

UNIVERSITY FOR DEVELOPMENT STUDIES, TAMALE

ADDRESSING THE INCIDENCE OF OPEN DEFECATION IN MALSHEGU
COMMUNITY IN THE SAGNARIGU DISTRICT OF NORTHERN REGION

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DECLARATION

Student's Declaration

I humbly 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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Signature:.....

Date.....

Supervisor's Declaration

I hereby declare that the preparation and presentation of the thesis was supervised in accordance with the guidelines on supervision of project work laid down by the University for Development Studies.

Supervisor's Name: Dr. Issah Mohammed

Signature:.....

Date.....



ABSTRACT

Access to improved toilets and latrines is fundamental to improved healthy living of a society. However, many communities especially those in developing world have not had access to these facilities despite several campaigns and sensitization by government, development partners and civil society organizations people are still living without access to improved toilet facilities and hygiene services. This project adopted Community-Led Total Sanitation (CLTS) tools to improved sanitation and hygiene practises in Malshegu. Pre-intervention survey was carried out to identify the causes and effects of open defecation in the community. With the use of participatory methods, community stakeholders were facilitated to come out with local-based strategies to draw their action plan to address the open defecation menace in the community. The analysis of the pre-intervention and post-intervention data show an increase in the availability of household toilet from 10% to 15%, an increased in the availability of hand washing with soap from 5% to 100%, an increase from 10% to 75% about community knowledge on effects of hand washing with soap, an increase of community knowledge on effects of open defecation from 23 % to of 95%, an increase from 32% to 76% of community act of safe water storage at home, an increase from 5% of community practise of hand washing at critical times to as 86% and a decrease of 45% of community practise of open defecation to 90%.The facilitation of CLTS process in the community has resulted in an increase in the construction and usage of toilet facilities in the community. The approaches offered the stakeholders in the community the opportunity to analyses their sanitation situation and undertake local-based interventions to solve the menace without donor support. Mixed method of research was used by the researcher to identify how the few existing toilets was



been used and also find out some of the social and cultural factors that promotes open defecation in the community so as to find a diverse strategy to addressing the problem. Non-probability-accidental sampling technology was used to select respondents from Malshegu community in the Sagnarigu District.



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May the good Lord continue to bless us all.



DEDICATION

I dedicate this work to the Royal Family of Nwodua Naa Azima for their love, support and encouragement throughout my educational endeavors.



ACRONYMS

UN-----United Nations

USAID-----United States Agency for International Development

WASH-----Water, Sanitation and Hygiene

WC-----Water Closet

WHO-----World Health Organization

WSP-----Water and Sanitation Programme

CLTS-----Community-Led Total Sanitation

CTC-----Child to Child

CONIWAS-----Collation of NGOs in Water and Sanitation



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CHAPTER ONE

1.0 INTRODUCTION

1.1 Project Background

Access to improved sanitation facilities is key to attainment of decent human livings. However, many people in the world especially in Africa continent still do not own and use improved toilets. Due to lack of sanitation facilities within their households, they resort to the practise open defecation (OD). According to Ambest and Ambest, (2016), the practise of open defecation is one of the major sanitation issues facing the world today. Globally, it is estimated that about 2.5 billion people lacked access to toilet facilities and as a result practise open defecation. Indeed, the practise of open defecation could be described as Africa phenomenon. Tifow (2011) noted that, one out of three rural people in Africa practise open defecation. This situation is even worse in Ghana. Available data shows that about 15% of Ghanaians owned and used improved sanitation means; over 80% of Ghanaians practise open defecation and use unhygienic sanitation facilities. The menace of open defecation is more pronounced in the Northern Region of Ghana. For instance, Akapule report that 82 % defecate in the open in Upper East region, 79% Upper West Region 73% in the Northern Region (Akapule, 2015).

These practices of open defecation remain a major threat to development, impacting progress in health, education, gender equity, social and economic development (Tifow, 2011). The cost of open defecation in the economy of Ghana is enormous. Ghana loses about USD 290 million yearly due to poor sanitation and hygiene according to Ghana coalition of NGOs in the water and sanitation and hygiene (CONIWAS, 2012) it added that globally, 1.4 million children die every year from preventable diarrhoea and cholera alone



due to the practises of poor sanitation which is caused mostly by the practise of open defecation (Water Aid, 2012).

Problem Context Globally, National, and Locals

Open defecation (OD) which is the act of relieving oneself in the open or inappropriately disposing of excreta is a public health concern (UNICEF/WHO, 2012). Over one billion people engage in the practise worldwide contributing to many problems including water contaminating and the spread of diseases leading to children malnutrition

Furthermore, 2.5 billion individuals worldwide do not use improve sanitation facilities which ensure hygienic separation of human excreta and prevent the contamination of the local environment (UNICEF/WHO, 2012).

Poor sanitation and hygiene have been linked to a specific negative health outcome including diarrhoea which remains the leading cause of death among children under five years which results in the death of approximately 750000 people worldwide (United Nation Report, 2010).

Approximately 15% of the global population nearly 1 billion people defecate in the open. India has four times these global rates with nearly 60% of its population practicing open defecation. (United Nation Report, 2010).

Indian's situation is more striking given that it is richer than many other countries that have reduced OD particularly in sub-Saharan African countries and across its border in Bangladesh (UNICEF/WHO, 2012). Culturally, India appears distinct from other countries which many explain its high rate of open defecation (Research institute for Compassionate Economics [R.I.C.E], 2010).



1.2 Rationalisation of the Problem

The practise of open defecation is strongly related to the development of a country and hence no nation will develop with this act of insanitary activities. (WHO, 2011). This situation is not different from the situation in Malshegu. Majority of the inhabitants lack access to toilet facilities, and hence defecate in the open widely. These practises affect the lives of the people, as rain water washes faeces products to water bodies (rivers) which served as their drinking waters. In such situation, the people are exposed to various sanitation and water related diseases, such as diarrhoea, cholera and malaria and among others.

Unfortunately, the inhabitants of Malshegu have inadequate knowledge on the effects of open defecation and the importance of the practise of hand washing with soap. The households do not also cover their water stored at home and exposes their water sources to all kinds of contaminations.

1.3 Project Goal

The goal of this project is to address the incidence of open defecation in Malshegu community to improve the health of the people in the community.

The specific objectives of the project are:

To educate the people of Malshegu on the negative effects of open defecation

To assist the community people construct household latrines

To increase access to and use of hand washing with soap facilities at Malshegu.

To help the community people identify local based strategies to addressing the incidence of open defecation in Malshegu



1.4 Significance of Project

The project will contribute to addressing the incidence of open defecation in Malshegu community. It will also increase the knowledge of the people on the effects of open defecation as result of the adoption of Community Led Total Sanitation support (CLTS) strategy; couple with stakeholder engagement to educate the people about the effects of open defecation. The findings of the project will serve as one of the reference materials for the development practitioners, academia, students, governments and other organizations interested in finding solutions to the menace of open defecation in Ghana and beyond.

1.5 Project Outcomes

The project results have been achieved in the community as follows:

1. Five households constructed household's latrines due to increase awareness on the effects of open defecation
2. Community people now practise hand washing with soap at critical times
3. Increased access to hand washing with soap facilities
4. Improved households water storage and transport system

1.6 Project Risk

The following are the expected risks the project will pose to the lives of the people in the community.

1. Children and animals may fall into the pits if not properly covered
2. The facility may start leaking early since it was roofed using local materials, grass.



3. Community people may lack knowledge in keeping and maintaining their toilets and latrines waste products (faeces) after manholes are full, which may compound the sanitation problems in the community.
4. Lack of post implementation monitoring from the natural leaders of the community may lead to collapse of the intervention
5. A change in behaviour may take a longer time for people to conform to the use of latrines and toilets

1.7 Conclusion

This chapter has presented and discussed the project background, rationalization of the problem, project goal, significance of project, project outcomes and project risk.



CHAPTER TWO

LITERATURE REVIEW

2.0 Chapter Overview

This chapter critically reviews existing literature on open defecation as a phenomenon in communities. The chapter will also present and discuss social norm as the theoretical framework in this study, the chapter will also look at the causes of open defecation, the effects of open defecation on the general well-being of people, the advocacy model presented and the conclusion.

2.1 Theoretical Review

The theory that will underpin this study is the Social Norm Theory. This is presented and discussed under the following sub-headings:

2.1.1 Social Norm Theory from an International Perspective (University of Pennsylvania-United States of America)

According to Bicchieri (2016), the theory of social norm is a theory of what motivates collective patterns of behavior. It tries to answer a very basic question of why do people do what they do? Furthermore, Bicchieri (2006) explains that a social norm is a rule of behavior such that individuals prefer to conform to it, that is, most people in their reference network conform to it (empirical expectations), also most people in their reference network believe they ought to conform to it (normative expectations) on condition they believe.

Bicchieri (2016) uses the following very simple, measurable concepts to answer the question why people do what they do:



Preference (conditional): People do what they do because they prefer to act that way. That is, Preference = a disposition to choose in a specific way, all things considered. Choices reveal preferences; If I choose A over B(for whatever reason), then I prefer A over B. Preferences \neq likings (Bicchieri, 2016).

According to Bicchieri (2016) there are two Kinds of Preference;

Unconditional: I have the preference regardless of what I expect others do or what I expect others think I should do. Unconditional Preference is Independent Choice

Conditional: My preference depends on what I expect others do or what I expect others think I should do. Conditional Preference is Interdependent Choice

The possible answers given by Bicchieri (2016) to why people prefer to do what they do are:

- (1) Because they believe it meets a need
- (2) Because they believe it is the right thing to do
- (3) Because they believe other people are doing it
- (4) Because they believe others think they should do it

To relate the above possible answers to the two kinds of preference: (1) and (2) are unconditional preferences; (3) and (4) are conditional preferences (Bicchieri, 2016).

Personal Normative Belief: According to Bicchieri (2016), personal normative beliefs are beliefs about what should happen. For examples:

I believe: “Men should (or should not) control the use of a phone in a household.”

I believe: “Women should (or should not) report intimate partner violence to police.”

I believe: “Sexually active people should (or should not) use condoms.”



Social Expectations: Bicchieri (2016) highlights that there are two kinds of Social Expectations which are:

Empirical expectations which are beliefs about what we expect others to do. For examples:

- I expect: “Most women will not maintain a bank account.”
- I expect: “Most girls will marry before the age of 15.” (Bicchieri, 2016)

Normative expectations which are beliefs about what others think we should do. For examples:

- I expect: “Men to believe that men should make decisions about food consumption, production and sale in the household.”
- I expect: “Villagers to believe that women and children should fetch the water from the local source” (Bicchieri, 2016).

Reference Network: According to Bicchieri (2016), if anyone has a conditional preference to engage in some collective pattern of behavior, then that person’s behavior depends on his or her social expectations. But these expectations are about people whose behaviors and beliefs matter for his or her behavior. There are his/her reference networks.

According to Bicchieri (2016), for the existence of a social norm, the following have to be present:

Empirical expectations: I believe enough other people are conforming to the behavioral rule

Normative expectations: I believe enough other people think I should conform to the rule/others will punish me if I don’t conform\



Conditionality: I prefer to conform to the rule dependent on my empirical and normative expectations.

According to the United Nations International Children’s Emergency Fund (2015), social norm theory deals with a rule of behaviour that individuals prefer to conform to on condition that they believe that most people in their reference network conform to it and a belief that most of people in their reference network believe they ought to conform to it.

2.1.2 Social Norm Theory from African Perspective (Kenya)

According to Tifow (2011), a social norm approach is more inclusive covering all sections of the community including institutions, pastoralists, street children and families and urban slums where OD is practised. A social norm approach offers higher chances of accelerating latrine use adoption and sustainability of behavior due to acceptance of norm and desire for conformity.


The question is, are Social Norms present in Open Defecation practise in Malshegu? Using recent advances in social norms theory, we can use Game Theory to explain the prevailing OD practise behavior in Malshegu.

In the preceding Table 2.1, if we use two players (self- row player and Other (Column player) to represent Malshegu, we can analyse each players behavioral preference using (OD preferred) or L (latrine use preferred). Using values where best, is the highest score and worst, the least, we find that the Row player has the highest outcome when he chooses to play OL, while the Column Player has highest outcome when he chooses LO. In other words, each player chooses to play a dominant strategy in which he maintains preference for OD.



Table 2.1: Game Theory

Other (Column Player)

	O	L
Self (row Player)		
Self (row Player)	Third, Third	Best, Best
L	Worst, Best	Second, Second 

Source: Bicchieri (2016)

O – Defecate in the Open

L- Defecate in a Latrine

In this game, we see that each player chooses OD irrespective of what the other player choose maximizing personal and economic benefits (construction costs, maintenance costs of latrines, pollution of environment) to him. In LL, when both players choose to use latrine we have the second best outcomes and therefore an equilibrium. This is a social dilemma.

According to Tifow (2011), two things are necessary for a social norm to exist:

Empirical expectations (I believe what I see) and

Normative expectation (what I think others think and should do).

Recent experiences with CLTS show there is empirical expectation around construction and latrine usage. But normative expectations are not present. In this regard, we need to create a social norm around latrine usage. Once a norm has emerged, we can change the payoff structure for latrine construction and usage. Payoff may be reputational (negative-



shame, disgust, rejection, disesteem) or positive- pride, dignifying, high social status. These new payoffs are linked to benefits to the community from latrine usage (reduced illness, reduced health costs, cleaner environment) to create common knowledge around latrine usage using organized public information campaigns, mass meeting, natural leaders etc. Latrine usage then becomes a shared value. When values are shared, a social norm is in place (Bicchieri, 2016).

Using Game Theory again, we can explain if a new social norm exists. Using the same Row and Column players, in the preceding Table 2.2, we find that both players have the best outcome in column LL (latrine use preferred choice). In this column, action is coordinated, expectations are mutual- latrine use and community benefits are highest. In columns LO and OL, the outcomes are third and worst for either player, hence no strategic value in defecting to practise OD due to desire to conform to expectations by others. Each player defects to column LL where outcomes are best as shown by the arrows. In Column OO, our outcomes converge but the outcome is only second, lower than LL hence inefficient. Columns LL and OO are equilibrium points called the Nash Equilibrium. When a social norm exists, players will coordinate their actions to conform to latrine usage and create a highly efficient equilibrium on latrine use. This is called a coordination game.



Table 2.2: Coordination Game

OTHER (column Player)

SELF (row player)	L	O
L	Best ★	Third Worst
O	Worst Third	Second ★ Second

Source: Bicchieri (2016)

L – Latrine used for defecation

O- Open Defecation)

Changing practise: We now have a social norm in which there exists a mutually consistent normative expectation with sanctions around latrine usage. Based on evidence from recent studies on low adoption rates among triggered communities in India and elsewhere, a social norm approach linked to CLTS offers a higher outcome for achieving ODF in Malshegu. (Field Survey, 2017).



2.2 Causes of Open Defecation in Communities

Cherukupalli (2016) opines that “there are always people who refuse to believe in the benefits of using a toilet. Many prefer to go out in the open to defecate as their ancestors have done for centuries – a habit extremely difficult to break”.

Singh (2017), indicated that most people from rural areas in India have shown an unwillingness to discontinue their habits of open defecation even if they are given toilets. Many people who already have toilets in their house forgo its use in favor of defecating in the open. In 40 percent of households that had a toilet, at least one member chose not to use it at all. They believe that defecating in the open is more natural and healthy, and that building a latrine in the house brings impurity to it.

In India, Ambesh and Ambesh (2016) state that most open defecation occurs in villages with a prevalence of 65%. In urban settings the prevalence is close to 16%. The problem has thick deep roots with a multi-factorial origin. Unavailability of proper toilets or toilets with dimly lit, broken or clogged latrines is common. However, the biggest problem is the mindset of people in both rural and urban settings. Children grow watching parents and grandparents practise open defecation. Most farmers believe that waking up early and defecating in the field, not only adds natural fertilizer to the soil, but also rejuvenates the bowel and the mind.

According to Acheampong (2010), many inhabitants in Accra do not have access to decent toilets in their homes and therefore are left with the choice of visiting Public Pit latrines to ease themselves or practise open defecation. Many of these Public latrines are in very deplorable state and can be best described as death traps. These facilities are nothing more than a haven of maggots and houseflies. One can hardly bear the stench that emanates from



these Pit latrines. Some users are left with no option than to smoke cigarette while easing themselves or cover their nose to escape from the bad odor.

In some parts of Accra, fees are charged before one can access public latrines, many people cannot afford. Others cannot bear the pressure and uneasiness of joining long queues before having their turn to ease themselves and so defecates into polythene bags and throw them on the streets and dust bins. This poses great environmental concerns because; these actions and many others are the main cause of cholera and diarrhoea outbreak in Accra and other parts of the country. Many people find it convenient to ease themselves at the beaches, in gutters and refuse dumps where they will not pay a dime and also escape from a more or less ,comparatively odor free place of their convenience.

According to the UNICEF (2016) slow progress on sanitation and the entrenched practise of open defecation among millions around the world continue to put children and their communities at risk. Some 2.5 billion people worldwide do not have adequate toilets and among them 1 billion defecate in the open – in fields, bushes, or bodies of water – putting them, and especially children, in danger of deadly faecal-oral diseases like diarrhoea.

Routray, Schmidt, Boisson, Clasen and Jenkins (2015) state in their study that to improve sanitation and promote better health, the Government of India (GOI) has instituted large scale sanitation programmes supporting construction of public and institutional toilets and extending financial subsidies for poor families in rural areas for building individual household latrines. Nevertheless, many household latrines in rural India, built with government subsidies and support of Non-Government Organizations (NGO) are not being utilise.



In their study, Routray, et al. (2015) revealed that government subsidized latrines were mostly found unfinished. Many counted as complete per government standards for disbursement of financial subsidies to contracted NGOs were not accepted by their owners and termed as 'incomplete'. These latrines lacked a roof, door, adequate walls and any provision for water supply in or near the cabin; whereas rural people had elaborate processes of cleansing with water post defecation, making presence of nearby water source important. (Routray, et al., 2015).

Providing infrastructure does not ensure use when there are significant and culturally engrained behavioral barriers to using latrines. Such barriers as: habits, socializing, sanitation rituals and daily routines varying with caste, gender, marital status, age and lifestyle is a contributory factor against the acquisition and usage of latrines. Interest in construction of latrine was for only their female members especially the newlywed daughter in-law for their privacy, security and convenience (Routray, et al., 2015). According to Routray, et al. (2015), the barriers found in their study explained in detailed as follow:

Sanitation Rituals and Practises of Higher and Lower Caste People: Defecation practises in rural areas follow elaborate rituals. They often involved symbolic acts of purifying the body and clothes with water following defecation or contact with human faeces or even simply with the latrine itself (such as entering to clean or dispose of a young child's faeces), especially among the higher castes. In a physical sense, however, these may not necessarily result in real cleaning. Similarly, changing clothes is one of the most important parts of most defecation routines of both men and women among higher castes,



but members of lower castes do not also follow this ritual as rigorously as higher castes (Routray, et al., 2015).

Open Defection due to no Latrine:

Lack of access to a latrine was stated as the primary reason why people who did not have a latrine practised open defecation (OD) and lack of cash income on the part of economically poor families was the most stated reason for not opting to install subsidized latrine. Others thought sanitation costs were high and unaffordable (Routray, et al., 2015).

Reasons for Maintaining Open Defecation despite owning a Latrine

Rural people had their justifications for practicing open defecation despite owning a latrine, especially those with a subsidized latrine. One important reason related to gaps in the government TSC sanitation intervention delivered to rural communities. Many did not use their subsidized latrine because they complained that the structures were not built properly, that they lacked a roof, a door, and any walls sometimes, or the pits were too small (Routray, et al., 2015).

In their study, Routray, et al., (2015) found that there were also complains about the small design of the cubicle which made squatting difficult and uncomfortable moreover, latrine was unfinished, lacked doors or insufficient height, walls, hence, the privacy of users was not assured especially in the case of the women.

For men (Routray, et al., 2015). Due to the shallow depth of many of the subsidized single pit latrine designs (often three rings, each 25 cm height, for total depth of 75 cm), some feared that if all members used the latrine all of the time, the small pit would quickly get filled. So, men preferred to defecate outside in the dry season, leaving the latrine for women to use (Routray, et al., 2015).



In the study communities, people are washers (*i.e.*, using water for anal cleansing and post defecation ritual bathing) so that the absence of a water supply in or next to the toilet was another major reason for non-use of subsidized latrines. The subsidized toilets required fetching about 12 L (one bucket) for anal cleansing and flushing the waste from the pan, and another 12 L (2nd bucket) for post-defecation washing of their body and clothes (Routray, et al., 2015).

This water had to be fetched or available at the latrine before entering to defecate, since a person who has defecated was contaminated (polluted) and therefore could not touch the water supply point without first ritually purifying themselves by bathing or changing clothes. Further, many poorer households only possessed one bucket, and a bucket, once carried into the latrine was considered contaminated and could no longer be used for other tasks (Routray, et al., 2015).

Water fetching for latrine use is perceived as an additional time consuming new task, whereas in going for open defecation they are spared from this workload, because sites are selected near open water bodies where they can easily and conveniently perform anal cleansing and bathing before returning (Routray, et al., 2015).

For some, occupation was a hindrance to latrine use which did not suit their daily routine.

For farmers, who leave the house first thing in the morning for the fields, using the latrine was inconvenient and extra work and time. They did not feel the need to come back from the farm, only to defecate in the latrine and have to fetch water. Other than these reasons, people were not able to give up their old habits of open defecation (Routray et al., 2015).

Socializing: Socializing was another important factor contributing to low latrine use, especially among the female population who remained confined to the four walls of the



house. Open defecation especially in the evening was a rare opportunity for them to leave their houses at least for some time and be free from household chores and responsibilities, and mix with others (Routray, et al., 2015).

2.3 Effects of Open Defecation on the General Well-Being of People

According to George (2017), no country in the world has more open defecation than India, where one in two people defecate outside. Every year, 200,000 children in India die from diseases caused by fecal contamination.

According to Singh (2017), open defecation practises remain a huge health and safety risk, and issues. In India, there have been hundreds of cases of women being raped, murdered and hung on trees after they were defecating in an open field. India's dense population also means that even in rural areas, human faeces are not easily kept away from fields, wells and food. Bacteria and worms in faeces are often accidentally ingested. This results in a range of health problems from diarrhoea to chronic sickness that prevents the absorption of calories and nutrients. Many specialists believe that the problems open defecation causes are the reason 50 percent of Indian children are malnourished (Singh 2017).

According to Ambesh and Ambesh (2016), open defecation is the mother of all infection and morbidity. The WHO declared the year 2008 as International Year of Sanitation. It was here that the term 'Open Defecation' was widely publicized. Community Led Total Sanitation (CLTS) programs helped spread the term all around the globe.

Open defecation is a major cause of fatal diarrhoea. Everyday about 2000 children aged less than five succumb to diarrhoea and every 40 seconds a life is lost. It is depressing that all this needless suffering is actually preventable (Ambesh & Ambesh, 2016). In densely



populated countries like India, the health impact is magnified many fold. There is evidence to suggest that water sanitation and hygiene practises are associated with child linear growth. Children have a tendency to put common things in their mouth (Ambesh & Ambesh, 2016). In rural settings where open defecation is prevalent, large amounts of faecal pathogens via human and animal feces are ingested by children. This creates a massive reservoir of bacteria, parasites and viruses that keep spreading gastrointestinal infection. An eventual result is growth stunting and malnutrition (Ambesh & Ambesh, 2016).

According to This Day Live (2016), experts have consistently warned that when large numbers of people are defecating outdoors, it's extremely difficult to avoid ingesting human waste, either because it has contaminated the food or water supplies or because it has been spread by flies and dust. According to This Day Live (2016), a joint UNICEF and the World Health Organization report previously published on the issue revealed that the absence of toilets remains one of the leading causes of illness and death among children. The report said that diarrhoea, a disease often associated with poor sanitary conditions, and respiratory infections resulting from poor hygiene, kill about 400,000 children under the age of five annually. These deaths are largely preventable with improvements in water, sanitation and hygiene (This Day Live, 2016).

The UNICEF report was amplified by the country representative of WaterAid to Nigeria, who said every seven women out of 10 had no access to safe toilets, and millions of other women and girls lacked safe and adequate sanitation (This Day Live, 2016). Every year, over 85,000 mothers in Nigeria lose a child to diarrhoea diseases caused by lack of adequate sanitation and clean water. Women and girls living in Nigeria without toilet



facilities spend 3.1 billion hours each year finding a place to go to the toilet in the open (This Day Live, 2016).

Akapule (2015) claims that as a result of open defecation phenomenon and the lack of sanitation facilities in Ghana, in 2014, the country recorded a massive outbreak of cholera. According to the situational report of World Health Organization Country Office in Ghana, the epidemic affected 123 out of the 216 districts in the 10 regions. It gave a cumulative total of 26,286 cases with 211 deaths. According to Akapule (2015), the Greater Accra Region recoded 72% of the cases and with the highest recorded deaths. The International Federation of Red Cross also cited Greater Accra as the most affected region, with 5,558 cases and 45 deaths.

Akapule (2015) attributed the outbreak of cholera to open defecation because there is a relationship between faecal waste and cholera. Every patient diagnosed to have cholera meant that the patient might have eaten faecal waste. Rainwater often washes faecal matter into drinking water sources thereby affecting the sources. Drinking from such sources could lead to water borne diseases particularly cholera.

It should be pointed out that the impact of Open Defecation on the socio-economic development cannot be overemphasized (Akapule, 2015). Health experts have confirmed that there is a direct correlation between open defecation and diseases such as dysentery, typhoid and cholera among others. There is no doubt that in the wake of a cholera outbreak, government spends huge sums of money in the procurement of medicines in trying to support and to manage the problem (Akapule, 2015).

Apart from government spending so much money in managing the situation, the productivity sectors such as agriculture, industries, trade and the economy including all the



government sectors are often affected leading to lower productivity as many affected persons are unable to go to work (Akapule, 2015).

According to Acheampong (2010) in some areas of Accra, public latrines do not have hand washing facilities which is the major cause of the rampant diarrhoea and cholera outbreak in the metropolis, especially among children. Inhabitants who live close to these facilities suffer from the hazards that it pose and can hardly breathe in any fresh air.

Acheampong (2010) laments that when it rains; these indiscriminate human wastes are washed into our water bodies which are the main source of drinking water for both human and livestock. This inevitably leads to the outbreak of cholera, diarrhoea and other perilous diseases which have claimed many precious lives in the past and is still claiming the lives of many poor children and adults who cannot afford portable accommodation and hygienic toilet facilities.

This will go a long way to retard economic development since; a lot of money is wasted by the government in treating the diarrhoea and cholera yearly. Many children are made orphans, and parents tend to have more kids to compensate for those who will be lost to preventable sanitation diseases. Many of the country's work force, the youth, are also lost to these preventable and treatable disease (Acheampong, 2010).

According to UNICEF (2014) in 2013 more than 340,000 children under five died from diarrhoeal diseases due to a lack of safe water, sanitation and basic hygiene – an average of almost 1,000 deaths per day.

In Kenya, Tifow (2011) laments that open defecation and its public health, social and economic impacts can create a vicious cycle of illness, high expenditure on health care, lost work and schooling and poverty (UNICEF, 2014). Girls and women are at most risk



and made more vulnerable by poor sanitation and hygiene. In some regions, girls and women are forced to defecate only in the dark exposing them to serious illness due to waiting, in addition to increased risk of harassment and assault to and from defecation areas. Tifow (2011) claims that among children under age five, the two main causes of mortality; acute respiratory infections and diarrhoea diseases are closely linked to poor water, sanitation and hygiene. Of the 1.8 million people estimated to die each year from diarrhoea, 1.5 million are children. Repeated diarrhoea episodes are a significant underlying cause of malnutrition, leading to weakened immune systems and stunted growth (UNICEF, 2014).

2.4 Advocacy Model Implemented

Increase sanitation and hygiene services in communities are crucial to the promotion of good health, increase income and economic potentials of communities. As an essential service, the role of every stakeholder is needed in order to achieve a sustainable sanitation and hygiene services. As a result, this research adopted Community-Led Total Sanitation (CLTS) approach to increase access to sanitation and hygiene services in Malshegu. The analysis of the results shows that CLTS is an effective strategy to increase community access to improved sanitation and hygiene services. The rationale is that, the approach relied on the use of community resources, both material and human resource in the provision of sanitation facilities without external financial support, except capacity building and technical support



2.5 Conclusion

This chapter review critically existing literature on the phenomenon of open defecation in communities. The chapter also present and discuss social norm as the theoretical framework in this study, the chapter also look at the causes of open defecation and the effects of open defecation on the general well-being of people. The chapter also presented and discussed the advocacy model presented.



CHAPTER THREE

METHODOLOGY

3.0 Chapter Overview

This Chapter presents the methodologies adopted and the specific activities carried-out in order to address the incidence of open defecation in Malshegu. The reason for the choice of the approach is also discussed. In addition, the section further presents the profile of the study area, the characteristics of the beneficiaries as well as the data analysis and presentation processes. Mixed method of research was used by the researcher to identify how the few existing toilets was been used and also find out some of the social and cultural factors that promotes open defecation in the community so as to find a diverse strategy to addressing the problem

A mixed method of research is the process and procedure for collecting, analyzing both qualitative and quantitative data in a single study or in a sequential studies based on priority and sequence of information (Green and Caracelli, 1989).

Non-probability-accidental sampling technology was used to select respondents from Malshegu community in the Sagnarigu District, community members such as the women, youth, chief and opinion leaders were selected and administered questionnaires. They formed the key informants to situations and can give the best information about open defecation in the community. In all 65 respondents formed the sample size of the study constituting of 30 women, 20 youth and 15 opinion leaders.



3.1 Profile of Project Site or Beneficiaries

The Sagnarigu District with its capital at Sagnarigu is one of the six (6) newly created districts in the Northern Region in the first half of 2012. It was carved out of the Tamale Metropolis by Legislative Instrument (LI) 2066. The district was inaugurated on 24th June, 2012. One of the reasons for the creation of the district was to redirect developmental projects to the communities north and west of the Metropolis (now Sagnarigu) which were relatively less developed as compared to the urban areas in the Tamale Metropolis. The Sagnarigu District has 79 communities, comprising of 20 urban, six peri-urban, and 53 rural areas (PHC, 2010).

3.1.1 Population Size, Structure and Composition

The population of Sagnarigu District, according to the 2010 Population and Housing Census, is 148,099 representing six percent of the region's total population. Males constitute 50.6 percent and females represent 49.4 percent. The district has an urban population of 93,550, representing 63.2 percent. The district has a sex ratio of 102.3 The population of the district is youthful (0-14 years) representing 37.5 percent and depicting a broad base population pyramid which tapers off with a small number of elderly persons (60+ years) (5.9%). The total age dependency ratio for the District is 71.2, the age dependency ratio for males is higher (71.9) than that of females (70.5) (PHC, 2010).

3.1.2 Fertility, Mortality and Migration

The District has a Total Fertility Rate of 3.3 which is slightly higher than the Regional average of 3.5. The General Fertility Rate is 92.8 births per 1000 women aged 15-49 years



and a Crude Birth Rate (CBR) of 24.2 per 1000 population (PHC, 2010). The crude death rate for the district is 5.7 per 1000. The death rate for males is highest for ages 70+ years representing 47.1 deaths per 1000 population while for the females, the highest death rate of 28.4 deaths per 1000 population is for age 70+ years. Also, 7.2 percent of deaths in the District are due to accident/violence/homicide/suicide, while the rest are due to other causes. Majority of migrants (58.7%) living in the district were born elsewhere in the Northern region, while those born in another region constitute 39.4 percent. For migrants born in another region, those born in Upper East constitute 30.7 percent followed by Ashanti with 14.2 percent and Upper West, 13.3 percent (PHC, 2010).

3.1.3 Household Size, Composition and Structure

The district has a household population of 146,291 with a total number of 23,447 households. The average household size in the district is 6.3 persons per household. Children constitute the largest proportion of the household composition accounting for 43.3 percent. Spouses form about 9.9 percent. Extended (Heads, spouse(s), children and Head's relatives) households constitute 50.5 percent of the total number of households in the district (Population and Housing Census, 2010).

3.1.4 Marital Status

About half (48.5%) of the population aged 12 years and older are married, 45.3 percent have never married, 0.6 percent are in consensual unions, 3.8 percent are widowed, 1.1 percent are divorced and 0.7 percent are separated. By age 25-29 years, about two-third of the females (70.1%) are married compared 30.7 percent of their male counterparts. At age



65 and above, widowed females account for as high as 55.3 percent while widowed males account for only 5.8 percent. Among the married, 59.3 percent have no education while about 16.1 percent of the never married have never been to school. About seven in 10 of the married population (73.8%) are employed, four percent are unemployed and 22.3 percent are economically not active. A greater proportion of those who have never married (50.1%) are employed with 4.2 percent unemployed (PHC, 2010).

3.1.5 Nationality

The proportion of Ghanaians by birth in the district is 95.4 percent. Those who have naturalized constitute 0.7 percent and the non-Ghanaian population in the district is 2.0 percent.

3.1.6 Literacy and Education

The district has one public university, two teacher training colleges and Polytechnic. Five public senior high schools and numerous basic schools, of the population 11 years and above, 60.0 percent are literate and 40.0 percent are non-literate. The proportion of literate males is higher (68.3 %) than that of females (52.0%). About 59.1 percent indicated they could speak and write both English and Ghanaian languages. Of the population aged three years and above (135,846) in the district, 33.7 percent has never attended school, 44.7percent are currently attending and 21.5 percent have attended in the past (PHC, 2010).



3.2 Economic Activity Status

About 59.0 percent of the population age 15 years and older are economically active while 41.0 per cent are economically not active. Of the economically active population, 92.1 percent are employed while 7.9 percent are unemployed. For those who are economically not active, a larger percentage of them are students (58.2%), 22.3 percent perform household duties and 2.1 percent are disabled or too sick to work. Five out of ten (54.6%) unemployed are seeking work for the first time (PHC, 2010).

3.2.1 Occupation

Of the employed population, about 27.0 percent are engaged as service and sale workers, 22.0 percent craft and related trade, 21.5 percent engaged as skilled agricultural forestry and fishery workers and 16.0 percent are engaged as managers, professionals, and technicians.

3.2.2 Employment Status and Sector

Of the population, 15 years and older 57.2 percent are self-employed without employees, 25.6 percent are employees and 6.0 percent contributing family workers. The private informal sector is the largest employer in the district, employing 77.5 percent of the population followed by the public sector with 15.9 percent.

3.3 Information Communication Technology

Of the population 12 years and above, 48.4 percent have mobile phones. Among the men, those who own mobile phones constitute 54.9 percent as compared to 41.9 percent of



females Less than 10 percent (9.0%) of the population 12 years and older use internet facilities in the district. Only 13.4 percent of the total households in the district have desktop/laptop computers (PHC, 2010).

3.4 Disability

About 1.5 percent of the district's total population has one form of disability or the other. The proportion of the male population with disability is slightly higher (1.5%) than females (1.4%). The types of disability in the district include sight, hearing, speech, physical, intellect, and emotion. Persons with sight disability recorded the highest of 30.3 percent followed by physical disability (28.5%). There are more females with sight and physical disabilities than males in both the urban and rural localities. Of the population disabled, 52.7 percent have never been to school (PHC, 2010).

3.5 Agriculture

Only three out of ten (36.5%) of households in the district are engage in agriculture. In the rural localities, 47.9 percent of the households are agricultural households while in the urban localities, 29.9 percent of households are into agriculture. Most agricultural households in the district (84.2%) are involved in crop farming. Chicken is the dominant animal reared in the district.

3.6 Housing

The housing stock of Sagnarigu District is 16,307 representing 6.3 percent of the total number of houses in the Northern Region. The average number of persons per house is 9.1.



3.6.1 Type, Tenancy Arrangement and Ownership of Dwelling Units

About 69 percent of all dwelling units in the district are compound houses; 13.0 percent are separate houses and 5.0 percent are semi-detached houses. About six out of ten (61.7%) dwelling units in the district are owned by members of the household; 25.2 percent are owned by private individuals; 5.2 percent are owned by a relative who is not a member of the household and only 5.8 percent are owned by public or government. Less than one percent (0.6%) of the dwelling units is owned through mortgage schemes (PHC, 2010).

3.6.2 Material for Construction of Outer Wall, Floor and Roof

The main construction material for outer walls of dwelling units in the district is cement/concrete accounting for 62.7 percent with mud brick/earth constituting 2.7 percent of outer walls of dwelling units in the district. Cement (84.8%) and mud/earth (10.7%) are the two main materials used in the construction of floors of dwelling units in the district. Metal sheets (80.5%) and Thatch/Palm leaf or raffia (13.2%) are the two main roofing materials for dwelling units in the district.

3.6.3 Room Occupancy

Single room constitutes the highest percentage (28.7%) of sleeping rooms occupied by households in housing units in the district. About 14 percent of households with 10 or more members occupy three rooms.



3.6.4 Utilities and Household Facilities

The three main sources of lighting in dwelling units in the district are kerosene lamp (20.3%), electricity (73.7%) and flashlight/torch (4.1%). The four main sources of water in the district are pipe-borne inside dwelling, out-side dwelling and public stand-pipe. Pipe borne water together contributes 90.7 percent of drinking water of households. A greater proportion of households do not have toilet facilities representing 46.2 percent, followed by households using Public toilet (WC/KVIP/Pit pan etc.) District share separate bathrooms in the same house and another 28.1 percent own bathrooms for exclusive use by household members (PHC, 2010).

3.7 Waste Disposal

The most widely method of solid waste disposal is by public dump in the open space accounting for 29.3 percent. About 21.4 percent of households dump their solid waste indiscriminately. House to house waste collection accounts for 9.7 percent. For liquid waste disposal, throwing waste onto the street/outside (53.1%) and onto the compound (21.1%) are the two most common methods used by households in the district.

3.8 Physical Features

3.8.1 Area

The district covers a total land size of 200.4km² and shares boundaries with the Savelugu - Nanton Municipality to the north, Tamale Metropolis to the south and east, Tolon District to the west and Kumbungu District to the north-west. Geographically, the district lies between latitudes 9°16' and 9° 34' North and longitudes 0° 36' and 0° 57' West.



3.9 Climate

The Sagnarigu District, like many others in the Northern Region, has a single rainy season, usually stretching from May to October, and this period naturally coincides with the farming activities in the district. Annual rainfall average ranges from 600mm to 1100mm, the peak being usually between July and August.

Daily temperatures vary from season to season. During the rainy season, there is high humidity with relatively less sunshine and heavy thunderstorms. The mean day temperatures range from 28°C (December - mid-April) to about 38°C (April - June) while the mean night temperatures range from 18°C (December) to 25°C (February, March).

The dry season (November – March) is characterized by the dry Harmattan winds; the Harmattan season presents two extreme weather conditions, the extreme dry cold temperature of the early dawns and mornings and the very warm afternoons (PHC, 2010).

3.10 Drainage and Vegetation

The district is poorly endowed with water bodies; this is attributed to the high underground water table. The only natural water bodies are a few seasonal streams which have water during the rainy season and dry up in the dry season. In addition, there are a few dams and dug-outs such as the Kpene and Kanvilli-Kpawumo. These alternative sources of water provide water for animals as well as for domestic use.

The district lies within the Savannah Woodland Region characterized by tree savannah vegetation of varying sizes and density. The major types of tree in the district are dawadawa, nim, acacia, mahogany, and baobab among others (PHC, 2010).



3.10.1 Soils

The main soil types in the district are sandstone, gravel, mudstone and shale that have weathered into different soil grades. Due to seasonal erosion, soil types emanating from this phenomenon are sand, clay and laterite ochrosols. The availability of these soil types has contributed to rapid real estate development in the area where estate developers have resorted to the use of local building materials such as ‘sea sand’, gravel and clay.

3.11 Political and Administrative Structure

The District Chief Executive is the political head of the district. The district is divided into three (3) area councils; namely Choggu-Sagnarigu, Kalpohini and Kanvilli. It is further subdivided into twenty three (23) electoral areas. There are thirty-one (31) district assembly members, comprising twenty-two (22) elected and nine (9) government appointees. The district has two constituencies: the Sagnarigu Constituency and the Tamale North Constituency with each represented by one (1) elected Member of Parliament in the Parliament of Ghana in Accra (Sagnarigu District Profile, 2013).

3.12 Cultural and Social Structure

3.12.1 Traditional Setup

The chieftaincy institution as well as the traditional set up in the district is well revered and structured. The Sagnari-Naa, who is usually installed by the YaaNaa, is the chief with the highest authority in the district. There are twelve (12) other sub-chiefs under the Sagnari-Naa to whom these sub-chiefs owe allegiance.



3.12.2 Ethnicity

The Sagnarigu District is ethnically diverse. The Dagomba, however, is the main ethnic group in the district. Other ethnic groups are Gonja, Mamprusi, Akan, Dagaaba from the Upper West Region and other parts of Ghana. In addition, there are other ethnic groups from countries in the West African Region such as Burkina Faso, Niger and Mali among others.

3.12.3 Religious Composition

The major religions in the district are Islam (which is the dominant religion), Christianity and Traditional religions. The Dagomba (the dominant ethnic group in the district) are predominantly Muslims while the rest of the ethnic groups who come from other regions of the country but reside in the district are largely Christians.

3.12.4 Festivals

Festivals are very important events in the calendar of the Sagnarigu District. Like many other districts in the Northern Region, Sagnarigu District boasts of a variety of festivals. The most prominent ones are the Damba and fire festival and the two (2) Eid festivals celebrated by the Muslim majority in the district (PHC, 2010).

3.13 Economic Feature

3.13.1 Agriculture

Agriculture is the main economic activity of majority of the citizens of the district, largely engaged in both crop and animal farming. The main crops cultivated by farmers in the



district are yam, millet, maize, cassava, groundnuts, cowpea, and soya beans among others. Livestock farming is also an important agricultural activity in the district and animals such as goats, sheep and cattle are some of the main animals reared in the district. The service and manufacturing sectors also employ some proportion of the population of the district.

3.14 Hospitality Industry

There is an increase in the presence of hospitality industries in parts of the district. More hotels, guest houses and restaurants are springing up. Some of the most prominent hotels and restaurants in the district are the Mariam Hotel, Gariba Lodge, Modern City Hotel and Discovery Hotel among others.

3.15 Transportation

The Tamale Airport, which is now the gateway to Northern Ghana is located approximately 14 kilometers from downtown Tamale and located within the boundaries of the Sagnarigu District. The airport is mainly used for national and currently regional scheduled flights between Tamale, Accra and other cities in Ghana as well as the capital cities of some West African countries.

Public transportation by taxi is one of the most convenient means of getting around the district. However, the most popular means of transportation for the local people is the motorbike. Transportation out of the district to the adjoining towns and districts is, however, largely facilitated by the private mini-bus system (trotro) and the Metro Mass Transport System.



3.16 Road Networks

A few of the roads in the district are fairly good. However, many rural roads are in a deplorable state and in need of resurfacing and reconstruction. Most of the farming and peri-urban communities are linked to the market centres by feeder roads. In the urban and Tamale-North parts of the district, however, the roads have either asphalt or bitumen surfacing.

3.17 Utility Services

The district is endowed with basic utility services. Electricity, water, roads, markets and communication services are mainly available in the urban areas in the district. However, these facilities are either non-existent or inadequate in the rural areas.

3.18 Financial Institutions

The district has two major financial institutions which are both privately owned (Ecobank and Barclays bank). These two (2) banks are all located in Gumani, along the Bolgatanga road

3.19 Project Beneficiary

The beneficiaries of this project are the inhabitants of Malshegu. It is one of the rural communities in the Sagnarigu District that have access to social amenities such as schools, health facility, among others. The population of the community currently stands at 3500 people according to the (PHC, 2010).



Located along the Tamale- Kumbungu road, the community share boundaries with several other communities, it shares boundaries with Young-Duuni to the North, Tampekukoo to the South, Gumo in the Kumbungu district to the west and Kumbuyili to the West.

The main economic activity in the community is farming. The activity of sheabutter processing by the women is also visible and widely processed. The people of Malshegu lacked improved toilet facilities. They also lacked requisite knowledge on basic hygiene and sanitation practises. As a result, the practise of open defecation is rampant, and the community people, especially children rarely wash their hands with soap at critical times, such as after toilet, and after cleaning children when they defecate, among others. Household bathing facilities lack soak away, hence stagnant waters are available and serving as breeding places of mosquitoes. These practises expose the people to various water and sanitation related diseases, such as diarrhoea, cholera, dysentery, and malaria and so on (District Enviromental Health Unit Report, 2016).

3.20 Pre-Intervention Analysis

Before the project interventions, the researcher carried out some basic survey to ascertain the open defecation and other sanitation challenges in the community. The researcher administered questionnaire to opinion leaders, women leaders and some youth as well as children to find out their knowledge on the causes, effects of open defecation in the community.

According to Godwin and Harry (2009) a questionnaire is a set of systematically-structured questions used by a researcher to get needed information from respondents. A questionnaire is any written instrument that presents respondents with a series of questions



or statements to which they are to react either by writing out their answers or selecting from among existing answers. The questionnaire may be self-administered, posted or presented in an interview format. A questionnaire may include check lists, attitude scales, projective techniques, rating scales and a variety of other research methods. As an important research instrument and a tool for data collection, a questionnaire has its main function as measurement.

The survey also enables the researcher to explore the level of community knowledge on hand washing with soap and water storage and transport system. The baseline on toilet facilities, hand washing facilities and soak ways were also collected. Since, Malshegu community is a big community, the researcher sectionalize the community and implemented the project activities in one section (Nayili-fong) the selected section contained 28 households. Therefore, data collection and intervention were done in the 28 households.

3.21 Project Inputs

The following resources and materials were used to facilitate the people to change their habit of practicing open defecation and promote sanitation and hygiene practice Flip chart, stones, arches, leafs and markers were used to help the community members draw their own action plan which served as a guide for implementation and monitoring activities. Additionally, cement, sand and water were used to aid in the demonstrating in construction of household toilets and latrines. Beside these, hoe was used to demonstrate to the people the need for dig-and burry in Malshegu Nayili-Fong



3.22 Project Activities

The main project activities adopted was CLTS, complemented with stakeholder engagement. CLTS activity was used as a refinery stage and subsequent monitoring mostly involved stakeholder's engagement and discussions.

The specific activities of the project are detailed in the preceding sections.

3.23 Pre-Triggering/Community Entry

Pre-triggering was carried out in the community to help build rapport with the community members. The researcher had a meeting with community leaders, the chief, opinion leaders and women leaders. During the meetings, the researcher stated his purpose and mission, so as to gain the co-operation with the local people. During this process, adequate time was devoted to study the political issues and other socio-cultural factors that could impede the project intervention. Thereafter, a day was agreed with the community people for triggering activities to be carried out in order to have a full representation of all stakeholders to ensure a successful triggering and subsequently achieve the targeted goal, since the community is a farming community the project in consultation with the stakeholders in Malshegu agreed on the evening sections for the triggering.



3.23.1 Triggering (Intervention)

According to Kamal and Robert (2008), the initiators of the CLTS strategy, the triggering is a main sensitization process that get the various stakeholders in the community ignited to take appropriate local interventions to end open defecation and improve general sanitation status of the community (Kamal & Robert, 2008)



Photo of a Triggering Section

Source: Field Survey, 2017



Also triggering is based on stimulating a collective sense of disgust and shame among the community members.

During these processes, the community members realized the true fact about the negative impact of open defecation on the entire community, they were also facilitated to know that they were ingesting each other's shit with the practise of open defecation.

When people are successfully triggered, they are ready to adopt any locally available resources and technology including local bye-laws to end open defecation.

The following tools were also adopted as part of the triggering session:

3.23.2 Drawing of Community Defecation Map

The entire community members draw their open defecation map. This map shows where they often defecate in the community. Other important places in the community, such as water sources, schools, homes, chief palace, church, community center, mosque and clinics were identified in the community defecation map. The idea behind the defecation mapping is to enable the community members visualize the flow of faeces to human mouth through the drinking of contaminated water sources.

3.23.3 Mapping of Community Defecation Area Transect Walk

The community people were assisted to draw a simple community defecation mapping, the researcher further led the community people to undertake a walk of shame. This involves walking with community people to open defecation sites, so that the people will feel disgust and ashamed of the action. This exercise exposes the community people to observed how domestic animals and flies pecks on the faeces and transfer them to their homes to contaminate their foods and drinking water.



3.23.4 Children Campaign

Children were also involved in the triggering process by engaging them in a separate mapping, they were also ask to tell in their views the effects of the practise of open defecation.

Songs were developed by the children of Malshegu community to drum home the negative impact of OD.

The adults were then invited to come see their children mapping and also listen to them, there were then coached to continue the process in the community till the community achieve an open defecation free status.

3.23.5 Meeting with Landlords

The researcher also met with landlords to ascertain their plans toward ending open defecation in the community. The idea is that the landlords have the power to decide the availability of toilet facilities in their premise. The strategy was to get the attention of the landlords to be committed to the provision of household latrines and toilets to minimize the practise of open defecation.





Photo of a meeting with the Advocator and the landlords

Source: Field Survey, 2017



3.23.6 Sensitizing Children on Hand Washing with Soap

Hand washing with soap is crucial to the health of people in the community. As a result, the project sensitized the community people on the effects of not washing with soap and the benefits of hand washing with soap, especially at critical times, such as before and after visiting toilet. To increase access to hand washing with soap, the researcher builds the capacity of the community groups to be able to construct tippy tap within their households.

Also, women and girls were educated on the proper water storage and transport system. This will enable them increase access to improved water services at their household levels.



Photo of Children Demonstrating Hand washing with Soap

Source: Field Survey, 2017



3.24 Post Triggering (Monitoring)

Having triggered the community members to draw their own action plan, the researcher plan a visit to the community or to the implementation site to see the level of progress of the implementation of the intervention

3.24.1 Community Action Plan

The community members were assisted to draw their own community action plan of which they spelt out clearly series of activities to be undertaken to help stop open defecation, this activities include sensitization on behavioral change appealing to their conscience and finally creating the awareness of benefit of attaining open defecation free community status.

3.24.2 Drawing of Open Defecation Free Action Plans

Having facilitated the community to come up with defecation map, the community people were again coached to draw the open defecation free map. This means, the community people were facilitated to vision how their community will look like without open defecation.

3.25 Conclusion

This chapter has presented the methodologies adopted and the specific activities carried-out in order to address the incidence of open defecation in Malshegu .The reason for the choice of the approach is also discussed. In addition, the section further presents the profile of the study area, the characteristics of the beneficiaries as well as the data analysis and presentation processes.



3.26 Monitoring and Evaluation

The monitoring and evaluation plan executed in this project is presented in the following table

Table 3.26: Monitoring and Evaluation Plan

OUTCOME	INDICATOR	MEANS OF VERIFICATION	RESPONSIBLE/LEAD PERSON	TIMING	REMARKS
Increase household toilet	1. No. of household with household latrines 2. % of households defecating in household latrines	Households interviews, observation. Transact walk	Student	By the close of September, 2017	Households either use latrines or practise dig and bury.
Increase hand washing with soap.	3. No. of households with Tippytap 4. No. of people practicing hand washing with soap at	Observation, interviews	Student	By August, 2017	85% of households own hand washing facilities and practise hand washing at critical

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	5. No. of households with hand washing with soap facilities (Tippytap)				
	6. participating in sanitation decision making				
Impr transp stora	7. No. of households covering their water sources at home	Observation, interviews			Women to cover all water sources at home
Incre: know effect defec	<ul style="list-style-type: none"> No. of people with knowledge on negative effects of open defecation 	Interviews, Work progress report	Natural leaders and Facilitator		



3.27 Recommendation

Based on the main study the following recommendations were made for considerations by direct and indirect stakeholders concern about sanitation in the District.

First of all, government through the district assemblies should subsidize the cost of toilets facilities for people to own and use the facilities in their homes.

Secondly, stakeholders such as the NGOs, Civil society organization must partner government to help achieve open defecation free status in the communities.

Lastly, there must be a strict enforcement of the district assembly bye laws by punishing all land lords who still failed to construct toilets in their homes.



CHAPTER FOUR

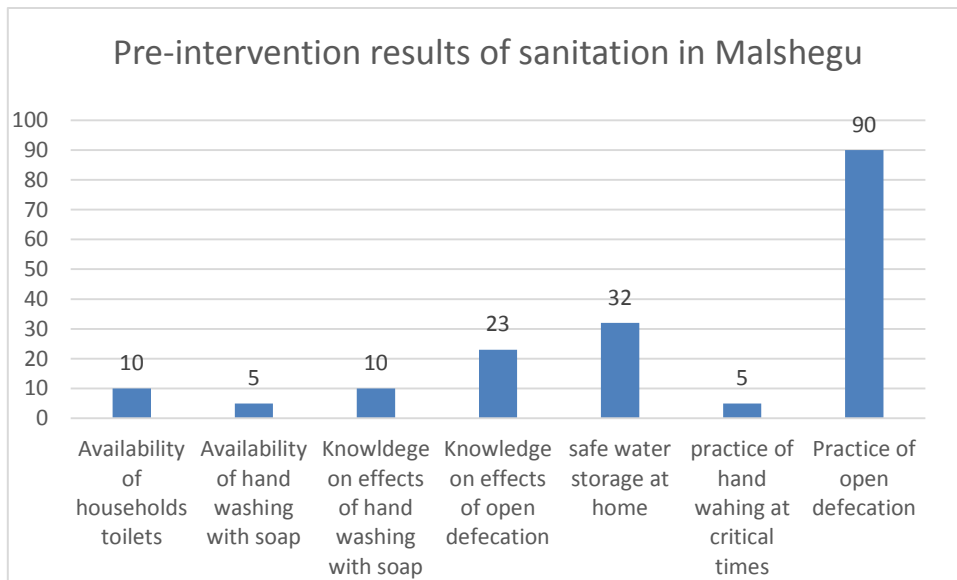
DISCUSSIONS OF RESULTS (OUTCOME)

4.0 Chapter Overview

This chapter presents the outcomes of the project interventions. The first part shows the pre-intervention results while the second part contained the post intervention results in Malshegu. The chapter also presents the success checked by the project, as well as the challenges encountered during project implementation.

4.1 Pre-Intervention Results

Figure 4.1 Bar Chart Showing Pre-intervention Results



Sources: Field Survey, July, 2017

From the results in figure 1.1, it was clear that access to improved sanitation in Malshegu Nayili-Fong was far below the national average of 15% sanitation. The result from the pre-intervention surveys shows that zero percent coverage in terms of sanitation situation in the community. This shows that 100% of all the respondents indicated that they practise open



defecation. The results further shows that hand washing with soap was rarely practised in the Nayili-Fong, since majority of the people (98%) do not have knowledge on the effects of lack of hand washing with soap.

This is confirmed by Ambesh and Ambesh (2016), who state that most open defecation occurs in villages with a prevalence of 65%. In urban settings the prevalence is close to 16%. The problem has thick deep roots with a multi-factorial origin. Unavailability of proper toilets or toilets with dimly lit, broken or clogged latrines is common. However, the biggest problem is the mindset of people in both rural and urban settings.

Similarly, there was no single hand washing with soap in the community and children especially do not practise hand washing at critical times. Women on other hand do not practise safe water storage at home. They allow their pot full of water to be opened, hence debris often falls and contaminate their waters, even if the water is from safe sources.

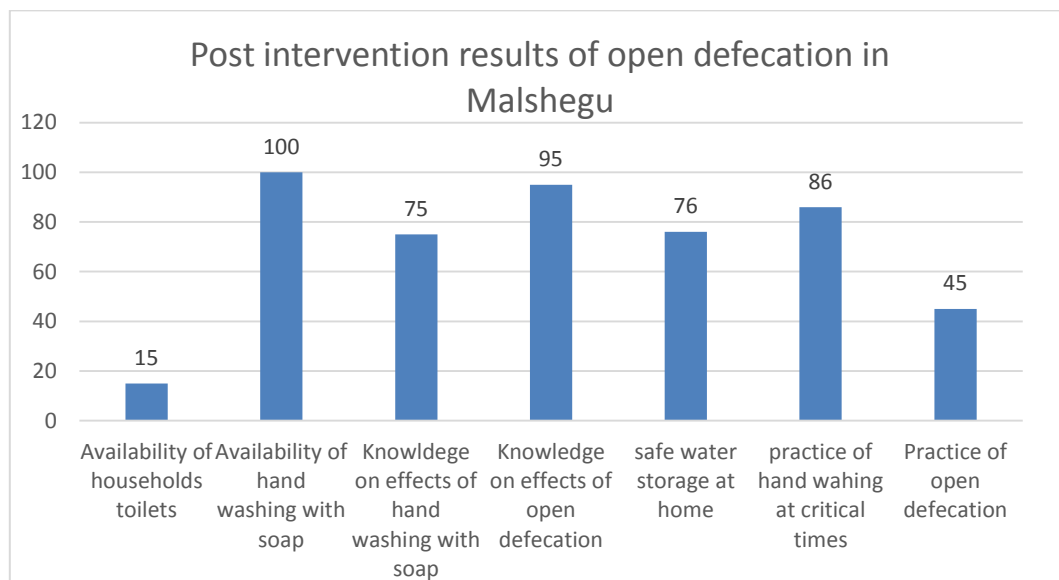
4.2 Post-Intervention Results

The project has made tremendous impact in the lives of the people of Malshegu. As can be seen in the preceding Figure 1.2, the open defecation in the community especially in the Nayili- Fong has reduced because of the project education. About 100% of the people now practise hand washing with soap at their homes, while 95% gained knowledge on the effects of open defecation some have started constructing household latrines as can be seen in the preceding picture. The rest of the households have also started practising dig and bury as a temporal measure while efforts are being made to construct their own toilets. The post intervention result also shows that, the people especially children now practise hand washing with soap at critical times. Household water transport and storage system



has also improved, as 76% of the responded indicate that they now cover their water sources at home.

Figure 4.2: Post-intervention Results of Open Defecation



Source: Field Survey, July, 2017





Photo of a Construction of a Latrine after the implementation of CLTS Approach



The Photo in the post-intervention stage shows an increase in the availability of household toilet of 15% as against 10% in the pre-intervention stage. There is an increased in the availability of hand washing with soap at the post-intervention stage off 100% as shown in figure 4.2 as compared to 5% in the pre-intervention stage. The Photo also shows an increase of 75% in the post-intervention stage about community knowledge on effects of hand washing with soap as compared to 10% at the pre-intervention stage. The Photo again show an increase of 95% in the post-intervention stage about community knowledge on effects of open defecation as compared to 23% at the pre-intervention stage. The above figure also shows an increase of 76% in the post-intervention stage of community act of safe water storage at home as compared to 32% in the pre-intervention stage. It also shows an increase of 86% at the post-intervention stage of community practise of hand washing at critical times as compared to 5% at the pre-intervention stage. Lastly, the figure shows a decrease of 45% of community practise of open defecation at the post intervention stage as compared to 90% in the pre-intervention stage.

This is why Singh (2017) claims open defecation practises remain a huge health and safety risk, and issues. In India, there have been hundreds of cases of women being raped, murdered and hung on trees after they were defecating in an open field. India's dense population also means that even in rural areas, human faeces are not easily kept away from fields, wells and food. Bacteria and worms in faeces are often accidentally ingested. This results in a range of health problems from diarrhoea to enteropathy, a chronic sickness that prevents the absorption of calories and nutrients. Many specialists believe that the problems open defecation causes are the reason 50 percent of Indian children are malnourished.



According to Ambesh and Ambesh (2016), open defecation is the mother of all infection and morbidity. The WHO declared the year 2008 as International Year of Sanitation. It was here that the term ‘Open Defecation’ was widely publicized. Community Led Total Sanitation (CLTS) programs helped spread the term all around the globe.

Open defecation is a major cause of fatal diarrhoea. Everyday, about 2000 children aged less than five succumb to diarrhoea and every 40 seconds a life is lost. It is depressing that all this needless suffering is actually preventable (Ambesh & Ambesh, 2016). In densely populated countries like India, the health impact is magnified many fold. There is evidence to suggest that water sanitation and hygiene practises are associated with child linear growth. Children have a tendency to put common things in their mouth (Ambesh & Ambesh, 2016). In rural settings where open defecation is prevalent, large amounts of faecal pathogens via human and animal faeces are ingested by children. This creates a massive reservoir of bacteria, parasites and viruses that keep spreading gastrointestinal infection. An eventual result is growth stunting and malnutrition (Ambesh & Ambesh, 2016).

4.3 Community Assessment for Open Defecation Free

The researcher having facilitated the community members to begin the usage of toilets, latrines and practise of dig-and bury as a way of achieving open defecation free, then made the following assessment to find out the level of patronage of the implemented intervention, find out the number of households that had constructed latrines and toilets and also assessing the sustainability of the interventions



4.4 Project Successes

The project has achieved the following success after implementation of the activities:

1. Increased in used of household toilets
2. Reduction in open defecation due to the practises of dig and bury
3. People knowledge on effects of hand washing with soap increased.
4. Households knowledge on safe water storage improved
5. Increased in availability of hand washing with soap facilities (Tippytap)

4.5 Project Challenges

The project encountered the following challenges during implementation stage

1. Difficulty in mobilizing the community members. Since Malshegu is a small town, most of the people are petty traders, hence always busy in their trading activities. This makes the community mobilization difficult. However, the researcher adopted the evening meetings to be able to get some key people to participate in the sensitizations sessions.

4.6 Conclusion

This chapter has presented the outcomes of the project interventions. The first part shows the pre-intervention results while the second part contained the post intervention results in Malshegu. The chapter also presented the success chocked by the project, as well as the challenges encountered during project implementation.



CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Chapter Overview

This chapter summarizes the major findings of the work, draws conclusions and makes some suggested recommendations for further studies. The summary of the findings follows the order in which the research objectives were set. First, the section summarizes the causes and effects of open defecation in Malshegu community, and also indicates the local based strategies to stop the practise. It further summarizes the results achieved after piloting the identified local-based strategies, and as well concluded with recommendations for improvement and further research works.

5.1 Summary

The study looked at the incidence of open defecation in Malshegu community to improve the health of the people in the community. The practise of open defecation is strongly related to the development of a country and hence no nation will develop (WHO, 2011). This situation is not different from the situation in Malshegu. Majority of the inhabitants lacked access to toilet facilities, and hence defecate in the open widely. These practises affect the lives of the people, as rain water washes faeces products to water bodies (rivers) which served as their drinking waters. In such situation, the people are exposed to various sanitation and water related diseases, such as diarrhoea, cholera and malaria and among others. Unfortunately, the inhabitants of Malshegu have inadequate knowledge on the effects of open defecation and the importance of the practise of hand washing with soap.



The households do not also cover their water sources at home and exposes their water sources to all kinds of contaminations.

The goal of this project is to address the incidence of open defecation in Malshegu community to improve the health of the people in the community. The specific objectives of the project are:

To educate the people of Malshegu on the negative effects of open defecation

To assist the community people construct household latrines

To increase access to and use of hand washing with soap facilities at Malshegu.

To help the community people identify local based strategies to addressing the incidence of open defecation in Malshegu

Chapter two critically reviewed existing literature on open defecation as a phenomenon in communities. The chapter also presented and discussed social norm as the theoretical review in this study, the chapter looked at the causes of open defecation, the effects of open defecation on the general well-being of people and the advocacy model presented.

Chapter three presented the profile of the study area to be Malshegu in the Sagnarigu District. The beneficiaries of this project are the inhabitants of Malshegu. It is one of the rural communities in the Sagnarigu District that have access to social amenities such as schools, health facility, among others. The population of the community currently stands at 3500 people according to the (Population and Housing Census, 2010).

Before the project interventions, survey was carried out to ascertain the open defecation and other sanitation challenges in the community. The researcher administered questionnaire on opinion leaders, women leaders and some youth as well as children to find out their knowledge on the causes, effects of open defecation in the community.



The main project activities adopted was CLTS, complemented with stakeholder engagement. CLTS activity was used as a refinery stage and subsequent monitoring mostly involved stakeholder's engagement and discussions.

5.2 Conclusion

This project has investigated the incidence, causes and effects of open defecation in Malshegu. The results show an increase in the availability of household toilet from 10% to 15%. There is an increased in the availability of hand washing with soap from 5% to 100%. There is an increase of 75% about community knowledge on effects of hand washing with soap as compared to 10% at the pre-intervention stage.

The project revealed an increase of community knowledge on effects of open defecation from 23 % to of 95%. There was an increase of 76% of community act of safe water storage at home as compared to 32% in the pre-intervention stage.

The project also found an increase from 5% of community practise of hand washing at critical times to as 86%. Lastly, there was a decrease of 45% of community practise of open defecation to 90%.

5.3 Recommendations

The practise of open defecation is link to attitude and behavioral change. This cannot be totally changed within a short period of time. As can be seen, there have been success and challenges since the project could not achieve hundred percent open defecation free status. Increase sanitation and hygiene services in communities are crucial to the promotion of good health, increase income and economic potentials of communities. As an essential



service, the role of every stakeholder is needed in order to achieve a sustainable sanitation and hygiene services. As a result, this research adopted Community-Led Total Sanitation (CLTS) approach to increase access to sanitation and hygiene services in Malshegu. The analysis of the results shows that CLTS is an effective strategy to increase community access to improved sanitation and hygiene services.

The rationale is that, the approach relied on the use of community resources, both material and human resource in the provision of sanitation facilities without external financial support, except capacity building and technical support. However, effective community entry processes is needed to pave way for the success of the application of the approach.

Also, regular monitoring and coaching of community leaders must be consciously done, so as to identify any bottlenecks, such as chieftaincy conflict, neglect of minority tribes and the exclusion of the vulnerable. Without all these observations, the programme will yield no intended results, though the approach might be effective. As results of the successes and the challenges encountered as well as lessons learnt, the following recommendations are given to help sustain and upscale the interventions, as well as to aid in further research purposes.

Sanitation status in Ghana is such that it must be the priority of the government and development partners seriously considering the sector with views to finding appropriate solutions.

Experience from the implementation of CLTS and other NGOs works clearly indicate that, there should be urgency needs to prioritized attitudinal and behavioural change if open defecation is to become a thing of the past.



Also the role of authorities and the need to work closely with communities and all relevant groups and organisations and all those identified by the National sanitation policy can not be over emphasised if sanitation particularly open defecation is to be eliminated. It must come from the people and must be nurtured by indigenous knowledge

Promoting the spirit of unity among community members

Unity has been identified as an important factor in achieving total sanitation in communities. Unity brings communalism in participation and fosters the pace of project execution. The idea is that, there are vulnerable individuals and households in every community, who may not be able to provide the needed resources and energy to construct their own toilet facilities. As a result, communal spirit ensures that those who are well to do in the community supports the poor and the aged to construct and use improved toilets and latrines facilities. Based on these findings, it is recommended that unity indeed is strength, therefore community members are encouraged to promote unity among themselves to promote development.

Children as an agent of behavioral change against OD

The research also found children to be useful in promoting behavioral change especially when they were in a separate triggering activity in the project. Separate educational programmes involving the use of drama, music and play should be adopted to raise the interest of children sanitation and hygiene activities. Therefore, the research recommends that development practitioners should continuously adopt child friendly tools so as to increase good sanitation and hygiene practises. Also, children can serve as effective watch dogs in curbing open defecation in communities and therefore should be coached and given opportunity to lead in that direction to achieve open defecation free in communities.



Children should be encouraged to be bold enough to report all those who refuse and still practise open defecation to the appropriate authority for sanction

Building an effective coordination between community stakeholders

Community leaders play a vital role in the provision of sanitation and hygiene service in our various communities. As a result, policies and strategies should be adopted to enable leaders from one community especially those from the open defecation free communities support the implementation of sanitation intervention. Also, the formation of watch dogs committees in the various communities will also go a long way to help solve the problem in the communities.

Enforcement of sanitation bye- laws in the country

The district Environmental Health Unit is in charge of sanitation laws and health delivery in the various districts. The government, the District Assembly, the security and the traditional authority must help in prosecution and fined all those who violate the sanitation bye- laws in the various communities, the politicians as a matter of fact should not interfere in the work of the district environmental and sanitation units' activities.

Government to invest more on research in sanitation delivery in the country

Based on the funding of this project, there is the need for further study on sanitation delivery services in the country, to inform policy makers on the way forward in addressing the issue of sanitation in the country.

A nationwide study can be conducted to determine the toilet facility coverage since there has been inadequate and reliable information on sanitation and hygiene services in the country. There has also been conflicting figures on toilet facility coverage in the country.



This, when undertaken would enable government, development partners, civil society organisations plan and budget effectively to improve the sanitation delivery in the county.

Introduction of an award scheme for communities that attained OD free

As part of efforts to motivate the various communities across the country to promote good health, communities must be awarded by the government and the ministry of health to motivate others to emulate their habits.



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APPENDICES

APPENDIX A: Questionnaires for Respondents

The research was conducted in partial fulfillment of academic requirement of University for Development Studies, information provided therefore is for academic purpose only and shall be treated in strictest sense of confidentiality.

1. Gender: A Male { } B Female { }
2. Age: A. 15- 20yrs { } B. 21- 25 yrs { } C. 26 – 30 { } d 35 – 40 { }
3. Marital status: A. Married { } B. Single { } C. Divorced { } D. Separate { }
4. Educational back ground: A. Basic Level { } B. Senior High { } C. Tertiary { }
5. Family occupation: A. Farming { } B. Trading { } C. Fishing { } Teaching { }
6. Do you have toilet in your home? A. Yes { } B. No { }
7. If no why
8. How do you feel about open defecation
9. How many people in your house practice open defecation?
10. If you could choose, what type of toilet facility would you like to own and use in your home and why?.....
.....
11. Do you have toilet in your house? a. Yes { } b. No { }
If No why?.....
12. Where do you normally go to toilet?
 - a. Bush
 - b. Public latrine
 - c. Household latrines



- d. A neighbor house
- e. Any other, specify.....

13. If no in question 11, why don't you have toilet?

- a. No funds
- b. No need to own toilet
- c. We have not been told to construct
- d. Lack of bylaws
- e. Any other, specify.....

14. Do you have hand washing with soap facilities in your house? a. Yes { } b. No { }

15. What are the critical times to wash one hand? List two (2)

1.....

2.....

16. Do you normally cover your water storages at home? a. Yes { } b No { }

17. Why it is necessary to own a toilet?.....

.....

.....

18. Why it is necessary to wash hand with soap?.....

.....

19. What local strategies can be adopted to improve sanitation in your community?

.....

.....

20. What do you think can be done to address the incidence of open defecation in the community?.....



.....

.....

.....



APPENDIX C: Picture of a Triggering Process



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APPENDIX D: Photo of a Meeting with the Advocate and the Landlords



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APPENDIX E: Photo Showing Children Practising Hand Washing With Soap by the Use of Tippyta



APPENDIX F: Photo of Post Intervention Results of OD in Malshegu



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**APPENDIX G: Photo of a Contruction of a Latrine after the Implementation of
CLTS Approach**



APPENDIX H: Photo of a Local/Community Latrine

