Original Research Article

ASSESSMENT OF COMMUNITY-LED TOTAL SANITATION SUSTAINABILITY IN EJIGBO LOCAL GOVERNMENT AREA OF OSUN STATE, NIGERIA

Abstracts

Nigeria is among the nations of the world with the highest number of people practicing Open Defecation. This study among others assessed the level of community-led total sanitation (CLTS) in the selected triggered communities and focused on the rationale for the reversion of CLTS programme implemented in some of the some rural communities with poor sanitation coverage in Ejigbo Local Government Area of Osun state, Nigeria, with the technical and financial support of donor agencies. The qualitative, semi-structured questionnaires were administered in 296 households in 41 selected communities. Spatial positioning of communities and water points coordinates were collected through the use of a hand held Global Positioning System- GPS model etrex 10 GARMIN to produce a digital map through the Arc view Geographical Information System software. Two batches of CLTS were conducted in the Local Government Area across 182 communities in 2006 and 2012 with and without subsidy. Communities were triggered and declared open defecation free while some were certified ODF. Majority (75.7%) of the respondents reverted to OD as a result of caved-in of pit latrine due to the use of log of wood, wooden slab as platform over the pit. 5.1% of the respondents improved on CLTS latrine 81.7% of household used the latrine for just two years before defectiveness set in. All respondents agreed to have benefited in the CLTS programme and were willing to return to construct durable latrine provided they get subsidy or are financially buoyancy. This study revealed that emphasis was on latrine construction while other components of environmental sanitation were not properly addressed as any scalability was near to nothing. Monitoring and follow up was found to be weak among the stakeholders.

Keywords: Community Led Total Sanitation, Open Defecation, Open Defecation Free, Improved Sanitation, Sustainability, Scalability

List of Acronyms

OD – Open Defecation

ODF – Open Defecation Free

MDG – Millennium Development Goal

FMWR – Federal Ministry of Water Resources

UNICEF – United Nation Children Fund

CLTS – Community-Led Total Sanitation

Osun RUWESA – Osun State Rural Water and Environmental Sanitation Agency

WASH – Water Sanitation and Hygiene

NL – Natural Leader

WATSAN – Water Sanitation

NGO – Non Governmental Organisation

LGA – Local Government Area

EU – European Union

TTM – The Transtheoretical Model

VIP – Ventilated Improved Pit Latrine

SanMark – Sanitation Marketing

WANG – WaterAid Nigeria

PRA – Participatory Rapid Appraisal

VERC – Village Education Resource Centre (Bangladesh NGO)

NTGS – National Task Group on Sanitation

RUWASSA – Rural Water Supply and Sanitation Agency

IYS – International Years of Sanitation

FCT – Federal Capital Territory

SDG – Sustainable Development Goals

UNDP – United Nation Development Programme

WASCOM – Water and Sanitation Committee

LGA WASU – Local Government Area Water and Sanitation Unit

GPS – Global Position System

GIS – Geographical Information System

SPSS – Statistical Package for Social Science

FGN – Federal Government of Nigeria

UNO – United Nation Organisation

WES Unit – Water and Environmental Sanitation Unit (Local government)

JMP – Joint Monitoring Programme for Water Supply and Sanitation (WHO-UNICEF)

WHO – World Health Organisation

1. INTRODUCTION

Nigeria is among the nations in the world with the highest number of people practicing Open Defecation (OD), estimated at over 46 million people. The practice has had a negative effect on the populace, especially children, in the areas of health and education and had contributed to the country's failure to meet the MDG target (Federal Ministry of Water Resources, 2017). Fifteen million Nigerian still drink water from rivers, lakes, ponds, streams and irrigation canals while fifty-seven million Nigerians do not have access to safe water supply and 45,000 children under the age of five die annually from diseases caused by poor access to water, sanitation and hygiene. The United Nations Children's Fund (UNICEF, 2017) corroborated this by stating that, out of the 46 million Nigerians who practice OD, 33 million live in rural areas and that 130 million Nigerians are using unimproved sanitation facilities in which more than half of those affected are rural dwellers. 14,000 Nigerian communities have attained open defecation free status within the eight years of its intervention via the Community Led Total Sanitation (CLTS) Programme (UNICEF, 2017). WaterAid (2007) reported that CLTS in Nigeria started in October 2004.

Between 2006 and 2012, 182 villages were triggered in Ejigbo Local Government Area of Osun State for CLTS by UNICEF in conjunction with Osun State Rural Water Supply and Environmental Sanitation Agency (RUWESA) and Local Government Water Sanitation and Hygiene (WASH) Unit. Boreholes were drilled in each of the compliant villages through UNICEF as a form of "reward" for compliance. Few years later, it was discovered that majority of the CLTS villages compromised. In some of these communities, there were no traces of the latrines, while in others, they were either caved in or overgrown with bushes.

This is an integrated approach to achieving and sustaining open defecation free (ODF) status. CLTS entails the facilitation of the community's analysis of their sanitation profile, their practices of defecation and the consequences, leading to collective action to become ODF. CLTS processes can precede and lead on to, or occur simultaneously with, improvement of latrine design; the adoption and improvement of hygienic practices; solid waste management; waste water disposal; care; protection and maintenance of drinking water sources; and other environmental measures. In many cases CLTS initiates a series of new collective local development actions by the ODF communities

CLTS is a participatory approach in which an external facilitator triggers an awareness of sanitation and hygiene issues with the aim of generating collective action to eliminate OD. CLTS facilitators encourage the most motivated community members— "natural leaders"—to lead their community by example, by building a latrine and convincing others to do likewise (Kar, 2008).

Nigeria is reported to be a country with the highest number of people practicing open defecation in Africa estimated at over 46 million people and more than two-thirds of the populations are without access to basic sanitation facilities. CLTS is one of the intervention programmes to address the inadequacy of sanitation. This strategy was pioneered in selected communities in Ejigbo Local Government Area. It was discovered that few years later majority of the CLTS villages compromised and resulted to OD. Some latrines were both caved in and overgrown with grasses; and fast majority were without superstructure.

This study primarily focused on assessment of the level of CLTS in the selected villages in Ejigbo LGA of Osun State. Also it assessed the follow up and monitoring programme for CLTS sustainability in the selected villages; and equally assessed the sustained CLTS community in relationship with compromised communities in Ejigbo LGA of Osun State.

2. METHODOLOGY

2.1 STUDY AREA AND DESIGN

This study used descriptive studies to determine sustainability level of CLTS in selected communities. The design made use of interview and questionnaires to determine level of CLTS in the study area. Ejigbo is situated at 7.9° North latitude, 4.32° East longitude and 426 meters elevation above the sea level. Ejigbo is a big town in Nigeria, having about 138,357 inhabitants as shown in Fig 1. A qualitative, semi-structured questionnaire was used to obtain information from individual households who were triggered.

2.2 SAMPLING TECHNIQUES

The sampling was purposive with only communities that have implemented CLTS programmes were visited to conduct the research. The individuals who were included in the study were those that actually participated in the CLTS. The qualitative, semi-structured questionnaires were administered to 296 households in 41 communities. Respondents that were included in this study were heads of household, natural leaders or those who were actively involved in the CLTS; and randomly selected. All those who were contacted agreed to participate. Visitors, new settlers and others who were not part of CLTS implementation were not included in the study.

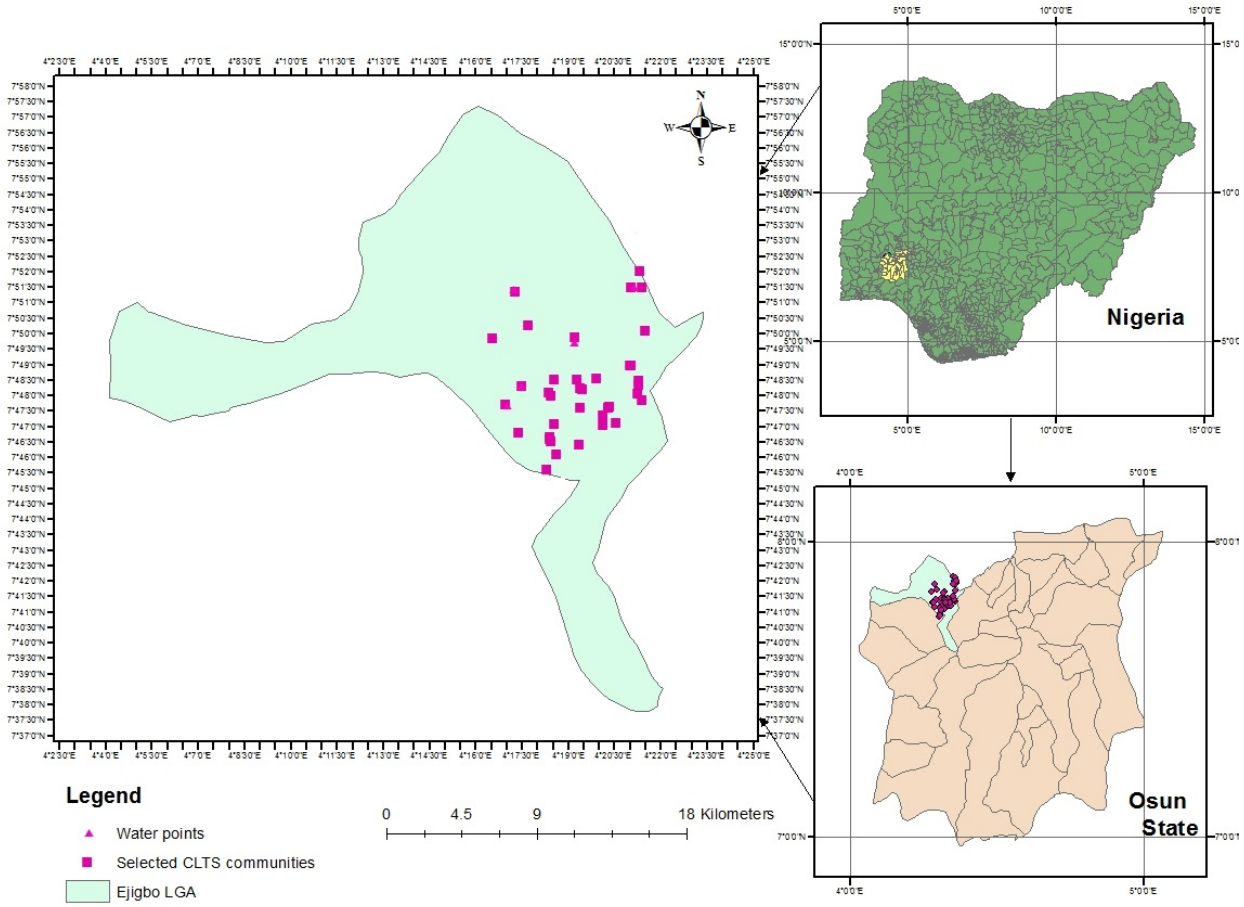

Figure 1: Map of Ejigbo Local Government Area, Osun State

2.3 DATA COLLECTION AND MANAGEMENT

Data were collected in 41 communities in the month of March 2018. All the communities are predominantly rural, with subsistence farming being the main occupation. Face-to-face interview and on-site investigation were conducted on each household latrine. Face to face interviews utilizing trained interviewers were carried out in their houses. Interviews were conducted in Yoruba, the local dialect. The decision to use a semi-structured face to face interview and administration of questionnaire approach as opposed to distribution of questionnaires was seen as the most feasible given that a higher response is guaranteed, literacy levels are not called into question, and non-eligible respondents can be easily identified. Secondary data was collected from Primary Health Care department.

Spatial positioning of communities was collected through the use of a hand held Global Positioning System. GPS model etrex 10 GARMIN used to take the coordinates of the sampled communities and data obtained was used to produce a digital map through the Arc view GIS software. The data collected were analyzed using Statistical Package for Social Science. Results were presented in figures and tables.

3. RESULTS AND DISCUSSIONS

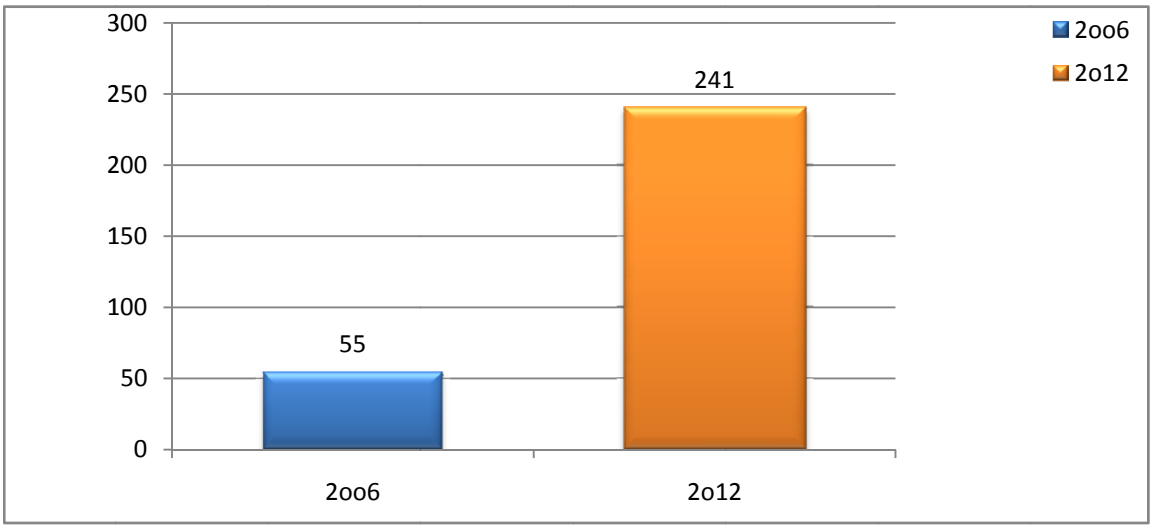

Figure 2: Years of CLTS Implementation

Figure 2 revealed that 19% as the respondents stated that the programme was implemented in 2006 while 81% of the respondent indicated that it was implemented in 2012. This shown that the programme was implemented in two (2) batches in the LGA. The first batch was implemented with subsidy in term of concrete slab for platform, while the second was without subsidy.

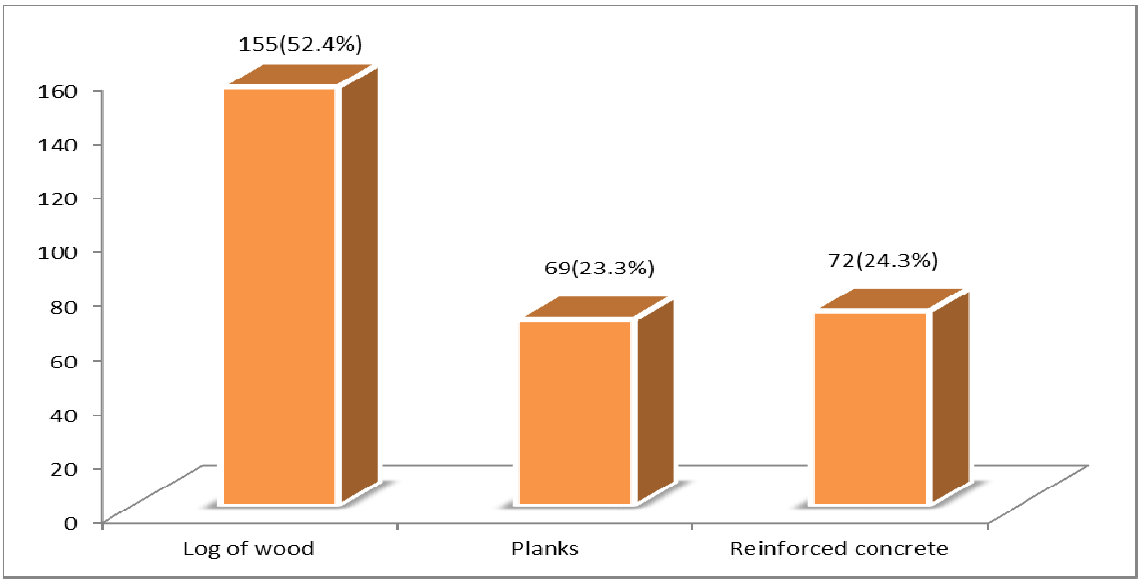

Figure 3: Types of materials used

Figure 3 revealed that 52.4% of the respondents used log of wood for the construction of the pit latrine as slab, 23.3% of the respondents used plank as slab for the construction of pit while 24.3% of the respondents used reinforced concrete slab in the construction of pit. From the above one can deduce the durability of pit latrine constructed with planks and slab being temporary materials. Reinforce concrete slab constructed with good aggregated of cement gravel and iron can withstand longer time than log of wood and plank. This corroborate the finding of Water Aid - Ada et al (2018) that reported that 'the exercise also exposed gaps, particularly around the *quality* of the toilets constructed and used following the CLTS triggering process. Many of the toilets were judged to be dangerously promoting 'fixed point' open defecation as they had no covers, were simple open pits and constructed sometimes with degradable materials such as logs and planks, which made the toilet housing structurally and hygienically unsound'.

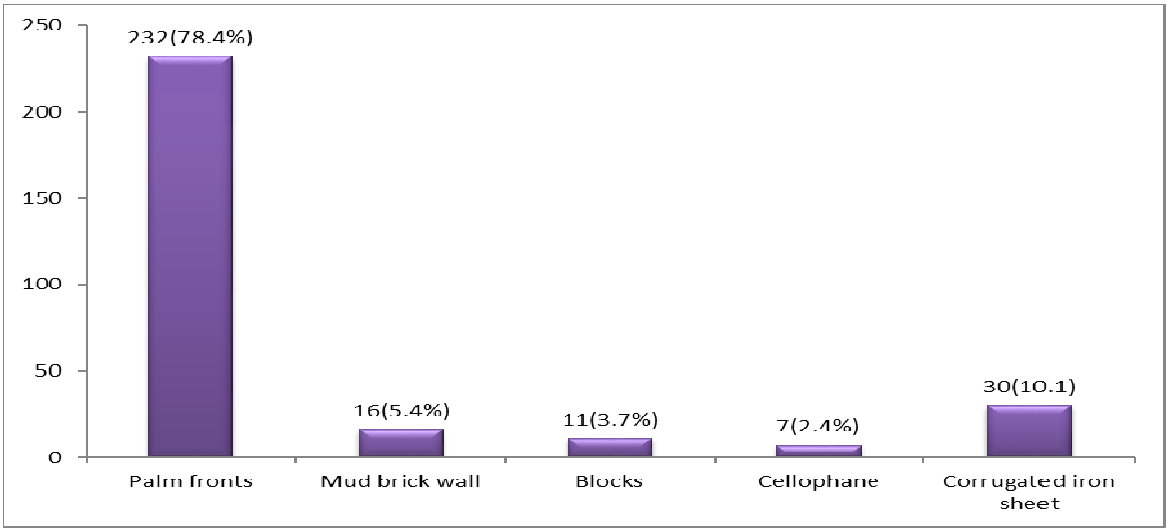

Figure 4: Types of materials used for superstructure

Figure 4 showed that 78.4% of the respondents used palm fronts for super structure, 5.4% used mud brick for super structure, 3.7% used cement blocks, while 2.4% and 10.1% of the respondents used cellophane and corrugated iron sheets respectively. This explained why majority of the latrines even among those constructed with reinforce concrete slab do not have superstructure. It can be concluded from the above that only 3.7% of latrine have permanent structure – the use of cement block for superstructure. While 96.3% of the latrines have temporary materials made up of palm front, mud brick cellophane and corrugated iron sheets as superstructure.

As remarked under figure 3, latrines constructed during CLTS were less likely to be durable. The use of temporary materials in the construction of superstructure may discourage users to defecate in the pit when it begins to deteriorate this would encourage deviation from ODF. From this study, it showed that

emphasis was on pit construction for disposal of feaces while neglecting the privacy of the users during defecation. This negates the definition of latrine as put forward by EFMOH, (2017) that pit latrines should have an upper part, called the **superstructure**, to provide protection from the rain and sun, and privacy and comfort for the user.

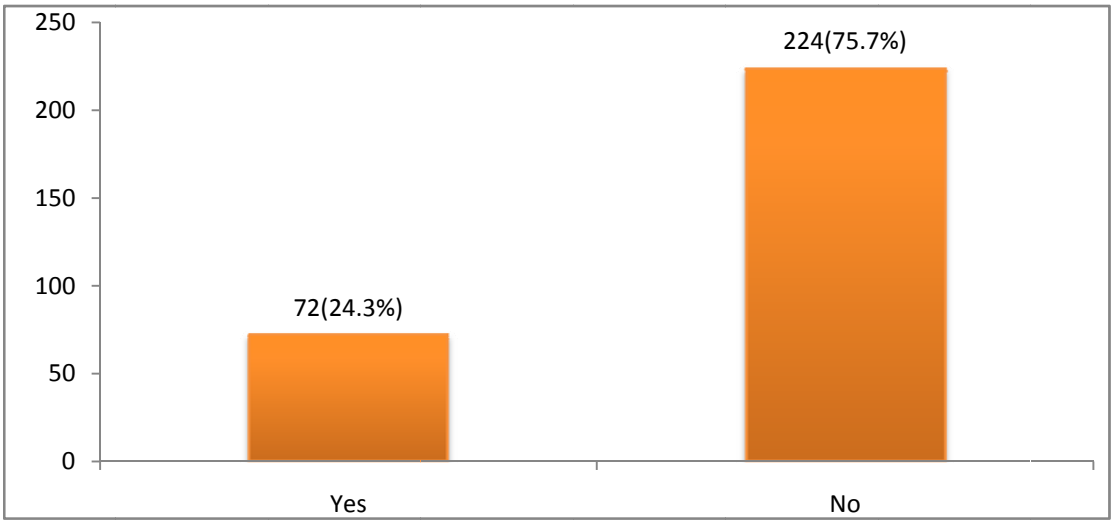

Figure 5: Currently functioning latrine

Figure 5 showed that 24.3% of latrines were functional while 75.7% of the latrines constructed during CLTS were no longer functional. This is justified by the nature of materials used in constructing pit latrines as shown in figure 3. The use of temporary materials such as log of woods and planks did not guarantee sustainability of the pit. The materials could easily give in to environmental factors such as moisture, degradation and the likes. This further support the submission of Jonny et al., (2016) that latrines built during CLTS were on average, less likely to be made of durable materials.

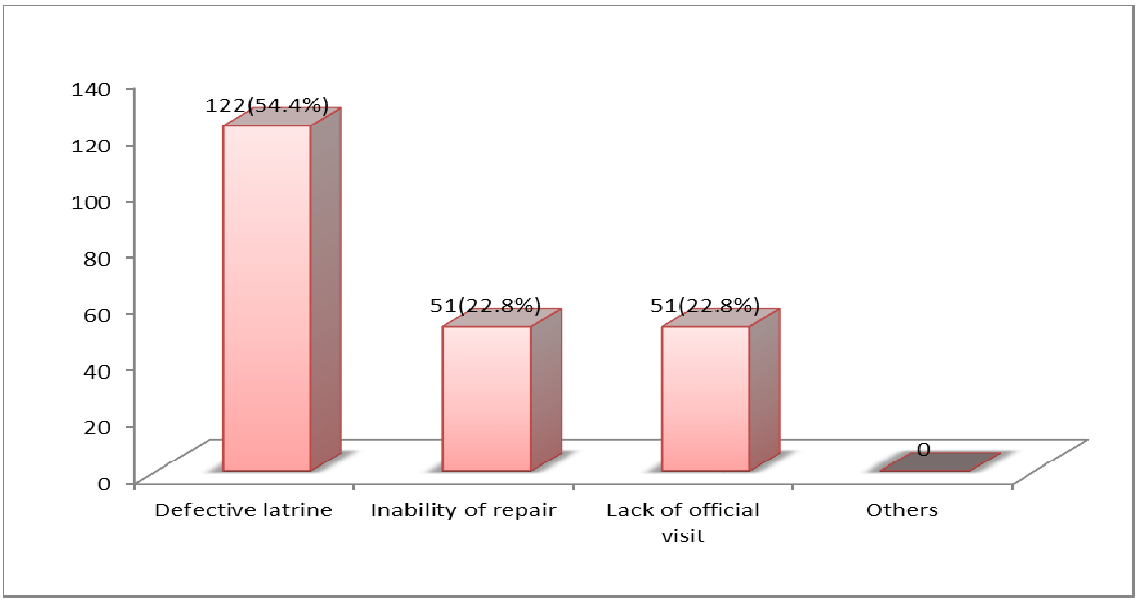

Figure 6: Reasons for compromise

Figure 6 showed that 54.4% of respondent compromised ODF due to defective pit latrine 22.8% stated inability to repair their pit latrines as the reason for compromise, while 22.8% stated that lack of official visit was the main factor to compromise on ODF. The nature of pit on which user would squat and defecation plays a major role in accepting the system by the users. Defective pit is a barrier for effective sanitary disposal of human excreta. Every sane individual would consider safety of every system first even a minor crack on the pit would deter users from approaching the pit for the very essence of defecation. This would however result into improved OD.

Majority (22.8%) of the compromised ODF stated that they were unable to repair the defective cave in pit latrine due to their social economic status. Weak monitoring of CLTS programme at the local government area was a contributory factor why some compromised on ODF. During the interview they stated that if the WASH official were visiting them periodically, their visit could have been incentive to prevent total collapse of the system. Some respondents would have scaled up sanitation ladder if there were proper official monitoring.

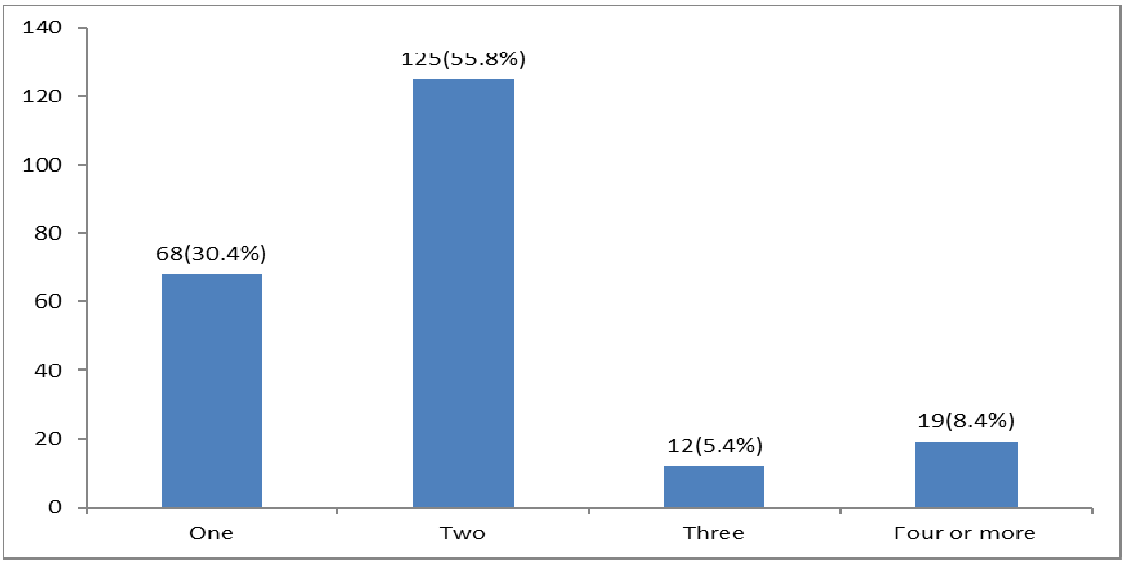

Figure 7: Duration of use before defective

Figure 7 revealed that 30.4% respondents used the latrine for one year before defectiveness set in on the pit latrine, 55.8% respondents used the latrine for two years before they were defective. 5.4% respondents used their latrines for three years before they were defective while 8.4% respondents enjoyed their latrines for up to a period of four years before the latrines were defective. From the fore going, it can be deduced that on average, individual used the latrine for two years base on the temporary nature of the materials used in constructing the pit. As a result of deforestation, respondents might not be able to get mature logs that can withstand decomposition for a long period. Notwithstanding, the use of temporary materials in CLTS toilet is not a good practice. Users can be discouraged on yearly construction of pit latrine and more so, where there is no enough space to alternate pits. Construction of permanent latrine once and for all by household is a key factor to sustainability of CLTS. Defectiveness, collapsing and cave-in pit latrine can only produce proponed OD.

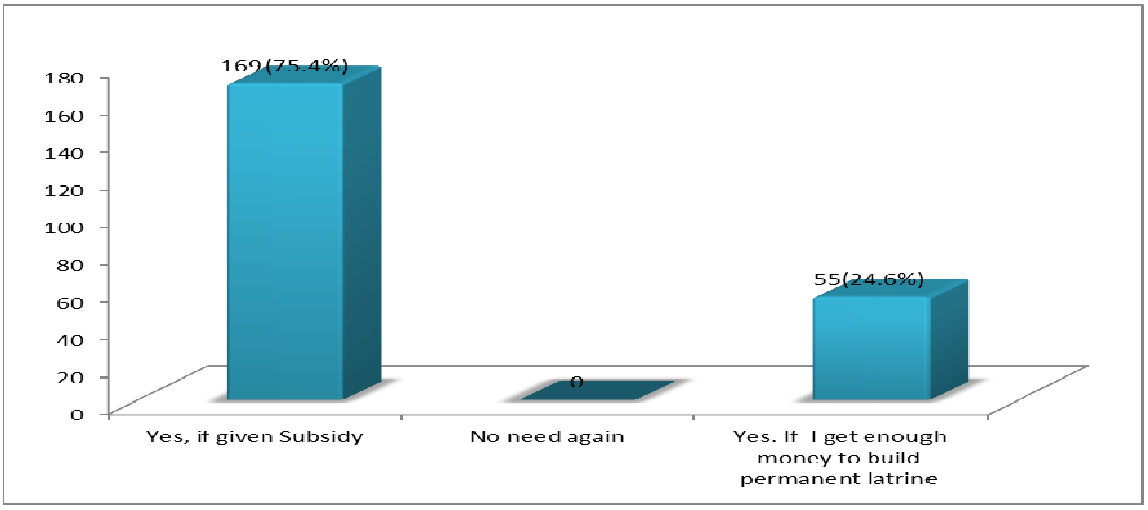

Figure 8: Reasons for willingness to go back to ODF

Figure 8 indicated the willingness of respondents to return to ODF. 75.4% of the compromised respondents were willing to return to ODF if given subsidy. In actual sense, all the compromised respondents were willing to return and sustained ODF. No one objected to going back to ODF. Yet, 24.6% of the respondents were willing to return to ODF provided they have improved economic status that will enable them to afford the cost of building permanents latrines. The question however is when will their economic status going to improve to attend to the sanitation demand? Above all, commitment to health as a valued asset by individual can also guarantee sustainable ODF.

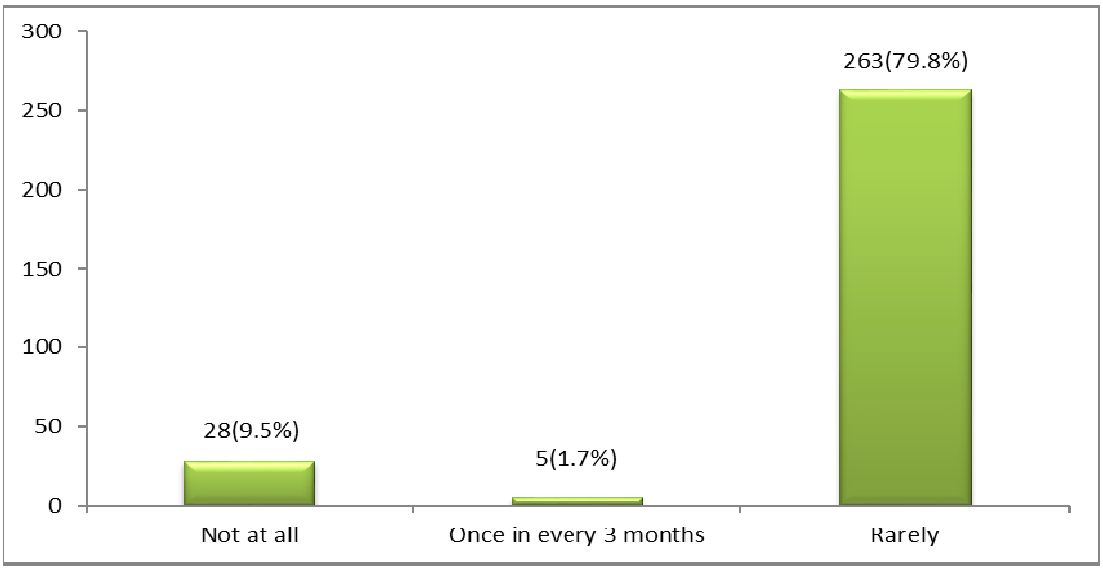

Figure 9: Official Visit for Monitoring CLTS Activity

Figure 9 revealed that 9.5% of the respondents said they did not see government or NGO official visiting their communities to inspect and educate on CLTS sustainability at all. 1.7% of the respondent stated that they only saw them once in every 3 months while 79.8% of the respondents stated that they only see government official rarely in their community for monitoring and follow up of CLTS activities. This further confirmed the findings of WANG (2007) on a study conducted to evaluate CLTS in Nigeria and observed there was weak monitoring of CLTS activities at the LGA level.

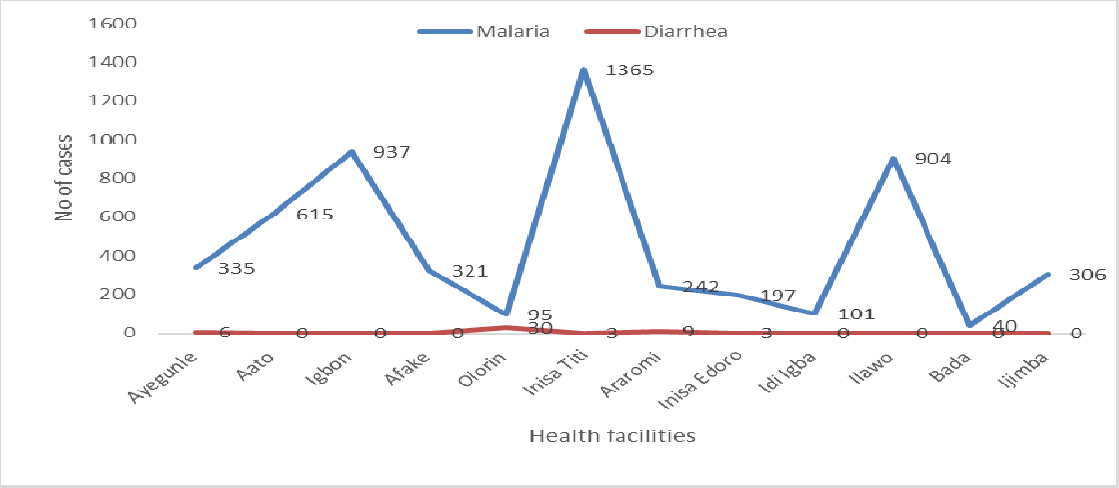

Figure 10: Distribution of diseases disaggregated by health facilities in 2016

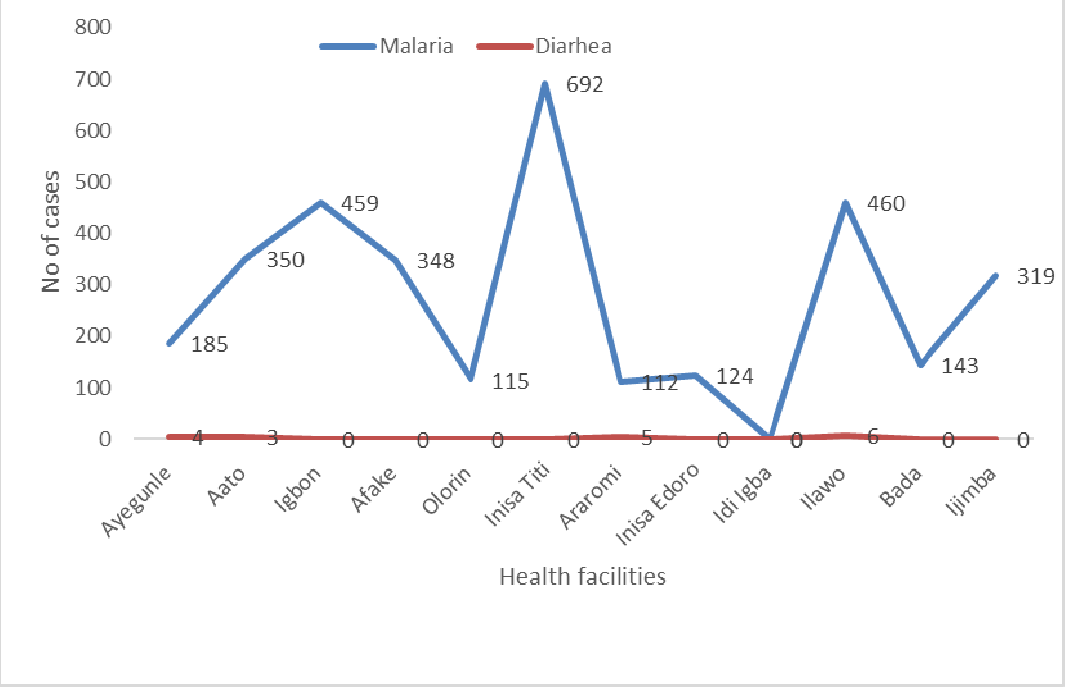

Figure 11: Distribution of diseases disaggregated by health facilities in 2017

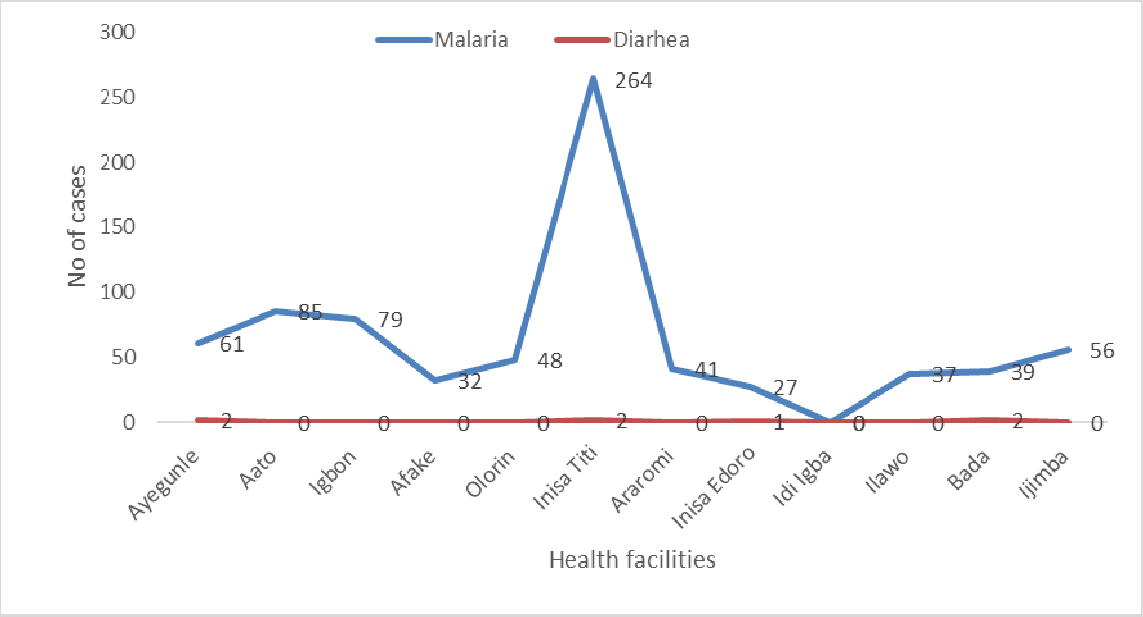

Figure 12: Distribution of diseases disaggregated by health facilities in 2018

Figure 10, 11 and 12 showed the distribution of diseases disaggregated by health facilities in, 2016, 2017 and first quarter of 2018. From the above, diarrhea cases has been roll backed as a result of CLTS intervention. Though some of the toilet facilities were nonfunctional, yet there was reduction in the number of diarrhea cases in those triggered communities. The communities were conscious of eating their shit even some of them could excavate soil to buried shit as they were pressed. This is in line with the finding of WaterAid Nigeria (2007) that CLTS is an effective approach to establishing hygiene and sanitation practice in Nigeria although with varied effectiveness.

4. CONCLUSION

As an integrated approach to sanitation, boreholes were constructed for each of the compliant communities as a reward system. Through the intervention, communities have a sense of relief to water scarcity. WASHCOM were constituted but no longer active as in the day of ODF. Many lapses were noticed including poor monitoring programme and post ODF process to scale up the sanitation ladder. The following recommendations were made:

i. At the community levels, there is the need for community dialogue across all the triggered communities so as to rekindle the CLTS interest among them.
ii. Strengthening the weakened monitoring system at every level of governance especially at local government level is imperative to its sustainability.
iii. Stakeholders should provide evidence-based monitoring tools for the verification of claims on the field by the reporting officer.

iv. There is the need to shift attention from ODF declaration to ODF sustainability. ODF should only be seen as a starting point of the sanitation ladder.

v. CLTS without subsidy should not be rigidly pursued; different social classes in the communities should be considered. Although some solutions are situation specific, proper community diagnosis will be effective to bring out appropriate solution among different alternatives.

vi. Further research on appropriate, low cost and durable sanitation technologies should be encouraged to prevent slippage from ODF as currently experienced from the study area as a result of cave-in of pit latrines constructed of temporary/non-durable materials.

(vii) Even though CLTS does not prescribe latrine type ecology sanitation option should be considered as post ODF management of shit. Further research is however required in this area to study the barrier to cultural acceptability of eco-san.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

ETHICAL APPROVAL

The Ministry of Environment through RUWESA of Osun State and Environmental Health Department in Ejigbo Local Government were contacted before the commencement of the study and ethical approval was given to conduct the research. All the respondents were assured of the confidentiality of the data collected.

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