is the coordinating Ministry that supervises District Assemblies. It leads the process in implementing, monitoring and evaluation of the CLTS (MLGRD/ EHSD, 2012).

The Environmental Health and Sanitation Directorate (EHSD), under the MLGRD was elevated from the position of a unit to a directorate in 2006. The EHSD is the lead agency responsible for environmental sanitation and leads the process in implementing the CLTS. Specifically their functions include; (a) in

conjunction with the National Technical Working Group (NTWG) and other stakeholders, they ensure that the enabling environment is created for the implementation of the CLTS; (b) appointment and resourcing of CLTS focal persons at national, regional and district levels; (c) provide support and supervise the implementation of the CLTS at the national, regional and district levels; (d) monitoring and evaluation of the CLTS and disseminating lessons learnt to all stakeholders; (e) ensure that standards for environmental sanitation are observed in the implementation of CLTS; (f) secure sustainable financing for implementing the CLTS (MLGRD/ EHSD, 2012).

Ministry of Water, Works and Housing (MWRWH) and the Community Water and Sanitation Agency (CWSA)

The MWRWH is the lead government institution for water resource and water supply and accordingly, it is responsible for formulation of strategies, resource mobilization, coordination of budgets, monitoring and evaluation as well as facilitating inter-sectoral and subsector coordination. In the provision of water to rural and small towns, the ministry, through CWSA, provides support for water related sanitation. The MWRWH collaborate with MLGRD in the design and implementation of policies and programmes related to water related sanitation.

The CWSA operates under the ambit of the MWRWH.CWSA is the government agency mandated through an Act of Parliament (Act 564) to facilitate the provision of safe drinking water and related sanitation services to rural communities and small towns. It is charged with the coordinating and facilitating the implementation of the National Community Water and Sanitation Programme

(NCWSP) which includes the provision of water related sanitation. It facilitates the provision of water-related sanitation facilities and provides technical support to the DAs for the planning and execution of projects for disposing of faecal matter. CWSA collaborate with EHSD in the implementation of sanitation and hygiene promotion interventions.CWSA also collaborates with the Ministry of Education (MoE) and MLGRD in creating awareness in school children and rural communities towards improving their sanitation practices and thereby reducing the health hazards associated with poor hygiene (GoG &MLGRD, 2010).

CWSA ensures that CLTS and sanitation market strategies are mainstreamed into its policies and strategies for the rural and small town sanitation and hygiene promotion. The agency also provides relevant information to ESHD to enhance effective monitoring of the CLTS and contribute to disseminating the CLTS (MLGRD/ EHSD, 2012).

Development Partners and Non-governmental organisations

Funds for sanitation development largely come from Development Partners (DPs),Non-governmental organizations (NGOs) and their Partner Organizations. Key donors supporting sanitation include the Canadian International Development Agency (CIDA), the European Union (EU), Agence Francaise de Development (AFD), International Development Association (IDA),UK Department for International Development (DFID), the African Development Bank (AfDB), Danish International Development Agency (DANIDA) etc.

DPs and NGOs under the CLTS are expected to perform the following; (a) providing financial support; (b) providing capacity building for actors at the national, regional, district, sub-district levels; (c) sharing their collective experiences in the CLTS approach across district or regions and other countries that may be relevant to the CLTS; (d) acting within the framework of the environmental sanitation policy and strategies; (e) supporting advocacy activities for mainstreaming CLTS in all interventions in sanitation and hygiene promotion (MLGRD/ EHSD, 2012). Some DPs or NGOs implementing CLTS include UNICEF, PLAN Ghana, Water Aid Ghana, CWSA etc.

Regional level institutions and functions

Regional Water and Sanitation Teams

Regional Water and Sanitation Teams (RWSTs) consist of the regional offices of CWSA. They are expected to collaborate with the REHO in the implementation of water related sanitation and hygiene interventions. The team provides profession back-up services to DA staff in the design and implementation of CLTS intervention. RWSTs also monitor progress in the implementation of the CLTS and share information with ESHD and REHO (MLGRD/ EHSD, 2012).

District level institutions and functions

Metropolitan, Municipal and District Assemblies

The Metropolitan, Municipal and District Assemblies (MMDAs) shall perform the following functions; (a) review and mainstream CLTS into the DESSAP; (b) facilitate the formation of area CLTS teams; (c) develop the CLTS

plan and budget; (d) through the District Chief Executive, sign ODF contracts with the Regional minister; (e) ensure the signing of ODF contracts among the stakeholders in the district; (f) receive and vet application from communities, pre-select and prioritized CLTS intervention; (g) monitor and evaluate implementation of CLTS at the district level through the District Water and Sanitation Team (DWST) and District Environmental Health Unit (DEHU); (h) provide financial and other support for CLTS implementation, monitoring and evaluation; (i) acknowledge ODF status of communities; (j) facilitate access to sustainable financing for household latrine construction (MLGRD/ EHSD, 2012).

Community-Based Organisations and Non-governmental organisations

Community-based organizations (CBOs) and Non-governmental organisations (NGOs) shall assist in community mobilization and in CLTS intervention at the community level. They shall assist DAs, Area or Town Councils, Unit Committees and communities in planning, financing and development of household safe sanitation and hygiene infrastructure. They shall also provide information to DAs as an input to monitoring the implementation of the CLTS (MLGRD/ EHSD, 2012).

Private Sector

The Private Sector plays a crucial role by complementing those of the public sector and communities. Traditionally, its role has been the supply of sanitation goods and services even though there is great potential in improving efficiency and creating accessibility through partnership among communities and local private sector. Local consulting firms and local NGOs shall provide

expertise in CLTS facilitation and training of trainers. Latrine artisans shall be trained and equipped with relevant entrepreneurial skills to market and supply affordable household latrines (MLGRD/ EHSD, 2012).

Sub-District Level Institution and Functions

Community

The communities shall be responsible for establishing sanitation norms and ensure that individuals and households comply with these norms. Under the leadership of natural leaders, Community-Based Health Volunteers (CBHVs), Area Council or Unit committees and traditional authorities, the community shall be responsible for maintaining a clean, safe and pleasant environment and ensure that the community is ODF. The community shall also monitor its progress towards ODF and progress on the sanitation ladder (MLGRD/ EHSD, 2012).

Natural Leaders, Community-Based Health Volunteers, and Water and Sanitation Committees (WATSANs)

Natural Leaders (NLs), Community-Based Health Volunteers (CBHVs) and Water and Sanitation committee members (WATSANs) shall carry out community sanitation and hygiene education to create awareness of environmental sanitation issues. They shall also be responsible for facilitating access to affordable latrine options for households. They shall facilitate access to micro-credit and other locally available creative sources of financing for

household latrine construction. Thus, they shall monitor community progress towards ODF and progress on the sanitation ladder (MLGRD/ EHSD, 2012).

Again the WATSANs shall also; (a) register or indicate community demand to participate in the CLTS process; (b) help to mobilize CMs to attend triggering meetings; (c) support the triggering process and help to monitor post-triggering action; d) serve as models for post-triggering action (i.e.to build their own toilets); (e) help to establish by-laws to stop open defecation; (f) organise regular meetings with thecommunity to review post triggering action; (g) provide support and encouragement to Natural leaders (CLTS district manual, 2012).

Individual and Households

The ultimate goal of CLTS is to get individual and households to change their behaviour and attitude in sanitation and hygiene, especially excreta disposal and hand-washing with soap. Therefore, every individual or household shall perform the following functions; (a) hygienically disposing of all wastes including human excreta they generate in public areas by using authorized public toilet or solid waste container as appropriate; (b) hygienically dispose of human excreta they generate using appropriate technology options and stop open defecation; (c) participate in all communal environmental sanitation exercises organized by the community or its representatives.

Empirical review

A Case Study of Bangladesh (Kar,2003;Kar &Bongartz, 2006)

Before the introduction of CLTS in Bangladesh, open defecation, unhygienic behaviour and haphazard garbage disposal were common.Again, the

stench that emanated from years of accumulated human excreta in bamboo plantations and orchards was also a major health concern.The scenario in urban slums was even more devastating as people defecated in plastic bags and disposedthem on the streets and in open space. These practices, coupled with a total absence of hygienic behaviour, heavily contaminated drinking water sources and the environment as a whole. Consequently,diarrhoea, cholera, typhoid and a number of other enteric diseases was a regular phenomenon which took the form of epidemics killing thousands.

Also, access to latrines in Bangladesh was very low, especially in rural areas where access was less than 15 percent. Millions of dollars was being spent in the WASH sector by development agencies (such as UNICEF, World Bank WSP etc) through subsidies provided at different rates. However,after three decades of this effort it waseven difficult to find 100 villages free from OD.

In 1998, WaterAid contacted Dr. Kamal Kar to lead a participatory impact assessment of their ten-year old WASH programme being implemented by their partner Village Education Resource Centre (VERC). In 1999, this evaluation was conducted by Dr. Kar and four other members which eventually led to the discovery of CLTS.In March 2000, CLTS was first experienced in small villages in Rajshahi districtand ever since it has spread drastically to several villages and districts in Bangladesh. Some villages where CLTS was tried include Mosmoil,Raipara,Shankarpai etc. PRA techniques such as transect walk, mapping, collective calculation, flow diagrams and visual tools were used by team members from VERC and Water Aid during the CLTS process.

Outcome

Sanitation coverage before CLTS introduction in 2000 was 47 percent. After CLTS implementation it rose to 56 percent in 2010. Drastic change was witnessed in rural sanitation coverage as it rose from 7 percent to 55percent from 2000 to 2010 (UNICEF & WHO, 2012).

Before implementation of CLTS, it was hard to find even 100 villagers that were totally sanitized.After CLTS implementation, over 400 communities have been 100 percent sanitized in at least six districts. Also, in all of these villages Water and Sanitation (WATSAN) committees have been formed to monitor the change. Today, it'sdifficult to ascertain the exact number of villages who are ODF or very near to it. The approach has now spread all over the country including some of the Haor and Char districts and Unions.

Again, visitors within Bangladesh and around the world (such as Indonesia, China and Cambodia) visit CLTS intervention communities to learn from their success story and invited NLs who were part of the CLTS process back to their own communities to assist them achieve ODF (Kar &Bongartz, 2006). This regular flow of visitors has been an added incentive to keep the toilets, homes and streets clean because people can drop in at any time.

A major success was the explosion of innovative models of latrines. Because CLTS approach does not prescribe latrine models and encourages communities to develop their own ideas of latrines, this has led to the development of many innovative latrine models by the local people. These innovative models are low cost and suit local needs, soil and environmental

conditions. As a result there are over 20 latrine models in Bangladesh innovated by the locals and the cheapest one cost only 70 taka (1.27 USD).

Again, CLTS builds some kind of communal self helping spirit among community members in many villages in Bangladesh.According to Kar (2003),CLTS builds a sense of confidence amongst the Community in their ability to do things on their own. The collective action inspired by CLTS makes the local people realize the power within group work and the "determination to do for themselves". For instance,communities in Nilfamari districts started pre-primary schools on their own and they were also monitoring child health and family planning issues without external support. In Bajitpur Upozilla of Kishoregonj district, residents have moved onto embankment protection and maintenance, community nursery raising with plants that control flood erosion, village cleaning up exercises and even cleaning up neighbouring villages as well. There was also the granting of land by the better off's to the poor and landless people to construct latrines.

The implementation of CLTS also reduced community expenditure on medicine and treatment. The incidence of diarrhoea which was rampant especially during the rainy season, drastically reduced. Male labourers used to be sick for 1 to 2 weeks during the rainy season when they could earn the most money. They now save on health cost and also earn more money during this lucrative period.

Lastly, CLTS does not provideany external financial support to communities. This saved many WASH agencies (such as VERC, CARE, PLAN etc) a lot of money which previously have been used as subsidies. This savings

have been utilised instead in the spread and scaling up of the CLTS, and on training community catalyst. For instance, VERC has invested these savings in training NLs and village sanitation engineers, taking them to different regions, workshops and seminars in order to build their capacity to spread the CLTS.

A Case Study in Uganda (Plan Uganda, 2011)

The sanitation situation in Uganda is different from other developing nations as 30 percent of its rural population still do not have access to latrines and therefore continued to practice OD. The national sanitation coverage, according to the 2010 Joint Sector Review meetingstood at 70 percent while the rural coverage was only 49 percent.One major challenge in the WASH sector was insufficient funds allocated by the district assemblies for sanitation activities. Plan Uganda introduced CLTS in 2007. Plan Uganda implemented CLTS within communities in the districts of Lira, Kamuli, Tororo, and Luwero.

Before the implementing CLTS, sub-county authorities, VHTs, community leaders and community members were brought together. A baseline surveys was conducted to register the number of latrines and use in all the areas before CLTS triggering was done. Stakeholder meetings, followed by training of Health Assistants (HAs) and VHTs in CLTS processes was organised at the sub-county level. The CLTS triggering methodologies used were introduction and rapport building,walk of shame, community mapping, calculation of excrement and household health expenditure,discussion of faecal-oral contamination etc.

Outcome

Generally, the CLTS approach was found to be effective as indicated by survey respondents: out of 414 household respondents who had heard of CLTS, 75 percent regarded it as effective. Further, from October 2007 to December 2010, 56 villages in the Plan programme areas were declared ODF, and many others, have made substantial progress to ODF status. This achievement is worth celebrating because the subsidy approach couldn't attain such fit.

Secondly, the CLTS implementation produced significant improvement in hygiene behaviour. Across the four districts, positive changes were noted in critical hygiene behaviours and these were attributed by the respondents to the application of CLTS. Over 90 percent of the households in the study area reported practicing all the major hygiene practices, including covering food, washing raw food or fresh fruits, washing utensils and washing hands before eating. Also, 60.6 percent reported washing hands with soap.

Also, high latrine coverage was witnessed in all the four districts. In all the triggered villages, household latrine coverage stood at 92 percent on average. Promoting the use of locally available materials accelerated the spread of latrines at household level, because of its cost effectiveness and simplicity of construction. Also, there was an increased appreciation for privacy, prestige and the health benefits of belonging to an ODF community, including an increased use of latrines, cleaner homesteads, improved general sanitation, and a decline in incidence of diseases, especially diarrhoea in children.

Lastly, Plan's inventory of its CLTS activities in 22 countries, including Uganda, indicates a low average programme funding cost of about 1 USD per

person in the target population. This meant that Plan was spending less as compared to the subsidy approach it previously used.

A Case of Indonesia (Kar & Bongartz, 2006; Mukherjee & Shatifan, 2008)

Inevitably, WASH programs in Indonesia were unsustainable and could not be scaled up. Also, coverage rates for rural sanitation stagnated at around 38 percent for more than 20 years (i.e. 1985 to 2002). An estimated 37 million rural people needed to gain access to improved sanitation annually for ten years (2005-2015) in order to meet the MDG target for sanitation. With this coverage rate, Indonesia fell short of the MDG sanitation target by 10 percent - the equivalent of 25 million people.

Meanwhile, institutional and public awareness has been slow and poor sanitation was costing the nation dearly, both economically and socially. It was shocking to imagine that around three quarters of the households were discharging raw sewage into paddy fields, ponds, lakes, rivers or the sea and only a quarter are connected to septic tanks or improved pits. A recent study on found that economic losses from poor sanitation added up to 2.3 percent of the GDP, amounting to approximately US6.3 billion dollars.

On financing, the WASH sector needed USD 600 million annually to achieve the MDG target. Meanwhile government investment in the sector was only US27 million per annum for the past 30 years, and has gone mostly to urban infrastructure improvement despite the fact that majority of all unserved people

live in rural areas. It was at this point that the story of CLTS began in Indonesia.In the year 2005, a group of government policymakers brought the CLTSmovement into Indonesia after seeing its impact in Bangladesh and India. The Health Ministry decided to trial CLTS in six districts within the WSLIC-2(Water and Sanitation for Low Income Communities Phase 2)and the Community Water Services and Health (CWSH) project areas. The six districts were Sumbawa, Lumajang, Muaranim, Bogor, Samba and Jambi Muaro districts.

Outcome

The first community became free of ODF within two weeks of CLTS triggering, to the general astonishment of all. The first batch of 17 communities also, became ODF within 12 weeks. By then each triggered community had "infected" neighboring community with CLTS and the movement spread spontaneously, reaching more than 100 communities within 12 months. Of these, 72 communities became ODF. The encouraging results in Jambi and Sambas districts in the CWSH project prompted the Ministry of Health decision in September 2006 that CLTS should be adopted in all communities in districts.

At the same time, the results in WSLIC-2 were so promising that the Ministry decided to change the project's sanitation strategy mid-stream in order to allow CLTS to become the major vehicle to scale up rural sanitation. Also, there was great enthusiasm within communities to stop OD and ensure a cleaner environment. Community groups existed in every village in Indonesia, for example the highly motivated youth group *Karang Taruna* and women's groups of the Family Welfare Programme. These groups contributed substantially

towards spreading the message of CLTS. In addition, village chiefsand the section chief of Dinas Kesahatan werevery committed and keen. Great support and encouragement also came from the Head of District Administration.

CLTS implementation led to a sudden rise in community demand for sanitary hardware which paralysed the supply chain. On visiting a village in the Muaraenimdistrict, the chief of the Primary Health Centre reported that even though the village had committed to becoming ODF a month before, they had not been able to achieve this and that 19 households were still missing latrines. However, the reason for the delay in achieving total sanitation was due to the fact that latrine hardware had run out and it will take a few days to get in new stock.

Again, there were several innovations in latrine models which were affordable and developed by local people. They also designed locally appropriate toilet models to combat the problem of the rising water table. The concept of community cooperation or community-self help locally call“gotong royong” was very popular in rural Indonesia till today. CLTS instilled into the local people the spirit of communal self help and this has helped the community to build their toilets faster.

The fall in the number of patients after initiation of CLTS in the communities was remarkable and this was backed up by the local health centre’s record of diarrhoea patients, skin disease incidence and children with worm infestations. As a result, primary school attendance has also risen remarkably in the CLTS villages. Monthly household medical expensesdecreased from around Rp 100,000 to 25,000 (USD 10 to 2.5) per month. Lastly, villages are receiving

more visitors from towns as the visitors can now stay overnight without having to worry about going to the bush in the morning.

Lesson learnt from all the cases

Walk of shame, glass of water and "Open shit to open mouth" are effective tools that shouldn't be omitted in CLTS as they trigger disgust and shame adequately. However, walk of shame is the most effective because although CMs saw the filth and dirt every day, they were really awakened to the problem when they visited with the facilitators.

Again, facilitator expertise is critical to the success of CLTS. CLTS needs skilled facilitators who are friendly, flexible and innovative, and also synchronise their plans with communities' time-frame and abilities.Communities shouldn't be rushed through the CLTS processes. A relaxed, slow pace and tension-free facilitation process should be followed. Again, facilitators should work according to the needs of the community.

CLTS builds communal self helping spirit. Thus, the solidarity of the community and the idea of people helping each other is very important and should be encourage by the facilitator.Chiefs, religious leaders, teachers, and other village leaders must be involved and fully informed from the outset. They acted as champions of the CLTS movement and initiated local campaigns.

The involvement of men, women and children is crucial to the success of CLTS. Men were from the onset considered important because it is culturally their role to dig the family latrine and they make the final decision on sanitation

(Plan Uganda, 2011). Women and children are the major players in maintaining household hygiene. Children also acted as spokesperson and change agents as they pass on sanitation and hygiene messages to their parents, and to other children, both in and out of school. Also, involving the local government institutions (DAs), CBOs and local NGOs from the onset is important for sustainability. This will help in securing their support, ownership and the fast spread of the CLTS.

Additionally,prior planning, documentation, effective communication and continuous follow-up are key in attaining ODF communities. Once the villages are triggered, there should be follow-up visits to support the village to become ODF quickly and after the attainment of ODF, the follow-up should continue to help the village sustain this behaviour change.

One valuable lesson field staff learnt was that the presence of subsidy within a community or nearby communities is inimical to the success of CLTS. This killed local enthusiasm and created several communities waiting for subsidies before they invest in sanitation.

The success of CLTS requires institutional transformation from a top-down approach to a bottom-up. That is, a change from the culture of "we know" to "CMs can do it". This means that, WASH institutions must empower its field staff to come to the awareness that they are no longer involved in constructing free toilets but have started a much harder work of convincing and motivating people. Sucha change in institutional attitude and mindset is paramount for the future spread of CLTS.

Lastly, the need to derive a national policy on CLTS to guide its adoption and application is very important.The formulation of a CLTS policy would bolster national, district and sub-district level efforts.

CONCEPTUAL FRAMEWORK FOR CLTS

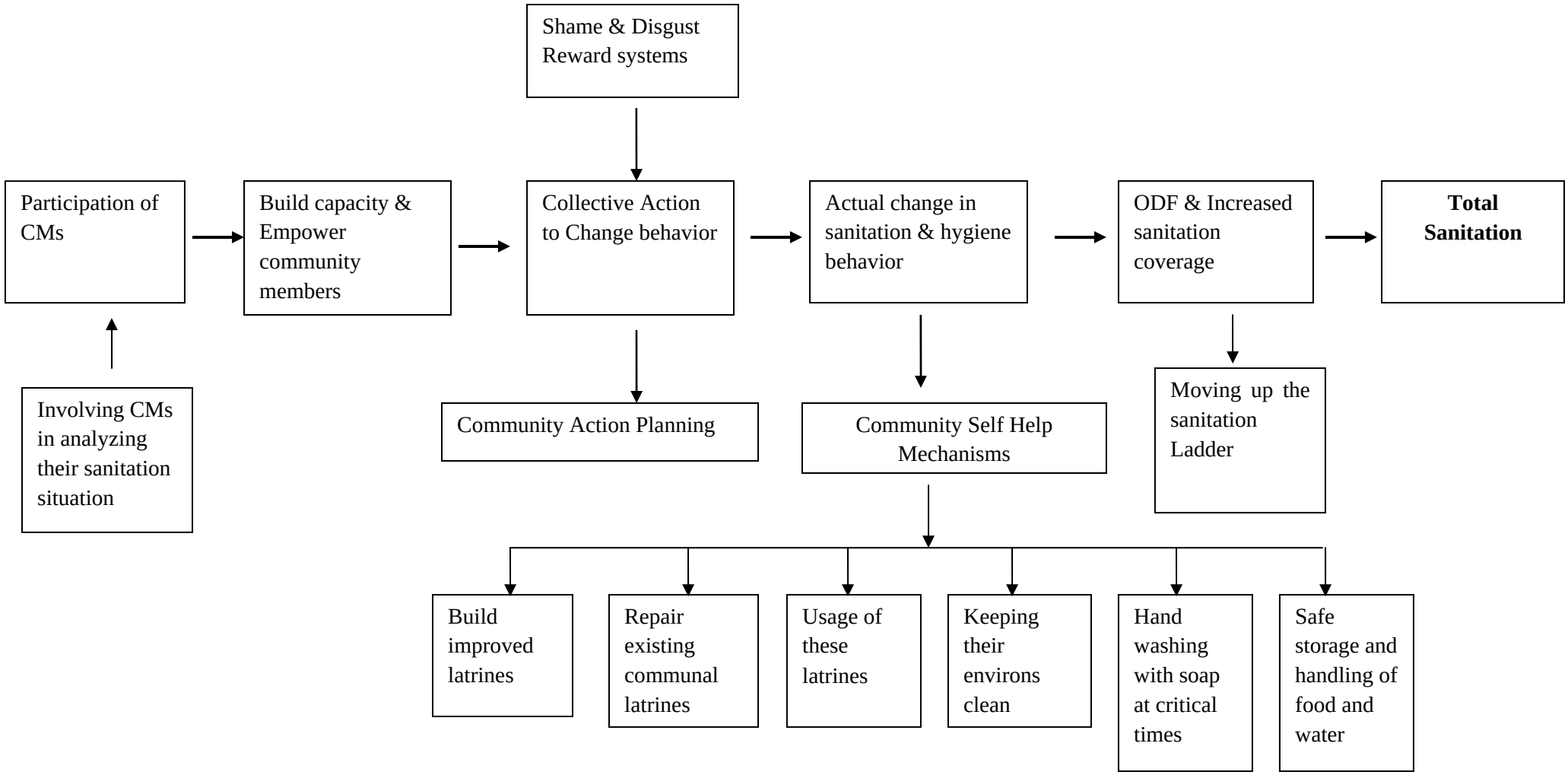


Fig. 2; CLTS conceptual framework

Source: Adapted fromKar (2003); Kar & Bongartz (2006);Kar & Chambers (2008);Kar &Pasteur (2005); Mehta & Movik (2011).

This conceptual framework (Figure 2) attempts to show the link among the key concepts of the study which includes participation, sanitation ladder etc. While reviewing the works of Kar (2003); Kar and Bongartz (2006);Kar and Chambers (2008);Kar and Pasteur (2005); and Mehta and Movik (2011), the researcher did not come across any conceptual framework by these authors. However, ideas presented in their work informed the design of this conceptual framework.

This Framework is designed with the concept of Community Participation as the core tenet with the eventual impact being the Total Sanitation of the Community. From Figure 2, the participation of community members (CMs) in analysing their sanitationsituation means that CMs are involved in the identification of their sanitation problems, decision making about the problem, planning and implementing solutions to the problems. This implies that, right from the onset of the CLTS program, CMs lead at every stage of the process, including problem identification, planning, decision-making, implementation etc. The assumption here is that when CMs make decisions on their own issues, they tend to be responsible and committed to it (Jentoft & Davis, 1992).

Participation builds the capacity of CMs and empowers them to collectively take action to change their behaviour. This collective action can come in a form of Community Action Planning where commitment is gotten from CMs and plans are made to eradicate the sanitation problems. Also, through reinforcement and psychological punishment, CMs can be incited to collectively take action to change their sanitation situation as well as sanitation behaviour.

Because human beings are hardwired to change their behaviour as a reaction to "shame and disgust" (Curtis, 2007), the CLTS approach employs shame and disgust as well as reward systems to incite CMs to collectively take action to change sanitation behaviour in order to solve their sanitation problems.

Consequently, this Collective Action will lead to Actual change in sanitation and hygiene behaviour. This Actual behaviour change is evidenced through CMs using their own Self Help Mechanism (i.e. their own collective efforts) to build latrines, repair existing communal latrines, clean their entire villages and dumpsites etc. Some community hygiene behaviour change may include hand washing with soap after defecating through installation of Hand washing facility; safe storage and handling of food and water; etc. Resultantly, this behaviour changes means that CMs will use the sanitation facilities and will own the sanitation program being implemented in the community as well as maintain whatever sanitation facility they built.

Additionally, this will lead to ODF community and increase in sanitation (household latrine) coverage. As the sanitation conditions get improved and OD is stopped, other CMs (especially affluent) will seek a more improve sanitation facilities and when this happens CMs will move up the sanitation ladder. Therefore, from Fig 2, it is anticipated that by encouraging the community to participate in the whole process, their capacity is built, they are empowered, eventually they change their behaviour and this makes them believe they own the sanitation facility and program. Consequently, CMs will use their toilets, coverage will increase and there will be a totally sanitized community.

CHAPTER THREE

METHODOLOGY

Introduction

The techniques employed and the ways they are applied in conducting any research can considerably affect the result of a study. Therefore, a judicious choice of methodology and how these methods are used can simplify and facilitate the collection and analysis of data (Kumekpor, 2002). This chapter thereforedeals with the research procedures employed for the study. It discusses the research design, the study area, the study population, the sampling and sampling procedure, the instruments for data collection, sources of data, data processing and analysis as well as the ethical considerations in conducting a scientific research.

Study area

The study area is the Central Region. The choice of the study area is because CLTS was initially piloted and still beingimplemented since 2007. The Central Regionoccupies an area of 9,826 square kilometres making it the third smallest in area in Ghana. It shares common boundaries with Western Region on the west, Ashanti and Eastern regions on the north, Greater Accra Region on the east and the Atlantic Ocean (Gulf of Guinea) on the south. The region was the first in the country to make contact with the Europeans. Its capital, Cape Coast, was also the capital of the Gold Coast until 1877, when the capital was moved to

Accra. Its population as at the 2010 population census is 1,593,823 with a growth rate of 2.1 per cent per annum.

The Region is the second most densely populated in the country, with a population density of 162 persons per square kilometre. There are about 32 major festivals in the region including the Aboakyer, Fetu afakye and Bakatue. The Region has undulating plains with isolated hills and occasional cliffs characterised by sandy beaches and marsh in certain areas and the hinterland, where the land rises between 250 metres and 300 metres above sea level.It also, lies within the dry equatorial zone and moist semi-equatorial zone.Annual rainfall ranges from 1,000mm along the coast to about 2000mm in the interior. The wettest months are May-June and September-October while the drier periods occur in December-February and a brief period in August. Mean monthly temperature ranges from 240C in the coolest month (August) to about 300C in the hottest months (March-April).

Along the coast can be found the coastal savannah with grassland and few trees while semi deciduous forest predominates the inland areas.The Region is endowed with rich natural resources such as gold, beryl and bauxite, diamond, tantalite, columbite,timber, quartz, muscovite, mica, granite, feldspar, rich fishing grounds along the coast, forests and rich arable land. The region is predominantly Akansmajority of whom are Fantes. Other ethnic groups are Guans,Ewes,Ga-Dangmes and Mole-Dagbons. Majority of people (about 80 percent) in the region are Christians with few being Muslims and traditional worshippers.

Agriculture (such cocoa, pineapple and grain farming, fishing) is the main economic activity most residents derive their income and employs more than two thirds of the work force in many districts. Other economic activities include manufacturing, wholesale / retail trading and petty trading. Sanitation coverage in the Region is 13.3 percent (Ghana Statistical Service, 2011). Also, water coverage is 85 percent (Ghana Demographic Health Survey, 2008). Some communities CLTS have been implemented are Aboano, Bando, Ekumfi-Edukuma, Kenyakor,Bawjiase, Oboyambo,Korado etc. The Region houses 20 districts including Twifo-Hemang-Lower Denkyira,Upper Denkyira,KomendaEdina/Eguafo/Abirem, Twifo Atti Morkwa, Agona-East districtsetc (www.ghanadistricts.com, retrieved on 24 January, 2014).

Research design

Research design is the set of logical steps which are taken to link the research question(s) to data collection, analysis and interpretation (Clarke &Dawson, 1999). Based on this, a mixed method research design was adopted for this study.The study design for this work was descriptive and an evaluative research.A descriptive research is explained as the collection of data foranswering research questions concerning the current status of the subject of the study.

The purpose of a descriptive research is to observe, collect aspects of a situation as it naturally occurs. Descriptive research is concerned with the conditions of relationships that exist, such as determining the nature of prevailing conditions, practices and attitudes; opinions that are held; processes that are going on; or trends that are developed (Best & Khan, 1998). Amedahe (2002) also

maintains that in descriptive research, the objective is accurate description of activities, objects, processes and persons.

Evaluative research, on the other hand is used to determine the impact of a social intervention. Evaluative research thus analyzes the impact of a particular program on a certain social problem theprogram is trying to solve (Clarke &Dawson, 1999).

Target population

The target population in research involves any set of people or events from which the sample is selected and to which the study results will be generalized (Neuman, 2011). The target population for this study comprised of households and the water and sanitation committee members (WATSAN) in the selected communities. Also, key informants from the CWSA, Plan Ghana, district water and sanitation team (DWST) were part of the target population.

Sample and sampling procedure

Using simple random sampling techniques, four communities were selected out of twenty-four CLTS communities in the Central region. They were selected by writing the names of all the communities on pieces of paper and randomly pick it out by hand from a basket. Only four communities were selected because most of the CLTS communities are remote and therefore very difficult to access and financial constraints of the researcher. These communities were Abodam, Aklomenu, Aboano and Oboyambo.These communities emanate from theTwifo Atti Morkwa (TAM) and Agona-East districts respectively.

Again, purposive sampling technique was employed to select WATSAN committee members from the four communities. This was because they were knowledgeable about CLTS and were also involved in the CLTS process at the community level. Eight WATSAN members (two from each community) were selected for the study. This was because most of the members had moved out from the community and due to time constraint, those readily available were sampled for the study.

The Key informants (from CWSA, Plan Ghana, and DWST) were also purposively selected. This was because these agencies fund and facilitate the implementation of CLTS approach at the community level. Lastly, the sampling frame consisting a list of 233 householdswas obtained from the District Assemblies (DAs) of the four communities. The sampling frame refers to the individuals or target groups of the whole population to be interviewed.

Table 1.1: Population and Sample Distribution of Households in the Communities by Districts

Districts	Communities	Number of Households	Percentage	Number of Households Sampled
TAM	Abodam	49	21.0	30
TAM	Aklomenu	74	31.7	46
Agona-East	Aboano	43	18.5	27
Agona-East	Oboyambo	67	28.8	42
Total		233	100	145

Source: Computed by Author (2014)

This list of 233 households formed the sample frame.The Krejcie and Morgan (1970) sample size determination table was used as the reference for deriving the sample size for this research. The table predicted a sample size of 145 for a population of 233. Therefore 145 out of the 233 households were used as the sample size for the study. Achieving a representative sample for the study was critical and therefore the selection of households was based on percentage allocation using the total number of households found in each community. Following this, a simple random technique was used to select the households.

Data collection approach

Interviewing and observations were employed as methods to collect data. Observations was used because it allowed the researcher to observe phenomenon or respondent behaviours as it occurs naturally in its own environment. Interviewing was deemed appropriate for this study because of two reasons. Firstly, most respondents were illiterates and may not understand most of the

items in the instrument. The second reason is that, interviewing provides a face to face interaction with respondents in which the researcher can read both verbal and non verbal signs (such as gestures, postures etc). This way, the researcher could deduce whether the respondent is giving the correct responses or otherwise.

The researcher interviewed any member of the household who was 18 years and above, and was part of the CLTS program. This is because they can better articulate and have a better understanding of the phenomenon being studied by the researcher. The researcher sent an official letter to the CLTS institutions, Unit committees and District Assemblies of the selected communities. The aim was to introduce the researcher and his research project to the institutions, community and DAs.

Again, before households were interviewed, the aims of the study and procedures for responding were explained to them. They were also assured of confidentiality. Usually, they were interviewed during the late hours of the day when they have returned from their farms or work and in the mornings on weekends. The researcher was assisted by five assistants who were purposely trained for this exercise. In addition, the assistants were monitored from time to time to ascertain that the correct processes were followed. Data was collected for 1 month, by which time all the communities were covered.

Research instruments

Data collection instruments used for the study were interview schedules, interview guides and observational checklist. The interview schedule was used to solicit information from households, the interview guide for the key informants

andWATSAN committee members. The interview schedule comprised of open and close ended questions. It was used because it was expected that most households were illiterate. The interview guide was considered appropriate for key informants because it helped get in-depth information about the CLTS approach.

Both interview schedule and interview guidehad four sections namely; sections A, B, C, and D. The first section solicited personal data such as age, marital status, educational level etc. The second section B obtained information about the process (stages) of CLTS with at least 20 items both open ended and close ended questions. The third section C obtained information about institutional arrangements of CLTS and was made up of at least 10 items both open ended and close ended questions. The last section D assessed the effectiveness of CLTS with 20 items.

Sources of data

Data from both primary and secondary sources were collected for the study. Primary data are information collected directly from the respondent for a specific purpose.According to Kumekpor (2002) secondary data are information that havebeen gathered previously for some purpose other than the current research project.Thus, with the secondary sources, the researcher gathered information fromexisting literature including CWSA written records and reports, UNICEF reports, Plan Ghana reports etc.

Data analysis

The quantitative data was carefully analysed usingStatistical Product and Services Solutions (SPSS) in line with the objectives of the study. Results were presented in simple frequencies, charts and percentages. Also the qualitative data was transcribed manually and analysed.

Ethical considerations

Ethical issues confront every researcher who embarks on a study involving humans as subjects. The ethical issues that were considered for this work included anonymity, confidentiality and deception. These issues were dealt with in the course of the data collection. Firstly, the researcher ensured that no participant was harmed through the revelation of information that could embarrass him or her. Secondly, the respondents were adequately educated about what was being investigated and this enhanced their chances of participation.

Furthermore, the respondents were assured of complete anonymity and confidentiality. This was achieved by concealing their true identities through the use of codes to represent them. Finally, respondents were convinced that the researcher is pursuing a genuine academic exercise devoid of any deception by showing them a letter from the school and the researcher‘s student‘s identity card. By the above methods the researcher ensured neutrality and objectivity which eventually helped the findings to be the representative views of the respondents.

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

This chapter deals with the results and discussion based on the data collected from the field. The results are discussed based on the objectives of the study. The main issues considered in this chapter include: demographic characteristics of the respondents; processes of CLTS implementation; institutional arrangements of CLTS implementation and the effectiveness of CLTS implementation. The results are presented using tables.

Demographic characteristic of the respondents

The background characteristic considered for this study was mainly sex. Respondents from the four selected communities for the study were made up of 89 males and 56 females representing 61.4 percent and 38.6 percent respectively.

Table 1: Sex distribution across the communities

Sex	Community									
	Aboano		Oboyambo		Aklomam		Abodam		Total	
	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent
Male	16	57.1	27	64.3	22	47.8	24	82.8	89	61.4
Female	12	42.9	15	35.7	24	52.2	5	17.2	56	38.6
Total	28	100.0	42	100.0	46	100.0	29	100.0	145	100.0

Source: Field data (2014).

From Table 1, majority (61.4%) of the respondents were males. This is because men play lead role in latrine construction and which confirms Plan Uganda (2011) assertion that men are considered important in CLTS implementation because it is their cultural role to dig the family latrine. However, there were more females (52.2%) than males in Aklomam.

The process of CLTS implementation

Thefirst objective of the study focused on the processes involved in the CLTS implementation. Data were gathered through interview schedule and interview guide from households, implementers (CWSA & PLAN), Water and sanitation committees (WATSANs) and the District water and sanitation teams (DWST).

The researcher probed whether the respondents had received subsidy to construct their latrines with the aim of stopping open defecation (OD) in their respective communities. All the respondents indicated that they had not received any subsidy or financial assistances to construct household latrines. However, all the respondents (100%) admitted that they had received another intervention to stop open defecation in their community.

Table 2: Name of intervention or program

Name	Frequency	Percent
CLTS (Total sanitation)	75	51.7
ODF Programme	22	15.2
Don't know	34	23.4
Forgotten	14	9.7
Total	145	100.0

Source: Field data (2014).

Respondents were asked to indicate the name of the intervention or program that they had benefitted from. A little over half (51.7%) of the respondents indicated the intervention as Total sanitation in other words CLTS. There were, however, some community members (CMs) who did not know (23.4%) or had forgotten (9.7%) the name of the intervention. From these responses given, though the respondents indicated different names, the appropriate name of the intervention is CLTS. It can be inferred that the CLTS approach had been implemented in all the four communities and that subsidies have never been employed.

The organisations responsible for the CLTS intervention (programme) as identified by CMs are shown in Table 3.

Table 3: Name of organisations implementing CLTS intervention

Name	Frequency	Percent
Plan	58	35.8
Pronet	24	14.8
District Assembly	34	21.0
DWST	11	6.8
Forgotten	2	1.2
Don't know	33	20.4
Total	162*	100.0

Source: Field data (2014). *Multiple responses

Plan Ghana was recognised (35.8%) to be responsible for the intervention as indicated by most responses. DWST was least (6.8%) known for the implementation of CLTS programme. Again, some responses showed that the respondents had forgotten (1.2%) or simply did not know (20.4%) the names of the organisations.

Pre-triggering stage of implementation

Based on the literature review, pre-triggering refers to community entry. This refers to how implementers establish rapport and mobilise CMs for triggering at later stage. The discussions are based on responses first from the households and followed by the implementers, DWST and WATSAN.

Table 4:Pre-triggering stage of implementation

Community entry activities	Frequency	Percent
They first contacted the chief, some religious and opinion leaders, elders etc in the community	99	24.8
The chief and elders then summoned a meeting to introduce them to the community members	96	24.0
They had some discussions with community members and explained their purpose in the community	96	24.0
A date was set between the implementers and community members for the triggering exercise later on	85	21.2
Announcement was made to CMs	16	4.0
Don't know	8	2.0
Total	400*	100.0

Source: Field data (2014). *Multiple responses

Table 4 shows how the pre-triggering stage of the CLTS intervention was done by the implementers from CMs perspectives. Ninety-nine respondents (24.8%) indicated that the implementers of the programme first contacted the chiefs with his elders, some religious and opinion leaders in the community before the programme was actually implemented. This confirms Kar and Chambers (2008) view that the chiefs and other important persons must be

contacted during the pre-triggering stage of CLTS. Again, some community members (4%) indicated that announcements were made to them. However, only a few (2%) did not have an idea of how the implementers entered their community.

Based on the in-depth interviews with theWATSANs and DWSTs, the study revealed that there were two main implementers namely PLAN Ghana and Community Water and Sanitation Agency (CWSA). PLAN Ghana covered Agona-East district and CWSA covered Twifo Atti Morkwa district (TAM). During the pre-triggering stage of implementation, the implementers used similar but slightly different approach.

PLAN Ghana first partnered a local non government organisation (LNGO) called Pronet, and with their assistance some criteria were used to select Oboyambo and Aboano. They both drew an itinerary and then entered the community. They first contacted the chief with his elders and opinion leaders and explained their purpose of being in their community. Upon several meetings between the implementers, the chief, elders and opinion leaders, the chief sent an announcement through the linguist to summon the CMs to meet the implementers.

On the meeting day, PLAN Ghana and Pronet introduced themselves to the CMs and explained that they were there to assist them improve their sanitation problems. Later, a date was set to meet the entire community for the triggering exercise. Afterwards, PLAN Ghana and Pronet created awareness of the CLTS approach through advertising campaigns so that the entire community will know

about it. The implementers also conducted a baseline survey to collect data on the water and sanitation situation before the intervention.

On the other hand, CWSA initially contacted the DWST of Twifo Atti Morkwa district to select communities who were committed and had a sense of belongingness. These communities were Aklomam and Abodom. CWSA also partnered a LNGO called Integrated Community Development (ICD) and together, they moved into the community with lead assistance from the DWST. They met with the chief and elders and made known their intentions for the community on a few meetings. Afterwards, the chief sent an announcement to summon his people to meet the implementers on a taboo day. On that day, CWSA and ICD introduced themselves, explained their purpose and a later date was agreed with CMs to meet for triggering. The implementers were later given a place to stay in the two communities. ICD conducted a baseline survey about the community's sanitation situation before triggering was done.

The DWST and the WATSANs espoused the same views about how the implementers conducted the pre-triggering stage and further added that this stage involved several days of travelling to and fro to the communities.

From the discussions above, there were some similarities and differences adopted by the two main implementers (PLAN & CWSA). These similarities were partnership with LNGOs and the use of baseline surveys. The differences observed were that while CWSA did community entry through the district, PLAN did not. This was because PLAN was already implementing other projects in the district. Again, PLAN massively advertised CLTS in its communities but CWSA

did not. Lastly, it can be observed that community's view on the pre-triggering stage of CLTS is consistent with what the implementers said.

Triggering stage of implementation

This stage concerns the use of CLTS process tools to stimulate a sense of disgust and shame among community members towards open defecation. It also concerns plans to stop OD and sanitise the environment.

Table 5: CLTS process toolsused in Triggering stage of implementation

CLTS process tools	Frequency	Percent
Transect walk	135	39.7
Defecation mapping	112	32.9
Open shit to open mouth	41	12.1
Flow-diagram	52	15.3
Total	340*	100.0

Source: Field data (2014). *Multiple responses

Table 5 displays the CLTS process tools used during the Triggering stage of the implementation. Among the processes used by the implementers, transect walk was identified by the respondents (39.7%) as the commonest activity. The least mentioned processes were open shit to open mouth procedure (12.1%) and flow diagram (15.3%).

Table 6 shows the Action plans that were taken by the community during Triggering stage of implementation. Out of the multiple responses, 21.6 percent of the responses pointed out that the community agreed to stop open defecation immediately. Again, the community decided to start building household latrine

(19.3%). Selecting sanitation committee was the least action plan taken representing 1.5 percent. This findings is line with the conceptual framework (Figure 2) which shows that the CLTS approach leads to community action planning. However, 7.2 percents of respondents had forgotten what transpired during community's action planning.

Table 6: Action Plans of community members in Triggering stage

Community Action Plans	Frequency	Percent
Common dump site	49	12.6
Building latrines	75	19.3
Stop OD immediately	84	21.6
Enact sanitation laws	37	9.5
Regular weeding	16	4.3
Tidy community	43	11.1
Clear weeds and faeces in backyard	23	5.9
Youth dig pits for elderly	7	1.8
Forgotten	28	7.2
Select sanitation committee	6	1.5
Dig pits immediately	20	5.2
Total	388*	100.0

Source: Field data (2014). *Multiple responses

Based on the in-depth interviews with the implementers, WASTANs and DWST, the study showed that triggering of CMs was mainly done by the LNGOs with the support of PLAN and CWSA staffs in their respective communities.

Pronet and PLAN did the triggering in Oboyambo and Aboano (Agona-East district) while ICD and CWSA did theirs in Aklomam and Abodom (Twifo Atti Morkwa district). Different CLTS process tools were used to trigger the communities. In Oboyambo and Aboano, Pronet used six tools namely defecation mapping, shit calculation, transect walk, open shit to open mouth procedure, glass of water and flow diagrams. However, in Aklomam and Abodom four tools were used namely transect walk, defecation mapping, open shit to open mouth procedure (OSTOM) and flow diagram.

The implementers explained that during the transect walk, CMs were taken around places where OD was practiced, weedy areas, dumpsites etc for them to analyse the negative consequences of these insanitary behaviours. Also, defecation mapping involved drawing of community map by CMs highlighting schools, clinics, houses, markets, community square, household latrines, OD sites etc on the ground. This confirms Roberts and Malaga's (2009) view that defecation mapping concerns drawing the map of the community on the ground and showing where people live and defecate.

There were slight variations in the open shit to open mouth (OSTOM) procedure used by the implementers. During the OSTOM procedure in Aklomam and Abodom, CMs were made to see how flies contaminate food with excrement through picture demonstrations while prototype excrement and real food demonstrations were used in Oboyambo and Aboano. Again, the implementers indicated that with the flow diagram procedure CMs were asked to identify agents that bring feaces into the home and constructed their transmission route

diagrammatically. After triggering, community action plans were agreed upon by CMs. Some action plans of Oboyambo and Aboano were: decision to stop OD immediately; start digging pits and build household latrines (HHLs); and enact sanitation laws. Similarly, building of latrines, having a common dumpsite and stopping OD were some action plans of Aklomam and Abodom.

The views of the DWSTs in Agona-East and Twifo Atti Morkwa (TAM) concerning the Triggering stage were the same as the implementers. However, an Environmental health officer (EHO) (a member of DWST in TAM) indicated that CWSA/ICD introduced the concept of sanitation ladder during this stage. He said *community members were shown prototype of several different latrine models and a pilot demonstrated VIP was left in Aklomam*.

The WATSANs views were also similar to the implementers but the WATSANs in Aklomam and Abodom mentioned that only four (such as transect walk, defecation mapping, open shit to open mouth procedure and flow diagram) toolswere used to trigger their communities.

Challenges in the CLTS process tools

Table 7 displays some challenges in the CLTS processes identified by community members.

Table 7: Challengesof CLTS process tool used by the implementers

Challenges of CLTS process tools	Frequency	Percent
Offensive language used	7	12.5
Time consuming	21	37.5
Use of word “shit” was disgusting	20	35.7
Not informed early	2	3.6
Time of programme interferes with farming activities	4	7.1
Lack of videos for demonstrations	2	3.6
Total	56*	100.0

Source: Field data (2014) * Multiple responses

Not all the respondents found any problem with the CLTS process tools used by the implementers. However,there were those who pointed out that the process lacked video demonstrations and community members were not informed early to partake in the process. These corresponded to 3.6 percent each of the multiple responses.

The in-depth interview revealed that only PLAN Ghana and the DWST in Twifo Atti Markaw (TAM) had a problem with the processes. PLAN reported that

the CLTS process (such as transect walk, mapping etc) used during triggering was time consuming. Similarly, the DWST in TAM mentioned that during transect walk some of the program staffs accidentally stepped on feaces and also faced agitations from the youth of the community.

Table 8 shows suggestions made by community members on how the CLTS processes can be improved.

Table 8: Suggested solutions to improve CLTS process tools

Suggested solutions to CLTS process	Frequency	Percent
Implementers should learn the culture in order to use appropriate language	6	3.6
Speed-up CLTS processes	22	13.3
Polite word to replace "shit" must be used	17	10.2
Film shows on sanitation to support CLTS processes	9	5.5
Announcements made early to CMs	2	1.2
Triggering exercise done again	4	2.4
Triggering exercise done on weekends	5	3.0
No suggestion	101	60.8
Total	166*	100.0

Source: Field data (2014) *Multiple responses

From the data, most of the respondents (60.8%) where satisfied with the CLTS processes and did not suggest any solution. However, those who offered

solutions suggested that the processes should be sped up (13.3%) and announcements be made earlier to community members (1.2%).

Summary of Findings

Data from the interviews revealed that the triggering stage was handled mainly by the LNGOs (Pronet & ICD) with the support of the main implementers (PLAN & CWSA) in their respective communities. It was observed that different CLTS tools where used in both districts to trigger the communities. One contravening revelation from the study was that while respondents in Oboyambo and Aboano indicated that only four CLTS process tools were used totrigger their communities, the implementers said they used six process tools.

Again, the study noted variations in the sequence in which the process tools were used. For instance, in Aklomam and Abodom, transect walk preceded defecation mapping, OSTOM procedure and flow-diagram whereas in Oboyambo and Aboano, defecation mapping preceded shit calculation, then transect walk, OSTOM procedure, glass of water and flow-diagram. This sequence adopted by the implementers in Oboyambo and Aboano runs contrary to what literature says about the sequence in which the process tools should be used. According to Kar (2003) (inventor of CLTS), it should be done in the following sequence: transect walk,defecation mapping, shit calculation, medical expense calculation, OSTOM procedure, glass of water and flow-diagram.

Also there were variations in how the open shit to open mouth procedure was used.Picture demonstrations was used by CWSA/ICD while prototype

excrement and real food demonstrations was used by PLAN/Pronet. It was also found that the implementers did not use all the process tools. In an interview with Plan's CLTS coordinator, to find out why, he lamented that *Oboyambo and Aboano's response to triggering was a promising flame, so we didn't see the need to continue with the other process tools*. This meant that majority of people in the two communities had realised OD was bad and wanted to take action to curb it. A similar reason was given by CWSA/ICD in Aklomam and Abodom. Lastly, all the four communities had similar action plans to stop OD. Thus, CMs views in Agona-East concerning the process tools used in the triggering stage was not consistent with the implementers'. While those in Twifo Atti Morkwa district were consistent with their implementer views.

Post triggering stage

This stage concerns follow up visit to communities to monitor their progress toward achieving ODF and a clean environment. The discussions focus on the activities that transpired during the Post triggering stage of the intervention.

On the issue of whether the implementers embarked on follow-up visits to the communities during the Post triggering stage, all the respondents (100%) pointed out that there were follow-up visits. From these responses, it can be inferred that the implementers embarked on follow-up activities during the Post triggering stage of CLTS in the four communities.

The Table 9 shows activities that were undertaken during the follow-up visits in the Post-triggering stage. Among the follow up activities undertaken,

majority (21.3%) of respondents were of the view that the implementers encouraged and motivated the Water and Sanitation committee members and natural leaders to work hard. This confirms Meeks (2012) view that training, meeting, and encouraging the WATSANs are some of the activities of follow-ups visits.

Again, community members mentioned that the implementers came to check whether the practice of open defecation had stopped (14.6%) and whether improved household latrine types are being constructed in the community (8.1%). The least (1.1%) follow-up activity was to check whether laws have been enacted and been enforced by the community.

Table 9: Follow-ups activities in Post triggering stage of implementation

Follow-ups activities	Frequency	Percent
Met with the WATSANs	103	19.0
Encouraged and motivated WATSANs and natural leaders to work hard	115	21.3
LinkedWATSANsand CMs with local sanitation hardware providers	12	2.2
Encouraged the affluent families to help the poor through donations, land etc	11	2.0
Training of WATSANs and artisans	40	7.4
Credited CMs with building materials	35	6.5
Check whether OD has stopped	79	14.6
Check on regular weeding in the community	9	1.7
Check whether community is clean	34	6.3
Check whether community dumpsite was well managed	17	3.1
Donate sanitation tools	36	6.7
Check whether improved HHL has been built	44	8.1
Check whether laws have been enacted and enforced	6	1.1

Total	541*	100.0

Source: Field data (2014). *Multiple responses

Moving on to find out whether technical assistance on latrine construction were given to community members during the follow up visits, almost all the respondents (97.2%) responded in the affirmative while only 4 representing 2.8 percent said no. Table 10 illustrates the exact technical support given to community members. Less than a third (27%) of the respondents indicated that they were taught how to dig their pits in the appropriate shape.

Table 10: Technical support to community members in Post-triggering stage

Technical advice received	Frequency	Percent
How to construct the superstructure	54	11.4
How to dig out pits and which shape is appropriate	127	27.0
Which materials to use	95	20.2
Where to buy the materials	38	8.1
Soil conditions of the community	37	7.9
Lining of the pits	70	14.9
How to build and place slabs	22	4.7
How to build squat holes	23	4.9
Not applicable	4	.9
Total	470*	100.0

Source: Field data (2014). *Multiple responses

About five percent indicated that they were taught how to build their slabs and place it on their pits (in Table 10). A few (0.9%) of the respondents did not

comment on this issue because they had earlier on indicated that they did not receive any technical assistance.

Based on the in-depth interviews, the following are discussed concerning the post triggering stage:

During this stage, PLAN, Pronet and DWST members were initially involved in follow-up visits to Oboyambo and Aboano. PLAN visited the communities intermittently and also collected reports from Pronet about follow-up activities in the community. For the first 6 months, staffs of Pronet and EHOs from the DWST were heavily involved in follow-up activities in the community. After six months, PLAN and Pronet handed over to DWST to continue with follow-ups. Some follow up activities were to check whether improved latrine types have been built, community have a common dumpsite, and weeds have been cleared. Technical assistance were given on how to built HHLs as well.

On the other hand, staff of CWSA together with ICD and DWST started follow-ups in Aklomam and Abodom. After about 7 months, CWSA and ICD handed over to the DWST of TAM to continue with follow up visits. During this stage, the implementers offered technical support to CMs, artisan and the WATSANs. They offered encouragement to the WATSANs, donated sanitation tools such as cutlass, wellington boots, wheel barrow, signboards with ODF inscription on them.

The DWST of Agona-East admitted that they together with the implementers followed up to monitor progress in the communities. Follow-up activities included: given technical advice on how pits should be dug; check

whether OD has being stopped and CMs were building HHLs; check whether laws have been enacted and been enforced. The DWST gave the community building materials (such as iron rods, cements, roofing sheets etc) on credit to build their latrines. Similarly, the DWST of TAM admitted that follow-ups were done and similar follow-up activities occurred in their communities.

Lastly, WASTANs in the four communities pointed out that they were given training on latrine construction and hygiene education by the implementers during this stage. According to them, they met the implementers and were encouraged to work hard. The implementers checked whether OD had stopped and weeds cleared and artisans were also given training.

Summary of Findings

It was observed that the LNGOs and the DWSTs took full responsibility of follow-up visit to communities where as the main implementers (PLAN & CWSA) only came occasionally. After a minimum of 6 months, the main implementers and the LNGOs handed over the follow-ups to the DWST members.

Institutional arrangements of CLTS implementation

Having examined the processes of CLTS implementation, the next section discusses the institutional arrangements of CLTS implementation.

On the issue concerning awareness about sanitation committees, majority (85.5%) of the community members were aware of the existence of sanitation committee in their community where as only a few (14.5%) were not aware. In addition, most (59.3%) community members called them WATSAN committee

while some members had forgotten (7.6%) or simply did not know (15.3%) the name of the sanitation committee (Table 11).

Table 11: Nameof Sanitation committee

Name of sanitation committee	Frequency	Percent
WATSANs	86	59.3
Don't know	22	15.3
Forgotten	11	7.6
Plan committee	1	.7
Unit committee	4	2.8
Not applicable	21	14.3
Total	145	100.0

Source: Field data (2014)

The roles played by the sanitation committee as pointed out by community members were shown in Table 12. Out of the multiple responses gathered, 102 respondents (19.1%) indicated that the sanitation committee educated the community on sanitation issues while a few (1.3%) indicated enforcement of sanitation bye-laws. Nevertheless, 4.9 percent did not know what the roles of the sanitation committee are.

Table 12: Roles played by sanitation committee in CLTS implementation

Roles of Sanitation committee	Frequency	Percent
Create awareness by educating CMs on sanitation issues	102	19.1
Assist CMs to have access to affordable latrine options	49	9.2
Facilitate locally available ways to acquire funds to construct latrines	46	8.6
Help CMs achieve ODF community	68	12.8
Monitor progress on the sanitation ladder	17	3.3
Help mobilize CMs to attend triggering meetings	70	13.1
Assist in the triggering process/exercise	46	8.6
Assist the community in the establishment of sanitation bye-laws	63	11.8
Encourage and support community volunteers or natural leaders	29	5.4
Ensure clean environment	10	1.9
Enforcing sanitation bye-laws	7	1.3

Don't know	26	4.9
Total	537*	100.0

Source: Field data (2014) *Multiple responses

Concerning the awareness about the roles played by the entire community in the CLTS intervention, majority (91%) of the respondents were aware of the role of their community. Only few (9%) were not aware of the role of their community. This suggests that the community as an entity knew the role they had to play in the CLTS intervention. Table 13 illustrates the role played by the community in CLTS program.

Table 13: Roles played by the community in CLTS implementation

Roles of the community	Frequency	Percent
Establishment of sanitation norms or bye laws	114	24.1
Enforcement of sanitation norms or bye laws	121	25.5
Ensuring a visibly clean, safe and pleasant environment	108	22.8
Ensuring an ODF community	95	20.0
Monitoring progress towards achievement of ODF status	21	4.5
Community collaborates with NGOs/implementers for credit		

support	2	.4
Not applicable	13	2.7
Total	474*	100.0

Source: Field data (2014) *Multiple responses

More than a quarter (25.5%) of the responses showed that the community enforces the sanitation bye-laws. Few (0.4%) responses however indicated that the community collaborates with NGOs or implementers for credit support. About three percent of the respondents (2.7%) could not respond to the issues because they had earlier indicated that they were not aware of the role of the community.

Concerning the role individual households have to play in CLTS, over ninety percent of the respondents pointed out that they knew the role they had to play as an householder whiles 1.4 percent (6 persons) did not know .

Table 14: Roles played by individual householdsin CLTS implementation

Role of Households	Frequency	Percent
Stopping people from practicing Open defecation	133	28.9
Constructing and using improved household toilets with hand washing facility	107	23.3
Hygienically disposing of all waste (including excreta) you generated in public areas through the use of public toilets or solid containers	65	14.1
Hygienically disposing of excreta through the use of appropriate sanitation facility	56	12.2
Ensuring clean households	40	8.7
Weeding backyards and surroundings	9	2.0
Arresting and reporting open defecators and San. Offenders	37	8.0
Practice personal hygiene	7	1.5
Not applicable	6	1.3
Total	460*	100.0

Source: Field data (2014). *Multiple responses

As shown in Table 14, out of the 460 multiple responses gathered, a little over a quarter (28.9%) indicated that their role was to stop people from practicing open defecation. Others mentioned ensuring their household are clean (8.7%), and arresting and reporting open defecators and sanitation offenders to chief for appropriate sanctions to be meted out. A few (1.3%) of the respondents did not comment on their roles because they had no idea of it.

The in-depth interviews showed that the institutions involved were Plan Ghana, CWSA, two LNGOs (Pronet & Integrated Community Development), DWSTs and the WATSANs. The DWST is comprised of an engineer, community development officer (CDO), and environmental health officers or assistances (EHOs/EHAs). The WATSAN committee is a 7 member team made up of a chairman, secretary, treasurer, organiser, hygiene educator and two ordinary members. Women form the greater part of this team.

Institutional roles

From the interviews collated, all the institutions knew what their roles are in CLTS implementation. PLAN indicated that they were the main implementers of CLTS; they provided funding and other resources, they entered the communities with support from the LNGOs; they followed up to monitor the community with help from LNGOs and DWST; they monitored the activities of the LNGO; and they supported the EHAs in monitoring and verification of the communities during post triggering among others. CWSA on the other hand, indicated that they were the lead implementer in TAM; they provided funding for

the program; followed-up to communities; and monitored the activities of the LNGOs and DWST etc.

According to DWSTs their role were to ensure successful implementation of CLTS; offered technical support; led the implementers to meet with chief and people during pre-triggering; supervise the activities of its members (i.e. EHAs/EHOs and CDOs); supervise the activities of WATSANs and give them the necessary support; assist community identify WASH needs; embark on follow-up visits; monitor progress on the sanitation ladder; assist in the formulation of WATSANs and Community action plans.

The WATSANs pointed out that their roles were facilitating access to credit or loans so that CMs can build latrines; ensure community is clean through enforcement of sanitation laws; create awareness on sanitation through education; assist in mobilising CMs for triggering; facilitate the use of communal labour to clean community; ensure community is ODF etc.

Conclusively, these institutional roles as identified by the implementers, DWSTs and WATSANs is consistent with the roles expected of them as stipulated in the CLTS manual (2012).

Institutional benefits

At the district level, the CLTS implementers developed the capacity and skills of the DWST members through training workshops and seminars. According to a community development officer (CDO) in Agona-East, *through the workshops we attended, this program has built our knowledge and skills in water, sanitation and hygiene issues and we have been empowered now to*

implement any sanitation project in the district including CLTS approach. Also, EHO at TAM lamented that they have learnt how to interact better with the chiefs, opinion leaders and elders, and the knowledge acquired has boosted their confidence. According to him, they can by their ownselves implement CLTS; *we know a lot now, we can do transect walk,shit calculation, mapping etc by ourselves. We can implement CLTS by ourselves.*

Secondly, the CLTS implementaion created a better cordial relationship among the DWST, WATSANs, implementer and LNGOs than before. The intervention created a friendly environment because of its participatory nature which actively involved institutions from the district level to the community level. In an interview with the EHOs at TAM, he said, *we are all friends now, we share ideas,information and offer support to each other.....the NGOs involve us in their activities, thanks to CLTS.* Thus, CLTS improved the interrelations among sanitation actors in the Agona-East and TAM districts.

Again, CLTS became an entry point for other development programs. The implementation of CLTS facilitated smooth entry into the communities for other project such as delivery of educational infatsructures and services. Before it was difficult for EHAs to enter the communities as CMs did not corporate with them but after CLTS, it became easier. An EHA asserted that *before it was difficult for us to enter these communities for development activities, we faced a lot of agitations but after CLTS it's easier now.*

In addition, it created an opportunity for EHOs, CDOs and WATSANs members to meet people from diverse cultures and careers. For example, a

delegation from USAID and DANIDA came to the TAM district to witness the success stories of Aklomam and Abodam who had achieved ODF status. They first met the DWSTs for discussions, and were later sent to the CLTS communities. The districts are the first point of call when any organisation wants to visits theseCLTS communities.

Finally, some members of the DWST travel to other regions for CLTS programs sponsored by the implementing agency or NGOs. This has made them relevant and opened job opportunities for them elsewhere.

Institutional challenges of CLTS

Institutional challenges of DWSTs at the District level

The DWSTs indicated inadequate financial motivation for the WATSAN committee members and as a result many of them had left the committee to seek greener pastures in urban centres. In an interview with the EHO, a DWST member in TAM he laments;

> *WATSANs were the problem [...]It was very difficult to meet them when we go to the communities for monitoring. This was because the WATSANs were not paid for their services, so they move to the cities to seek economic opportunities. As a result, some members have opted out. We heavily rely on them because they are the advocates of CLTS when we are not around; they assist us during follow-up visits and provide us with updates of community's water and sanitation situation.*

Another issue was inadequate support of DWSTs by the District Assemblies. According to EHAs in the TAM district, the Assembly does not support them financially because sanitation issues are not of paramount interest to the district. This finding was reaffirmed by another EHO in Agona-East, she lamented that *the heads in the district such as the District Chief Executive and District Coordinating Director have not prioritised sanitation and as a result they do not see the relevance of our work.* Consequently, staffs in other district departments are favoured more than the DWST members as they are given funds for other programs (such as education, health, agric etc.) other than sanitation.

Thirdly, the limited number of staffs and capacity of DWST office was pointed out as a constraint. According to a community development officer in Agona-East, w*e have very few EHOs / EHAs and community development officers for field work and some even lack the knowledge and skills needed for the job*. This revelation is consistent with Roberts and Malaga (2009) views that the limited number and skills of EHAs at the DAs constraints CLTS.

Again, the DWSTs expressed concern about the inadequate logistical support (such as fuel) at the district for monitoring or follow-up activities to CLTS communities. Fuels for vehicle and motor bikes were not readily available due to funding problems making monitoring impossible. In addition, vehicles donated to the districts by the implementers/NGOs for CLTS and WASH activities wereused for other purposes. They were used for errands and other program activities. They were also personalised by the district heads making it

unavailable most times. Also, motorbikes used for CLTS monitoring by EHAs were not serviced frequently and as a result some have broken down.

Furthermore, funds channelled to the DAs account for CLTS activities created a major hurdle for the DWSTs. As noted by an EHO in TAM; *CWSA transfers funds directly into the DAs account for CLTS activities or monitoring, and this creates problems for the DWST office. This is because we never get to know the exact amount transferred and parts of these monies areused for other purposes by the Assembly. Even when the funds have been transferred, they tell us there is no money*. Additionally, per diems given to EHAs/EHOs for CLTS activities and workshops were not paid on time and sometimes not paid at all by the assembly.

The inadequacy of material support at the DAs for CLTS or WASH activities is disturbing. Stationeries (such as pens,pencils,papers,etc) for office use and training programs (such as workshops and seminars) at the DWST office is often inadequate. Office equipments such as computers, printers, scanners have either broken down for years or non-existent in some districts. Also, there are no digital cameras for the DWSTs to take pictures of WASH situations when they go for monitoring and for the purposes of reporting and documentations. Again, the DWST office has no protective clothing(raincoats,boots) for its officers and this inhibits performance of their duty during raining season as they mostly used motorbikes for follow-ups to the intervention communities.For example, during rainfalls, EHAsclothings are wet by the rainsand many of them will not want to go for monitoring during this season.

Another, challenge is the absence of risk allowance for EHAs / EHOs and community development officers. Environmental health assistants andcommunity development officers risk their lives through frequent travels to different communities for WASH activities yet they are not given any risk allowance. This demotivates them and kills their morale. Consequently they will not sacrifice for their job.

Institutional challenges of WATSANs at the community level

Firstly, three out of eight WATSAN members interviewed indicated that there was weak coordination between the WATSANs and DWST in Twifo Atti Morkwa district. During and after implementation, information flow between them was poor and as a result EHAs frequently met the absence of the WATSANs when they went for monitoring. This situation was particularly witnessed in Abodam. The WATSAN chairman in Abodam argues that any time they sent a request or problem to the district, it takes a longer time for them to respond and sometimes they have to travel to the district office several times for feedback. The DWSTs in TAM also espoused similar remark: *when we send information to the community we don't get feedback.*

Secondly, absence of logistical support was identified as a challenge by the eight WATSAN members in the four communities. The WATSANs are advocates of CLTS and create awareness through educating CMs on sanitation and hygiene within and outside their communities. Yet they lack logistic such as transport allowance, food and visual aid materials (such pictures and videos on sanitation) to enhance their educative activities.

Thirdly, seven WATSAN members expressed concern about inadequate financial motivation to boost their morale. According to them, many of their members have moved to the cities to seek better opportunities because they are not paid for their services in the community and also need to fend for their families. According to the WATSAN secretary in Aklomam, *because we are not paid many of us have travelled to urban areas to work [...] Even sometimes we have to borrow money to go for training workshops at the district*.

Again, insults rendered to WATSAN members during the course of their duty were identified as a problem. Some WATSAN memebers were insulted when trying to caution some people about their insanitary behaviours. Sometimes, there were heated argument between WATSANs and CMs over indiscriminate dumping and the management of dumpsite. This situation was seen in Abodam where the chief was mostly not around during implementation and had delegated his power to his elders.

The WATSANsalso cited difficulty in locating the offices of LNGOs or the implementers as a constraint. It was very difficult for theWATSANs to locate them when they needed some clarifications or assistance after the intervention. For example, Pronet are permanently sited in Accra and PLAN Ghana have moved from the Agona-East to Efutu district (i.e Winneba) without the awareness of WATSANs and CMs. CWSA have their offices in Cape Coast Municipal while the intervention communities are in Twifo Atti Markaw district far from them.

Institutional challenges of Implementers

Ineffective coordination among the implementers, the LNGO and DAs was identified as a hindrance. This was particular in the Twifo Atti Markaw district where CWSA operated. In a discussion with the Extension Service Specialist she argued that communication between them was not smooth; feedback lagged behind and the DWSTs were not totally committed.

Again, the implementers (CWSA & PLAN) were constrained by insufficient numbers and capacity to solely implement CLTS. Due to this, they both contracted a local NGO to support them in the implementation. In an interview with PLAN CLTS coordinators he said *because of the limited number of our staff and technical capacity […] we partnered Pronet to assist us*.

Suggested solutions to institutional challenges

The following suggestions were made: funds for CLTS activities should be channelled directly into the DWST account; WATSANs should be given financial and logistical support in order to motivate them and enhance their work; adequate funding made available for DWSTs for follow-ups; Implementers and NGOs should make themselves visible to community by showing them their offices; and visual aid materials should be made available to WATSANs.

Summary of Findings

Some observations made by the researcher concerning institutional framework of CLTS was that all the institutions (implementers, LNGOs, DWSTs,WATSANs and CMs) knew exactly what their roles were in the CLTS intervention. Similarly, the implementers, LNGOs, DWSTs and WATSANs had an idea of the roles to be played by each other. Also, most CMs from the two

districts were aware of the roles of the WATSANs. However, some WATSAN committees did not know the responsibilities of their implementers, DWST and LNGO. An example is the WATSANs in Akolmam and Abodam.

Assessing the effectiveness of CLTS implementation

Having examined the institutional arrangements of CLTS, this section discusses how effective the CLTS approach was.

On the issue of the community's sanitation situation before the CLTS implementation, a little over seventy-one percent (71.7%) of the respondents said that their sanitation situation was very bad whereas 27.6 percent indicated that it was bad. Only 1 person (0.7%) said their sanitation situation was okay before CLTS was implemented.

Table 15 identifies some of the sanitation problems in the community before CLTS implementation. The respondents mentioned rampant practice of open defecation,indiscriminate dumping of rubbish by residents and several household dumpsites which were unkept. These responses had representations of 25.3, 17.4 and 12.5 percents respectively. The least (0.8%) among these responses was water points weedy and dirty.

Table 15: Communities' sanitation situation before CLTS implementation

Communities' sanitation situation	Frequency	Percent
Open defecation was rampant	125	25.3
Indiscriminate dumping of rubbish	86	17.4
Few HHLs	36	7.3
High prevalence of San. diseases(malaria,diarrhea,cholera)	40	8.1
Weedy community	15	3.0
Several household dumpsites unkept	62	12.5
Backyard weedy with faeces	34	6.9
Dirty community	30	6.1
Stench in community	48	9.6
Bad hygienic practices	10	2.0
Lots of flies in the community	5	1.0
Water points weedy and dirty	4	.8
Total	495*	100.0

Source: Field data (2014) *Multiple responses

The next theme discusses community's sanitation situation after CLTS implementation. Generally, community members indicated an improvement in

their sanitation situation after the intervention with more than half (53.1%) of the respondents confirming a good sanitation situation and 46.9 percent indicating a very good sanitation situation. However, none of the respondents reported that their sanitation situation was the sameafter the CLTS intervention.

Table 16: Communities' sanitation situation after CLTS implementation

Communities' sanitation situation	Frequency	Percent
OD has stopped	96	21.1
OD has reduced	32	7.0
Common dumpsites for refuse	81	17.8
Low prevalence of San. diseases(malaria,diarrhea,cholera)	47	10.3
Clean environment	84	18.4
Good hygienic practices	16	3.5
Reduction of flies in community	2	.4
More HHLs constructed	33	7.3
Backyards void of weeds and faeces	23	5.0
Stench-free community	42	9.2
Total	456*	100.0

Source: Field data (2014). *Multiple responses

Table 16 illustrates improvements in sanitation as a result of CLTS implementation in the four communities. Out of all the response given, the respondents mentioned a stop in the practice of open defecation,a clean environment and a common dumpsite for the community. These responses were

represented as 21.1, 18.4 and 17.8 percents respectively. The least response (0.4%) was a reduction of flies in the community.

The next issue focused on latrine coverage of community members. Out of the 145 respondents, 112 respondents representing 77.2 percent indicated that they had latrines in their homes. Only 33 (22.8 %) persons indicated they did not own household latrines. Furthermore, out of these 112 respondents who had latrines, 75.9 percent (110 respondents) of them confirmed that they constructed their household latrines as a result of the CLTS interventions while relatively few (1.4 %) did not construct latrine as a result of the intervention. Therefore, the CLTS implementation resulted in an increase in latrine coverage in the communities.

Table 17 illustrates the type of latrines adopted by households as a result of the intervention. Out of the 145 respondents, over seventy percent of the respondents indicated that they use ventilated improved pit latrines in their homes.

Table 17: Type of household latrines constructed by community members

Type of household latrines	Frequency	Percent
Simple pit latrine with slab	4	2.8
Ventilated improved pit latrine	103	71.0
Simple pit latrine without a slab	2	1.3
VIP shared with other HHs	3	2.1
Not applicable	33	22.8
Total	145	100.0

Source: Field data (2014)

Even though some households had their own ventilated improved pit latrines, they shared it with other households (2.1%). However, 22.8 percent respondents did not comment on this issue because they had indicated earlier that they do not own a latrine. Therefore, CLTS intervention influenced CMs to adopt improved latrine types in their homes (see Plate 1).

Plate 1:Type of household latrines constructed after CLTS interevention

Source; Field data (2014)

Table 18: Type of materials used to construct Household latrines

Materials for Household latrines	Frequency	Percent
Local materials like bamboo, wood, clay, palm fronds thatch etc	5	3.4
Other materials bought from the market such as cement, pans, plastic pipes, aluminium sheets etc	7	4.8
Both local and other materials from the market	100	69.0
Not applicable	33	22.8
Total	145	100.0

Source: Field data (2014).

Table 18 displays the type of materials used by the households in constructing their latrines. Majority (69%) of the respondents confirmed that they used both local materials and other materials bought from the market to construct their latrines. On the other hand, very few (3.4%) households used only local materials to construct theirs. Since about three percent(2.8%) of the respondents had indicated earlier that they did not have household latrines, they had nothing to say shown as not applicable. Plate 2 shows the type of materials used to construct household latrines.

Plate 2: Some materials used to construct the household latrines

Source: Field data (2014)

Table 19: Defecation practices of CMs without Household latrines

Where do you defecate	Frequency	Percent
Communal latrine	30	20.7
Shared VIP	3	2.1
Not applicable	112	77.2
Total	145	100.0

Source: Field data (2014)

Table 19 shows defecation practices of those who did not own household latrines after CLTS implementation. Out of the 33 respondents who di not have a

latrine, 90.9 percent of the respondents used the communal latrine while a few 3 representing 9.1 percent of the respondents used the VIPs of other households. It is also important to note that 77.2 percent did not comment on this issue because they indicated earlier that they owned household latrines.

Before CLTSAfter CLTS intervention

Plate 3:Communal latrine of Aklomam village before and after CLTS

Source; Field data (2014)

Table 20:Sanitation and hygiene behaviour change

	SA	*A*	*N*	*D*	*SD*
Indicators	Freq (%)	Freq (%)	Freq (%)	Freq (%)	Freq (%)
Always use a latrine	116 (80)	28 (19.3)	1 (0.7)	_	_
Backyards are always clean and weeded	80 (55.2)	48 (33.1)	16 (11.0)	1 (0.7)	_
General compound always clean	76 (52.4)	57 (39.3)	11 (7.6)	1 (0.7)	_
Always wash hand with soap or ash before eating	85 (58.6)	48 (33.1)	8 (5.5)	_	_
Always wash hand with soap or ash after defecating	98 (67.6)	44 (30.3)	1 (0.7)	_	_
Water is well stored and covered	81 (55.9)	56 (38.6)	6 (4.1)	2 (1.4)	_
Food is well stored and covered	84 (57.9)	50 (34.5)	10 (6.9)	1 (0.7)	_

Source: Field data (2014).

Table 20 shows whether the CLTS intervention had led to a change in sanitation and hygiene behaviour. Generally, the respondents strongly agreed that there has been a change in sanitation and hygiene behaviour. Specifically, most of the respondents strongly agreed that after the intervention they always use a latrine (80%), always*washed their hands with soap or ash before eating* (58.6%) *and always washed their hands with soap or ash after defecating (67.6%).* Therefore it can be said that the CLTS intervention brought a change in sanitation

and hygiene behaviour in the communities under study. This confirms Curtis (2007) argument that CLTS approach successfully changes sanitation behaviour.

Table 21: Otherindicators measuring effectiveness of CLTS intervention

	SA	*A*	*N*	*D*	*SD*
Indicators	Freq (%)	Freq (%)	Freq (%)	Freq (%)	Freq (%)
Increase in the number of HHLs	76 (52.4)	60 (41.4)	6 (4.1)	3 (2.1)	_
OD has been completely eradicated	80 (55.2)	44 (30.3)	11 (7.6)	9 (6.2)	1 (0.7)
HWF has been installed near HHLs	20 (13.8)	15 (10.3)	21 (14.5)	40 (27.6)	49 (33.8)
Dumpsite, backyards and general environs are clean and without feaces	57 (39.3)	74 (51.0)	11 (7.6)	3 (2.1)	_
Sanitation laws enacted and being enforced by the community	76 (52.4)	63 (43.4)	5 (3.4)	1 (0.7)	_
Reduced medical expense and infrequent visits to hospital	79 (54.5)	56 (38.6)	3 (2.1)	5 (3.4)	2 (1.4)

Source: Field data (2014).

Table 21 displays the indicators used to measure the success or otherwise of the CLTS implementation and specific issues concerning its effectiveness. The first issue discussed focused on the number of latrine increment as a result of

CLTS intervention. According to the respondents, the intervention had led to an increase in the number of household latrines in the community as more CMs have built one. Majority (52%) of them strongly agreed and 41.4 percent simply agreed. Just a few (4.1%) were undecided. However, only a few (2.1%) were in disagreement. Therefore, it can be inferred that that the CLTS approach had increased sanitation coverage in the four communities which is consistent with the study conducted by Kar (2003) that CLTS accelerates latrine coverage.

The second issue discussed the eradication of open defecation as a result of CLTS. Generally, the respondents accepted that open defecation had been eradicated from the respective communities after the implementation of CLTS. Out of 145 respondents, more than half (55.2%) strongly agreed, and 30.3 percent agreed that open defecation had been completely eradicated from the community as a result of the intervention. Only a few (7.6%) were undecided. However, only 1 person strongly disagreed. The findings thus suggests that CLTS implementation has halted the practice of open defecation and this view is in line with Godfrey et al. (2010) assertions that CLTS is the only approach that ends open defecation. Additionally, observation made by the researcher through the households and community's observational checklists indicated that feaces were not found around pathways, backyards and in houses visited. Again, in all the four communities there were no feaces found around previous OD sites and community dumpsite.

Thirdly, Table 21 discusseswhether hand washing facilities (soap or ash and water dispensers) were installed by community members near their household

latrines as a result of CLTS implementation. Those who strongly disagreed (33.8%) and disagreed (27.6%) on this formed the majority. Those who strongly agreed or agreed were represented by 13.8 percent and 10.3 percent respectively. Findings from the above, therefore, illustrate that hand washing facilities were not installed near household latrines after the intervention.Furthermore, observation made by the researcher through the household's observational checklist supported this finding. From this checklist, majority of households (59.3%) did not have a hand washing facility installed near their HHLs. In a discussion with the WATSANs to find out why, they said: *though CMs use soap and water to wash their hands after defecation, they didn't install HWF near their HHL because children play with it and destroy them.*

The next issue of discussion shows the level of agreements of community members on whether or not dumpsite, backyards and general environs have been cleaned and without faeces as a result of the intervention.Out of 145 respondents, most (51%) agreed that their dumpsite, backyards and general environment were now clean as result of the intervention. Again,39.3 percent strongly agreed to this issue while a small number (2.1%) disagreed. However there were those who were neutral or undecided. Finally, after CLTS program the presence of feaces was unnoticed as dumpsites, backyards and general community had been cleaned. Observation made by the researcher through observational checklist supported this finding. From the checklist, majority of the houses visited had no waste material in their backyards (89%), waste water was not poured on their compounds (77.9%) and 84.8 percent had their compounds well swept. Also, 93.1

percent of household did not have their own dumpsite because the communities had common dumpsite which was well managed and feaces-free.

Again, the next issue discussed was whether sanitation laws have been enacted and being enforced by the community as a result of CLTS intervention. According to the respondents, the intervention had led to the enactment and enforcement of sanitation laws to sanction sanitation offenders and open defecators. The larger majority constituting 52.4 percent and 43.4 percent respondents strongly agreed and agreed respectively. Only 1 person (0.7%) disagreed on this issue.Therefore it can be emphatically stated that the CLTS program caused the creation of sanitation laws being enforced by the communities. This is similar to Kar's (2003) view that CLTS creates the adoption of policing and sanctioning methodologies by CMs. Additionally, interviews with WATSANs revealed that children in Oboyambo were rewarded with toffee for identifying OD culprits who were then fined GH¢30. In Aklomam, OD culprits were fined and asked to bring a plastic chair.

Finally, Table 21 displays reduction in household medical expenses on diarrhea and sanitation related diseases and unfrequent visits to hospital. More than half (54%) of the respondents strongly agreed that they had seen a reduction in their household medical expenses on diarrhea sanitation related diseases because they do not frequent the hospital to treat such diseases as they used to. Also, 38.6 percent of the respondents agreed to the issue. Those who strongly disagreed and disagreed were represented by 1.4 percent and 3.4 percent respectively. Only, 2.1 percent were undecided. This is in congruence with Kar

(2003) study that revealed that CLTS reduces community expenditure on medicines and visits to hospital.

Table 22: Benefits (outcomes) of the CLTS implementation / intervention

Benefits or outcomes	Frequency	Percent
Construction and constant use of latrines	103	13.2
The use of affordable or locally available materials to construct latrine	79	10.1
Reduction in open defecation	22	2.8
Communal self-help development activities	111	14.2
Increased number of latrines built in the community	97	12.4
Change in sanitation and hygiene behavior	68	8.7
Reduced frequency in diarrhea and other sanitation related diseases contacted at home	68	8.7
Enactment of sanitation laws and imposition of sanctions on open defecation offenders	58	7.4
Reduction in household medical expenses on diarrhea sanitation related diseases	44	5.6
Elimination of OD	116	14.8
Increase in demand for sanitation materials and services	17	2.1
Total	783*	100.0

Source: Field data (2014). *Multiple responses

Table 22 highlights some of the benefits or outcomes of the CLTS program in the communities understudied. Out of the 783 multiple responses, the commonest (14.8%) benefit was the elimination of open defecation, and this confirms Godfrey et al. (2010) and Kar (2003) view that CLTS leads to ODF community. Also, the conceptual framework (Figure 2) supports this findings as it illustrates that CLTS implementation leads to open defecation free communities.

Furthermore, the CLTS intervention built communal self-help spirit which was tapped for development initiatives in the community. This response took 14.2 percent of the total responses. This finding is consistent with previous studies conducted by Kar and Bongartz (2006) which revealed that CLTS builds a sense of togetherness and communal spirit that leads to development activities in communities. Again, only few respondents (2.1%) indicated that the intervention had increased demand for sanitation materials and services. This finding confirms Jenkins and Scott (2004) argument that CLTS is the only approach that triggers demand for sanitation.

This section analyses data collected through in-depth interviews with the Implementers, DWST and WATSANs concerning the outcome benefits of CLTS implementation;

The interviewees identified several benefits that were similar with CMs view (Table 22). These include a stop in the practice of OD, increase in the number of household latrines, elimination or reduction in water and sanitation disease (such as diarrhea, cholera, malaria) in some communities; clean environs and without stench; self help community initiatives; built the capacity of artisans,

DWST and WATSANS through training; increased demand for sanitation hardwares and created jobs for artisans; reduction in medical expenses on sanitation related diseases; improved hygiene practices such as hand-washing at critical times and a positive change in people attitudes and behaviour towards sanitation.

One interesting outcome indicated by a WATSAN member was that the intervention has saved them from disgrace when visitors come to their community during festivities. According to him, before the intervention they did not have household latrines and directed their visitor to the bush or smelly communal latrine to defecate. This made them embarrassed. In another discussion with a WATSAN member at Aklomam, she asserted that the intervention had brought a stop to sanitation diseases; *some years back before this intervention, there was frequent contraction of diarrhea and cholera.....three people died from cholera in this community but after CLTS these diseases were gone.*

Additionally, interview discussions with the WATSAN secretary in Oboyambo re-emphasized the views of the CMs (in Table 22)that CLTS built communal self-help spirit, according to him: *this intervention has instilled togetherness and belongingness among us and we use it to help each other during harvesting period.We the farmers form groups to harvest cocoa in batches in each other farms.*

Table 23: Challenges of the CLTS implementation / intervention

Challenges of CLTS implementation	Frequency	Percent
Infrequent / inadequate follow-ups	123	30.6
Inadequate technical advice on latrine construction	12	3.0
Poor facilitation	4	1.0
Ineffective WATSAN committee	39	9.7
Non existence of Sanimarts	68	16.9
Community members cannot afford to build HHLs	35	8.7
Inadequate material support to CMs on credit	13	3.2
Inadequate financial motivation for WATSANs	32	8.0
Absence of visual aid materials (pictures,videos) for WATSANs activities	8	2.0
Waterlogged soil	22	5.5
Land near borehole	35	8.7
Children destroy HWF fixed near HHL	11	2.7
Total	402*	100.0

Source: Field data (2014) *Multiple responses

Table 23 displays the major challenges of CLTS implementation from the community members' perspective. The major challenge as pointed out by majority (30.6%) of the respondents was infrequent or inadequate follow-ups visits after implementation. This finding is in congruence with what Roberts and Malaga (2009) identified as a challenge of CLTS.

Other challenges were inadequate financial motivation for WATSANs (8%) and the fact that CMs cannot afford to build their own household latrines (8.7%). On the other hand, the challenge that can be considered the least (1%) was poor facilitation by the implementers.

Interviews with the Implementers, DWST and WATSANs concerning challenges of CLTS implementation are discussed in the section. These challenges are put under seven broad themes namely financial constraints, land or soil constraints, logistical and material constraints, political or policy issues, subsidy issues, social or behaviour constraints and timing issues:

One major challenge of CLTS was the lack of funds for monitor and evaluation of CLTS communities and its resultant effect is inadequate follow-up visits to these communities.In an in-depth interview with an EHA, a DWST member in Agona East, he mentioned that:

> *Due to lack of funding we donot visit communities frequently and in some communities' follow-up visit have stopped completely. Monies for monitoring do not come regularly from the assembly. Before the implementers used to give us funds for monitoring but after they handled over the program to the assembly, they have stopped giving us funds.*

This finding supports previous studies by Godfrey et al. (2010) and Plan Uganda (2011). Their study revealed that inadequate funding or poor bugdetory support at the district level is a major challenge to CLTS programs. Other financial constraints identified, which was also similar to CMs views were lack of

funds to build household latrines and inadequate financial motivation for the WATSANs.

Secondly, the interviewees expressed concern about land or soil issues that constrained CLTS. According to them, some soils were water logged and usually collects water after being dugged, making it impossible to be used as pits and this was particularly seen in Oboyambo and Aklomam. There were mentions of limited space for some household to construct their latrine; some household could not build HHLs because they were near borehole especially in Aboano, Aklomam and Oboyambo; and some pits collapsed when it rained.

Under logistical and material constraints, the WATSANs expressed concern about the absence of transport allowance, food and per diems for their activities (such as hygiene education) within and nearby communities. Similar to CMs views, they also indicated an absence in visual aid material (such as sanitation pictures and videos) to enhance their activities in and outside their communities. Another was the inadequacy of material support given to CMs on credit. This was because it targeted only few CMs and they even did not pay back for others to also benefit from it. As suggested by a WATSAN member, *building materials such as iron rods, cement, pipes, etc were given to only few people for them to pay later so that others who cannot afford to build latrine will benefit. But this initiative failed because those who took these materials did not pay back.*

Fourthly,politics or policy issues constrain CLTS. The interviewees pointed that inadequate knowledge about the national environmental policy (NESP) by government officials subverted the success of CLTS. The NESP

explained that CMs should build their own HHL and that KVIPs and public toilet should be built in schools, markets and lorry parks for transitory purposes. However, because most politicians or government officials have limited knowledge about the policy, they mount political platforms and promise community members KVIPs and public toilets. This makes the work of the implementers difficult as CMs think they have come to deceive them to build latrines while government is providing free toilets. Plan's CLTS coordinator laments; *in the wake of the cholera outbreak in Accra, one politician in a telephone interview in the Agona-East said the cholera outbreak was as a results of government not building KVIPs in communities.* This suggests the inadequate understanding of the NESP by government officials, and suggesting to CMs that government is supposed to build free toilets for them.

Again, interviewees indicated that timing was a problem. The DWSTs and the implementers indicated that CLTS implementation was time consuming. It involved several hours of meetings with the chiefs, opinion leaders and CMs coupled with a lot of travelling to and from the communities in the early mornings and late nights. Also, inappropriate timing of CLTS implementation by the implementer was identified by the WATSANs as a challenge. For example, in Oboyambo CLTS triggering was done during the planting season at a time when CMs did not have money to construct their own HHL.

The interviewee again, identified subsidy as an issue to CLTS. According to the interviewees, the use of subsidy near CLTS communities by some implementers/NGOs poses a threat to the sustainability of CLTS. An Extension

Service Specialist in CWSA in an interview argued that *some implementers or NGOs are still giving subsidies to construct latrine near CLTS communities and this creates doubts about CLTS and a situation where CMs will be waiting for subsidies before they build latrines.*

Lastly, some social and behavioural issues were highlighted by the interviewees. The implementers indicated that ineffective community leadership is a major problem to implementation. In some communities, the chiefswere mostly absent and this made them inactive. For example in Aboano and Abodam, CWSA & PLAN staffs met the absence of the chief mostly because he did not reside permanently in the community and had delegated his power to others. According to them, this makes it difficult to mobilise CMs and drags the pre-trigger stage leading to resource waste because community entry involves a lot of travelling, paying of pier diems and allowances to staffs.

Thus, a lot of money is pumped into community entry, so if the chief is not met, implementation can't proceed. In cases where the chief has appointed a representative, CMs were not committed because there was no authority to bring them together. Other social challenges were poor facilitation, destruction of the hand-washing facility by children, difficulty in mobilising CMs for CLTS triggering, and the difficulty in changing the attitudes and behaviours of people. For example in Abodam, it took CWSA/ICD a very long time (several months) to change CMs sanitation behaviour.

Interestingly, it emerged from the interview data that the cost involved in CLTS implementation was almost the same as subsidy interventions. This was

contrary to literature as indicated by Haq and Bade (2008) that CLTS saves sanitation agencies a lot of monies when compared to subsidy. This research found that communities with a sense of belongingness and a strong chief who wield power, it was easy to implement CLTS. However, communities with weak leadership and without a sense of belongingness, it took longer time and more money was spent on implementation.

In an interview with Plan's CLTS coordinator, he asserts that the popular notion of CLTS being less costly than subsidy programs is not true because huge funds are pumped into CLTS activities and sometime implementers even over spend especially when they meet stubborn or un-united communities: *for instance we are in the third year of implementation in Asarekwa just because the CMs are not committed, lack a sense of togetherness and always go back to their old ways of open defecation. Therefore, we always have to start afresh. All these are cost.*

Table 24: Suggested solutions to improve CLTS implementation

Suggested solutions	Frequency	Percent
Frequent follow-ups	104	27.4
Motivate WATSANs financially	58	15.3
Visual aid materials (pictures and videos) to support WATSAN activities	25	6.6
Provide loan facility to construct HHLs	59	15.6
Provide material support on credit	34	9.0
Establish Sanimarts nearby	37	9.8
Regular education by WATSANs	12	3.2
Programme should be organised occasionally	7	1.8
Subsidies for latrine construction	20	5.3
Adequate technical support	10	2.6
Children educated on the essence of HWF	5	1.3
Intermittent training of WATSANs	8	2.1
Total	379*	100.0

Source: Field data (2014) *Multiple responses

After stating the various challenges community members face in the CLTS program, they suggested solutions to these problems. Of the solutions provided, frequent follow-up visits (27.4%) to the communities stood out as the commonest solution. Furthermore, the provision of a loan facility to enable CMs construct their household latrines also took 15.6 percent of the responses. Very few respondents (1.3%) suggested that children should be educated on the essence of

the hand washing facility (soap and water dispenser) fixed near household latrines.

Some suggested solutions from the interview guide similar to CMs views include available and adequate funding for follow-ups, financial motivation (such as monthly allowances, pier diems and incentives) for WATSANs, training of Facilitators to develop their facilitating skills, adequate and an expanded material support to cover majority of CMs etc. Others are adequate logistics support for WATSANs; government officials given adequate education on the sanitation policy through workshops or seminars; government setting the pace and insisting on subsidy-free WASH interventions so that others in the sector will follow; and training given to the chiefs, religious and opinion leader, DWSTS, WATSANs on CLTS within appreciable intervals.

Table 25: Lessons leant from CLTS intervention

Lessons leant	Frequency	Percent
Good sanitation and hygiene behaviour improves health	63	28.4
CMs realise they were ingesting each other's feaces all along	50	22.5
How to construct HHLs	11	5.0
Good sanitation and hygiene is essential in a person's life	35	15.8
Poor sanitation brings diseases	48	21.6
With collective efforts much is achieved than individual effort	15	6.8
Total	222*	100.0

Source: Field data (2014) *Multiple responses

The lessons learnt from the CLTS intervention are discussed in the Table 25. CMs had learnt that good sanitation and hygiene behaviour improves health and this was the commonest (28.4%) response. The next common (22.5%) response was CMs realising that they've been ingesting their excrement all along without knowing. The least (6.8%) response indicated by respondents was the realisation that with collective efforts much success can be achieved than individual efforts.

Interviews with the Implementers, DWST and WATSANs about lessons learnt in CLTS implementation are discussed below:

All the interviewees indicated that CLTS is an effective approach as they have acquired several lessons from it. The interviewees learned that there is strength in collective action than in individual efforts. This was because in the subsidy era there were very few HHLs and it was difficult to get CMs to stop OD. However, with CLTS more people have constructed HHL and they use them us well. This was because the CLTS actively involved the entire community and subsidy programs involved only individuals.

Some lessons WATSANs and DWSTs learnt were how to construct latrines and how to keep records and write reports. Others mentioned the realisation that feaces contaminate food and brought disease, and therefore improving health through good sanitation practices is very important. Implementers noted that community mobilisation is an essential part of CLTS and also CMs should not be rushed through the triggering processes.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This final chapterof the thesis presents a summary of the findings, draws some conclusions, makes recommendations and outlines areas for future research.

Summary

The purpose of undertaking this study was to evaluate theCLTS approach to sanitation delivery in selected communities in the Central region. The research design adopted was mixed method which involved the use of both qualitative and quantitative methods of data collection.The study design was descriptive and evaluative in nature.The target population for the study wereopinion leaders, householders, water and sanitation committee members (WATSANs) and key informants from CWSA, Plan Ghana and district water and sanitation team (DWST).

The main respondents were households from four communities who were randomly selected with a sample size of 145.Also, eight WATSANs and four key informants were purposively selected for the study. The study therefore used interview schedules, interview guides and observational checklist to gather data from the field. The qualitative data gathered were analysed using SPSS whiles the qualitative data were transcribed manually. Results were presented in frequencies, percentages, and tables.

Key findings of the Study

Based on the information gathered from the data analysed, the major findings of the study are as follows:

Pre-triggering stage

- The study revealed that community entry and profiling was properly done by the implementers.That is, the implementers first contacted the chiefs and important persons in the community, established rapport with them and the CMs before they actually started the intervention.

Triggering stage

- The study revealed that the triggering stage was handled mainly by the Local NGOs (Pronet & ICD) with the support of the main implementers (PLAN & CWSA) in their respective communities.
- The study discovered that the implementers did not use all the CLTS process tools to trigger CMs. Those commonly used were transect walk, defecation mapping, open shit open mouth procedure and flow-diagram.
- It was observed that different CLTS tools were used in both districts to trigger the communities
- Again, the study found discrepancies in the views of CMs and implementers concerning the CLTS tools used to trigger the communities in Agona-East. That is, in Obyambo and Aboano, CMs indicated four tools (transect walk, defecation mapping, open shit open mouth procedure and flow-diagram) whiles the implementers indicated six tools.

- Also, the sequence in which the CLTS tools were used in Agona-East was inappropriate. That is, the implementers started with defecation mapping, shit calculations, transect walk, OSTOM procedure, glass of water and flow-diagram instead of transect walk, defecation mapping, shit calculation,OSTOM procedure, glass of water and flow-diagram.
- There was also slight variation in the use of open shit open mouth procedure in the two districts. In Agona-East, prototype excrement and real food demonstration were used while picture demonstrations were adopted in Twifo Atti Morkwa.
- Findings show that after triggering, the four communities were prepared to take action to stop OD and clear their environs of filth. Consequently they came up with similar action plans that included decision; to have a common dumpsite, build latrine immediately, enact sanitation laws, form sanitation committee etc.
- Out of the four communities, the study found that it was only in Aklomam that implementers used the concept of sanitation ladder.

Post-triggering stage

- It was discovered that the main implementers (PLAN & CWSA) were not fully involved in follow-up visit but came occasionally. It was the Local NGOs and the DWSTs who took full responsibility. After a minimum of 6 months, the main implementers together with the LNGOs handed over the follow-ups to the district (DWST members) to continue. The study

revealed that the district was constrained by limited funds and couldn't follow-up frequently.

Institutional arrangements

- Thestudy showed that all the institutions (i.e. CMs, WATSANs, implementers etc) from the district to community level knewexactly what their roles were in CLTS implementation. Most institutions (e.g. DWST, LNGOs etc) had some knowledge about roles of the other institutions involved in the CLTS implementation. However, theWATSANs in Aklomam and Abodom didn't know the roles of their implementers, DWSTS and LNGOs.
- Findings showed that most CMs were aware of the existence of Sanitation committee (WATSANs) in their communities and knew the roles of these committees as well.
- Some institutional challenges were discovered from the study. These were inadequate funds at the districts for monitoring CLTS communities; inadequate financial support for the WATSANs; inadequate support to the DWSTs by the DAs because sanitation was not a priority of the assembly; limited number of staff and capacity of the implementers and at the district level; inadequate logistical support for the WATSANs and the DWSTs among others.

Effectiveness of CLTS

- Findings showed that there had been an improvement in the sanitation situations of the communities understudied after CLTS implementation.

Majority (99.3%) of CMs reported that before the CLTS, their sanitation was in a deplorable state but after its implementation they saw massive improvement. This improvement was seen in a number of areas. First, it was discovered that there had been an increase in latrine coverage as a result of CLTS. Before CLTS, CMs admitted having few latrines but after CLTS more latrines were built. In support of this finding, out of the 145 household's interviewed, 110 households (75.9%) admitted constructing their household latrines as a results of CLTS.

- Majority (73.8%) of CMs built improved latrine types (such as VIPs and simple pit latrine with slabs) using both local and other materials bought from the market after CLTS. The few (2.8%) who didn't own household latrines also used communal latrines and shared VIPs with other households. This meant that CMs safely disposed off their excreta including those who didn't own household latrine.
- The study showed that there had been a change in communities' sanitation and hygiene behavior. Most CMs admitted that after CLTS, they always used a latrine, washed their hands with soap or ash before eating and after defecating, and properly stored their water and food.
- The study revealed that the practice of open defecation had being eradicated in the four communities. That is, almost all (85.5%) the CMs admitted that open defecation had been eliminated from their communities a as results of CLTS. From the observational checklist, the researcher did not find feaces around pathway, backyards and previous OD sites. CMs

also pointed out that medical expenses made on sanitation related diseases had reduced as a result of CLTS implementation.

- An interesting discovery was made from this study. That is, though CMs admitted practicing hand washing after defecation, hand-washing facilities were not installed near most household latrines.

Conclusions

Based on the findings of this study, the following conclusions were made. Knowledge of the CLTS intervention was well known by CMs even though they did not know its exact name. PLAN and CWSA partnership with the Local NGOs was essential in the success of the CLTS program. The process of CLTS (i.e. pre-triggering,triggering and post-triggering) was successfully implemented. However, there were some peculiar issues noticed in the triggering stage of implementation. That is, though seven CLTS tools exist, the implementers used only four, omitting shit calculation and medical expense calculation. Also, differences were noticed in the use of the open shit to open mouth procedure. The implementers were successful in changing community members' insanitary behaviors to adopt improved sanitation practices through the use of the CLTS.

The institution involved in the implementation had some knowledge about CLTS and clearly understood what their roles were. Similarly, CMs were aware of their roles in the intervention and that of the sanitation committees (WATSANs). The role of the WATSANs is key to the sustainability of the CLTS intervention and therefore their needs must be addressed.

Conclusively, the CLTS is an effective approach to sanitation delivery in rural Ghana. This is because it improved the sanitation conditions of all the communities investigated by rendering them ODF and increased their sanitation coverage. It also instilled in them the attitude of keeping ones environment clean.

Recommendations

Based on the findings and conclusions, the following recommendations have been made.

Community level

1. The implementers should partner the banks so that microfinance or credit schemes are made available to CMs especially the poor to enable them access loans to construct household latrines. Also, the implementers should expand the material support given to CMs on credit to cover a larger majority of them, and defaulters of this initiative should be sanctioned to deter others from doing same. This way more CMs will build household latrines.
2. The District Assemblies (DAs) should site Sanimarts close to the communities so that CMs can have readily available information about different latrine models, sanitation hardwares, materials for constructions etc.
3. Children should be educated by the WATSANs on the essence of the hand washing facilities fixed near HHLs so that they stop destroying them.
4. WATSANs should be given adequate financial motivation (such as monthly allowance, incentives, workshop allowances etc) by the District

Assemblies so that they stay in their communities and support them. They should also be given the necessary logistical support (such transport allowance, food, stationeries etc) by the DAs to enable them embark on hygiene education within and outside their communities. Again, implementers should support the WATSANswith visual aid materials such as pictures and videos to enhance their hygiene educative activities in communities.

District level

1. The DAs should allocate a reasonable percentage of its District Assembly Common Funds for CLTS implementation and follow-up activities. These funds will enable the DWSTsto procure the necessary logistical support (such as automobiles, fuel, stationeries etc) in order to frequently follow-up to communities to monitor and also ensure continues monitoring after the implementers stop providing funds.Again, the DAs should solicit funds from development partners or international NGOs to enable them implement CLTS independently and support other CLTS activities in their district.
2. The District should establish quarterly forums for the EHAs/EHOs, CDOs, CLTS facilitators, implementers, WATSANs etc to share their experiences and lessons learnt from CLTS projects. The DAs should also create a District CLTS team to supervise all CLTS activities.

3. The district must incorporate CLTS into its District Environmental Sanitation Strategy and Action Plan and the District Medium Term Development Plan with clear budgets.

National / Region level

1. The MLGRD & EHSD should adequatelyeducate government officials and politicians on the national sanitation policy through workshops and seminars so that they stop promising CMs free toilets. Government should also set the pace by insisting on subsidy-free WASH interventions so that others (NGOs, Consultants etc) in the sector will follow.
2. The MLGRD & EHSD must launch a national campaign against open defecation; by intensifying education about CLTS through the radio, television, news papers and social media; and by using a number of influential persons (such as religious leaders, chiefs, musicians etc) as ambassadors to spread the concept of CLTS and good sanitation practices.
3. To solve the problems of sanitation (particularly open defecation) and scale-up CLTS, policy makers in consultation with stakeholders must formulate a national CLTS policy specifying the strategies and actions that must be adopted by DAs and all WASH intuitions.

Areas for further research

The WATSANs are seen as the advocates of CLTS at the community level as they help sustain community's' changed behavior and spread the CLTS to other communities. However, research has not attempted to find out the roles they play in the sustainability and scalability of CLTS particularly in the Central region. More research is also needed in the area of Sanitation Marketing in Ghana particularly the Central region. The effects of CLTS has been shown to be stronger when combined with Sanitation Marketing to produce sustained behavior change in the long term and in moving people up the sanitation ladder.

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APPENDICES

APPENDIX A

UNIVERSITY OF CAPE COAST
INSTITUTE FOR DEVELOPMENT STUDIES
INTERVIEW SCHEDULE FOR HOUSEHOLDS

AN EVALUATION OF THE COMMUNITY LED TOTAL SANITAION APPROACH IN SOME SELECTED COMMUNITIES IN THE CENTRAL REGION

Community…….

SECTION A: Basic Demographic Data

1. Sex i. Male ( ) ii. Female ( )

SECTION B: Processes of CLTS Implementation

2. Do you have a latrine in this house? i. Yes( ) ii. No( )

3a. If No, where do you defecate? *(Multiple responses)*

i. In the bushes( ) v. Around the beaches ( )
ii. Dumpsites ( ) vi. In plastic bags ( )

iii. Backyards ( ) vii. Communal latrine ( )

iv. KVIP ( ) viii. Other (specify) .....

3b. If yes, which type of latrine do you use?

i. Simple pit latrine with slab ( ) iv. Simple pit latrine without a slab ( )

ii. Ventilated improved pit latrine ( ) v. Water closet ( )

iii. Compositing toilet ( ) vi. Others (specify) ...……

4. What type of materials did you use to construct your latrine?

i. Local materials like bamboo, wood, clay, palm fronds thatch etc.

ii. Other materials bought from the market such as cement, pans, plastic pipes, aluminium sheets roofing sheets etc.

iii. Both local and other materials from the market

iv. Other (specify).....

5. Have you received any subsidy (financial or material) to construct latrines in order to stop open defecation from any organisation / persons?

i. Yes( ) ii. No( )

6a. If yes, where / who did you get this assistance (subsidy) from?

.....

6b. If no, have you received any other assistance / intervention / program to construct latrines so as to stop open defecation from any organisation / persons?

i. Yes( ) ii. No( )

7. If, yes what was the name of this intervention /assistance/program?.....

8. Did you build your latrine as a result of this intervention / programme?

i. Yes( ) ii. No( )

9. Were community members involved from the start to the end of this intervention / program? i. Yes( )ii. No( )

10.What was the name of the organisation that brought this intervention/program

.....

11. How was the initial contacting (community entry done) by this organisation / person ? (multiple)

i. They first contacted the chief, some religious and opinion leaders, elders etc in the community
ii. The chief and elders then summoned a meeting to introduce them to the community members
iii. They had some discussions with community members and explained their purpose in the community
iv. A date was set between the implementers and community members for the triggering exercise later on

……

……

12. What were the processes involved and how did they go about it?

i. Transect walk
ii. Defecation mapping
iii. Shit calculation
iv. Medical expense calculation
v. Open shit to open mouth
vi. Glass of water
vii. Flow-diagram

13. After these processes, what happened?

……

……

14.What were some of the challenges of these processes used by the organization / persons?

……

……

15. How can these processes be improved?

……

……

16. After the above processes, were there immediate follow-ups visits done by the organization / persons?

i. Yes( ) ii. No( )

16a. If yes, what did they do during the follow-ups? (Multiple responses)

i. Met with the WATSANs
ii. Encouraged and motivated WATSANs and natural leaders to work hard
iii. Linked WATSANs and community members with local sanitation hardware providers
iv. Encouraged the affluent families to help the poor families through donations, land etc
v. Others (specify)……

17. Were you given any technical advice or assistance on latrine construction during the follow-ups?

i. Yes*( ) ii. No( )*

17a. If yes, what technical advice did you receive? (Multiple responses)

i. How to construct the superstructure ( )
ii. How to dig out pits and which shape is appropriate ( )
iii. Which materials to use ( )
iv. Where to buy the materials ( )
v. Soil conditions of the community ( )
vi. Lining of the pits ( )
vii. Others (specify)……

SECTION C:Institutional Arrangements for CLTS Implementation

18. Do you know the Sanitation committee or group who are in charge of this intervention (mentioned above) in this community? Yes or No

18a. If yes, what is the name of this group / committee…….

18b.What are the roles played by this sanitation committee or group? (Multiple responses)

i. Create awareness by educating community members on sanitation issues
ii. Assist community members to have access to affordable latrine options
iii. Facilitate locally available ways to acquire funds to construct latrines
iv. Help community members achieve ODF community
v. Monitor progress on the sanitation ladder
vi. Help mobilize community members to attend triggering meetings
vii. Assist in the triggering process/exercise
viii. Assist the community in the establishment of bye-laws to stop open defecation
ix. Encourage and support community volunteers or natural leaders
x. Others (specify)……..

19. Are you aware of the role the community plays in the mentioned intervention? i. Yes*( ) ii.* No*( )*

19a. If yes, what are the roles played by the community? (Multiple responses)

i. Establishment of sanitation norms or bye laws*( )*
ii. Enforcement of sanitation norms or bye laws*( )*
iii. Ensuring a visibly clean, safe and pleasant environment*( )*
iv. Ensuring an ODF community *( )*
v. Monitoring progress towards achievement of ODF status*( )*
vi. Others (specify)……

20. Are you aware of the role you (individual household) play in this mentioned intervention? i. Yes*( ) ii.* No*( )*

20a. If yes, what are the roles you (individuals HHs) play? (Multiple responses)

i. Stopping people from practicing Open defecation*( )*

ii. Constructing and using improved household toilets with hand washing facility*( )*

iii. Hygienically disposing of all waste (including human excreta) you generated in public areas through the use of public toilets or solid containers*( )*

iv. Hygienically disposing of human excreta through the use of appropriate sanitation facility *( )*

v. Others (specify)……

SECTION D: Assessing the Effectiveness of CLTS Implementation

21. What was the sanitation situation 10 years ago when there wasn't any intervention to stop open defecation in this community?

    i. Very bad ii. Bad iii. Ok iv. Good v. Very good

21a. Explain your above response…….

……

22. What is the sanitation situation between now and 6 years ago after this intervention/program to stop open defecation was completed?

    i. Very bad ii. Bad iii. Same / unchanged iv. Good v. Very good

22a. Explain your above response…….

……

23. What are some of the benefits (outcomes) of this program / intervention? (multiple responses)

    i. Development of several different latrine models by local people
    ii. Construction and constant use of latrines
    iii. The use of affordable or locally available materials to construct latrine
    iv. Reduction in open defecation

v. Communal self-help development activities
vi. Increased number of latrines built in the community
vii. Change in sanitation and hygiene behavior
viii. Reduced frequency in diarrhea and other sanitation related diseases contacted at home
ix. Enactment of sanitation laws and imposition of sanctions on open defecation offenders
x. Reduction in household medical expenses on diarrhea and sanitation related diseases
xi. Others (specify)……....

Sanitation & hygiene behaviour	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree

24. What are some of the challenges of this program / intervention? (multiple responses)
    i. Infrequent / inadequate follow-ups ( )
    ii. Inadequate technical advice on latrine construction ( )
    iii. Poor facilitation ( )
    iv. Ineffective WATSAN committee ( )
    v. Non existence of Sanimarts
    vi. Other (specify)……
25. Suggest ways in which this program can be improved?

……

Indicate your level of agreement on the following questions

26. Always use a latrine					
27. Backyards are always clean and weeded					
28. General compound always clean					
29. Always wash hand with soap or ash before eating					
30. Always wash hand with soap or ash after defecating					
31. Water is well stored and covered					
32. Food is well stored and covered					

33. The number of latrines in the community has increased as a result of this intervention as community members have built more household latrines
    i. Strongly Agree ii. Agree iii. Neutral iv. Disagree v. Strongly Disagree

34. Open defecation has being completely eradicated from this community as a results of this intervention / program?
    i. Strongly Agree ii. Agree iii. Neutral iv. Disagree v. Strongly Disagree

35. Hand washing facility (water, ash or soap) has being installed near household latrine as a result of the program?
    i. Strongly Agree ii. Agree iii. Neutral iv. Disagree v. Strongly Disagree

36. Dumpsite, backyards and general environs are clean and without the presence of faeces as a result of this intervention / program?

i. Strongly Agree ii. Agree iii. Neutral iv. Disagree v. Strongly Disagree

37. Sanitation laws have being enacted and being enforced by the community to sanction offenders / open defecators as a result of this intervention?
    i. Strongly Agree ii. Agree iii. Neutral iv. Disagree v. Strongly Disagree

38. As a result of this intervention, my medical expenses on diarrhea and sanitation related diseases have reduced because I don't frequently visit the hospital to treat these diseases as I used to before?
    i. Strongly Agree ii. Agree iii. Neutral iv. Disagree v. Strongly Disagree

39. What are some of the lessons you've leant from this program / intervention?

……

……

……

……

APPENDIX B

INTERVIEW GUIDE FOR CWSA, PLAN, WATSANs & DWST

The purpose for this study is to fulfil the requirements for the award of a Master of Philosophy Degree in Development Studies, at the Institute for Development Studies, University of Cape Coast. The study solicits for data in order to evaluate the CLTS approach to sanitation delivery in some selected communities in Central region. You are assured that responses given will be treated with confidentiality and will be used solely for academic purposes. Kindly answer the questions as objectively as possible. Thank you.

Date for interview.....Time.....

SECTION B: Processes of CLTS Implementation

1. Do you know or have some knowledge about CLTS approach?
2. When was it implemented in your community or district?
3. What were the processes (stages) involved in the CLTS approach?
    - Pre-triggering(initial contact)
    - Triggering (actual implementation)
    - Post-triggering(follow-ups)
4. Mention atleast five things (achievements) that has worked well with the CLTS implementation?
5. What were some of the challenges of CLTS implementation? Probe
6. How can the CLTS implementation be improved? Probe

SECTION C:Institutional Arrangements for CLTS Implementation

7. What were your roles in CLTS implementation?
8. Mention the institutions who were involved in the CLTS implementation?
9. What were the roles and responsibilities of these institutions?
10. What has worked well or the good things of CWSA, PLAN, DWST, WATSAN, in terms of their roles and responsibilities?
11. What were the institutional challenges that you faced in CLTS implementation?
12. How can these institutional challenges be improved?

SECTION D: Assessing the Effectiveness of CLTS Implementation

13. What can you say about the effectiveness of the CLTS approach?

14. What were some of the lessons you've learnt from CLTS implementation?

APPENDIX C

COMMUNITY OBSERVATIONAL CHECKLIST

Community……..

On approaching the community, observe the presence of these;

Faeces around pathways?	Yes [ ] No [ ]
Faeces around houses?	Yes [ ] No [ ]
Faeces around backyards?	Yes [ ] No [ ]
Waste materials or rubbish in backyards?	Yes [ ] No [ ]
Faeces around previous OD sites?	Yes [ ] No [ ]
Presence of flies in the community ?	Yes [ ] No [ ]

Presence of faeces in community dumpsites? Yes [ ] No [ ]

Are the community dumpsites well kept? Yes [ ] No [ ]

Are the general environs clean? Yes [ ] No [ ]

Presence of communal latrines? Yes [ ] No [ ]

Rehabilitation of communal latrines? Yes [ ] No [ ]

Presence of latrines in most households? Yes [ ] No [ ]

Ongoing construction of household latrines? Yes [ ] No [ ]

Are the latrines in most households an improved type? Yes [ ] No [ ]

Presence of HWF fixed at most of the Household toilet? Yes [ ] No [ ]

APPENDIX D

HOUSEHOLD OBSERVATIONAL CHECKLIST

Community…….. House number ……

On approaching the house observe the presence of these;

Faeces around pathways? Yes [ ] No [ ]

Faeces around houses? Yes [ ] No [ ]

Faeces around backyards? Yes [ ] No [ ]

Waste materials or rubbish in backyard? Yes [ ] No [ ]

Presence of flies in the compound? Yes [ ] No [ ]

Is the compound clean(well swept)? Yes [ ] No [ ]

Presence of household latrine? Yes [ ] No [ ]

Rehabilitation of household latrine? Yes [ ] No [ ]

Ongoing construction of household latrine? Yes [ ] No [ ]

Is the household latrine an improved type? Yes [ ] No [ ]

Presence of hand washing facility fixed near household latrine? Yes [ ] No [ ]

Any household dumpsite seen? Yes [ ] No [ ]

Faeces seen in the household dumpsite? Yes [ ] No [ ]

Is the household dumpsite well kept? Yes [ ] No [ ]

Unwashed dishes seen? Yes [ ] No [ ]

Is stored water covered and well kept? Yes [ ] No [ ]

Is cooked food covered? Yes [ ] No [ ]

Waste water poured in the compound? Yes [ ] No [ ]

APPENDIX E

TRANSECT WALK

APPENDIX F

DEFECATION MAPPING

GLASS OF WATER PROCEDURE

APPENDIX G

HAND WASHING FACILITY AT AKLOMAM AFTER CLTS PROGRAM

APPENDIX H

SIGN BOARD AGAINST OPEN DEFECATION AFTER CLTS INTERVENTION