

Administrative Hegemony, As a Panacea for Improving Sanitation Marketing In Nigeria. A Study of Ebonyi State, Nigeria.

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Abstract: - Sanitation marketing is an emerging field that applies social and commercial marketing approaches to scale up the supply and demand for improved sanitation facilities. Concerns about enduring low rural sanitation figures in Nigeria prompted a series of studies providing insight into overall sector performance, sanitation demand and existing supply chains. The fact remains that one of every two people who lacks access to improved sanitation practice open defecation. The rural sanitation coverage in Nigeria is quite low where about 3 percent of the poorest quintile in rural areas has access to sanitation. In effect, at least about 180 million disease episodes and about one million premature deaths occur annually. Observations have shown that, among all developmental goals embarked upon by our various governments; improved sanitation is not given the attention it deserves. This should, as a matter of urgency receives far greater priority attention from governments and other development partners. This exploratory study will use the mixed methods like in-debt interviews, focus group discussions.

Keywords: - Sanitation marketing, rural sanitation, Administration, Hygiene, Policy

1. Introduction

The Oxford dictionary refers to sanitation as public health conditions related to clean drinking water and adequate treatment and disposal of human excreta and sewage. A sanitation system includes the capture, storage, transport, treatment and disposal or reuse of human excreta and wastewater. In the year 2016, the Sustainable Development Goals replaced the Millennium Development Goals where sanitation is a global development priority and the subject of Sustainable Development Goal 6 (SDG 6), (WHO and UNICEF (2017)). The target is to ensure everyone; everywhere has access to toilets by 2030. Safe water and adequate sanitation are believed to be indispensable for healthy ecosystems, reducing poverty, and achieving inclusive growth, social well-being and sustainable livelihoods. The current value in the 2017 Joint Monitoring Programme (JMP) is that 4.5 billion people currently do not have safely managed sanitation. According to the JMP reports of updated estimates and report for 2015, it says that,

Between 1990 and 2015, open defecation rates decreased from 38% to 25% globally. Just fewer than one billion people (946 million) still practice open defecation worldwide in 2015. According to the final report on MDGs, more than a third of the world populations (2.4 billion) are still without improved sanitation. The target to halve the global population without adequate toilets by 2015 has not been reached. Consequently, sanitation has been pushed on to the post-2015 Sustainable Development Goals (SDGs) (Berzunki, 2015).

Nigeria lacks the political infrastructure to reform sanitation and faced with the security and political concerns that overshadow development goals. It is believed that about thirty-nine (39) million people defecate outside in Nigeria. Consequently, it is not uncommon to find households working hard to construct pit toilets that will only have a life span of a few months because they are built in unsuitable conditions such as sandy soil or high water table areas with frequent flooding (Phiri, 2010; Hanchett et al., 2011). Some households in Nigeria equally

resort to the use of mud blocks, tarpaulins for covering the toilets and raffia which cannot last for a long period of time. These poor construction and materials are a significant factor in the decision to abandon toilets (Cavill et al., 2015): households with access to technical support are more likely to maintain their toilets (Tyndale-Biscoe et al., 2013). When toilets collapse, the costs to rebuild may be too high, and people may revert to OD (Thomas, 2014). The United Nations Children's Education Fund (UNICEF) chief, water, sanitation, and hygiene section, Mr Vinod Alkari, has revealed that, Nigeria loses N455 billion annually or 1.3 per cent of its Gross Domestic Product (GDP) due to poor sanitation. Similarly, he added that, 33 million people defecate in the open while only a third of the country's population have access to improved sanitation, with high morbidity and mortality as direct consequences.

2. Administrative Analysis Of Market Failures And Identification Of Potential Interventions In Ebonyi State

Obviously, access to sanitation delivery remains highly limited in many developing countries of the world where more than 2.5 billion people are living without basic sanitation facilities. In Nigeria alone, an estimated number of 46million persons practice open defecation (Orude, 2018). Poor, marginalized or hard-to-reach people are often not able to afford the sanitation products available, since prices for materials are driven up by high costs of construction materials. This under-provision can also be attributed to a number of market failures, both on the demand and on the supply side. We can equally see that affordability is a key determinant for moving up the sanitation ladder (Whaley and Webster, 2011). Toilet costs are affected by the number of people willing to buy them – fewer people will lead to an increase in the cost – which then results in even fewer people being able to afford them.

Experiences to date shows that the poorest and most marginalized people in communities cannot afford to buy the goods without some form of assistance (SNV, 2014b). They are also most likely

to revert to OD or remain on the lowest rung of the sanitation ladder. Ensuring they are able to move up the ladder and avoid reversion to OD is critical to sustaining ODF communities (Robinson and Gnilo, 2016).

In Nigeria, providing access to sanitation in our environment are done in two main ways; either by collecting the waste through open refuse disposals or on-site sanitation solutions such as latrine pits and septic tanks which are the most ubiquitous sanitation solutions in developing countries (Tremolet, 2012). Apart from these two, a range of other sanitation technologies and approaches still exist. Some examples are community-led total sanitation, container-based sanitation, ecological sanitation, emergency sanitation, environmental sanitation, onsite sanitation and sustainable sanitation. Sustainable sanitation attends to all process of the system and it is a sanitation system designed to meet certain criteria and to work well over the long- term. This includes collecting, transporting, treating and disposing of waste. Community- led total sanitation (CLTS) is also an approach used to improve sanitation and hygiene practices in a community. It focuses on behavior change of an entire community. Ending the practice of open defecation is the goal of CLTS and the concept was developed around the year 2000 for rural areas in Bangladesh. A Water Aid study in Nigeria recommends introducing sanitation marketing a year after the initial CLTS intervention to help people upgrade facilities and move up the sanitation ladder (Robinson, 2009).

Ebonyi state, for instance, is one of the 10 states covered by the UNICEF Enugu Field Office that has the International Year of Sanitation Action Plan with UNICEF. This happened on 29th of April 2008 due to the fact that there has been resurging cases of Guinea worm infestation in the state. The International Year of Sanitation (IYS) Action plan was developed to address the key message that “sanitation is achievable”. The plan sets 3 targets for 2008 for Nigeria;

- A. Develop enabling environments to sustainability, expand sanitation and hygiene programme
- B. Build one million latrines.
- C. Conduct hand-washing campaigns at Federal level, in all states and in all local government areas to reach 30 million people (UNICEF, 2008).

These targets reflect the scale of the challenges. One million latrines need to be constructed every year from now until 2015 to meet the SDG target. How far these targets have been achieved remains a challenge which this work is set to achieve.

Experiences in Uganda found that implementing sanitation marketing straight after ODF achievement was more successful, as it didn't undermine the use of local materials, and initiative, training of masons, and market analysis was initiated beforehand (Nabalema, 2011).

3. Community-Led Total Sanitation (CLTs) Adoption In Nigeria

Adoption of CLTS in Nigeria is very paramount and highly recommended due to high level of open defecation in the country. Ndibe in 2011, while voicing out his disgust at the practices of open defecation in Nigeria said,

“If you want to gauge how badly Nigerians have been animalized, then pay attention to how, and where, many of them defecate. Just recently, the United Nations Children’s Fund (UNICEF) reported that 33 million Nigerians have no access to decent toilets. As a consequence, said the report, these citizens of Africa’s most populous nation answer the call of nature in the open.” (Ndibe, 2011).

He went further to say that, anybody who has travelled from Lagos to Onitsha by road knows that there isn't one single rest area with toilet facilities along the route. At stops in Ore or Benin City, pressed passengers must hurry off into the bushes, gingerly skating around others' feces, in order to relieve themselves or into poorly constructed and crowded toilets along Ore axis. The same thing happens across the entire country where open defecation is so common. In fact, Nigerians currently face a monstrous task to eliminate open defecation by 2030. Given the current statistics, 25 percent of the population are openly defecating and a further 22 percent use unimproved sanitation.



FIG, 1 Diagram of persons defecating openly in a Lagos suburb

Madike, I New Telegraph, Dec, 2, 2017

From the above picture, this is mostly a common scene across Nigerian urban and rural communities. But, beneath the relentlessly slummy surfaces of these communities lie a kind of moral discomfort. The drainage ditches are frequently blocked with faeces, which often overflow during the rainy season into houses and streets, such that most paths are wholly composed of human waste in 2015, CLTS was implemented in a random subset of communities in Enugu and Ekiti states in Nigeria. It is a commonly chosen strategy which was developed in 2004 by Kamal Kar in Bangladesh. CLTS is designed to operate through changing social norms and raising collective awareness about the private and public costs and benefits of sanitation, aiming to increase the uptake of improved sanitation behaviors. This strategy is equally recommended for Ebonyi state. This is because CLTS has been widely embraced and is now implemented in more than 20 countries (Chambers and Bongartz, 2009), of which at least 15 have made CLTS official national policy. Nigeria is one of the countries that has officially adopted CLTS as an approved approach in the national strategy for scaling up sanitation and hygiene..

4. Factors Responsible For Widespread Open Defecation In Nigeria

In spite of high and rapid development and urbanization in Nigeria, the culture of open defecation has stubbornly held sway in many parts of the country. In public places, schools and even in our various homes, it is still a common thing to see people defecate openly. The most painful recent development is the observation in schools where most students in school hostels where most of the students make use of buckets, polythene bags and all forms of available containers to defecate. Some of these are poured openly into our well-constructed gutters, bushes or any available hidden places. Again, in our market places where we buy our foodstuffs, it is now so common for our traders to use buckets, polyphones to defecate hiding in their shops. At the close of markets, these things are

poured into our gutters and the urines on the streets or bushes around. In as much as this is a mark of high rate of irresponsibility on the citizens, it is equally a mark of bad governance. These are practices which even our forefathers weren't doing that are perpetrated today despite the obvious wrecks on our society.

In most developed countries of the world, there is no public place that does not have enough conveniences. It is a rule and not a choice to build conveniences in public buildings. This is not so in Nigeria where much rule is made in enforcing the construction of conveniences. Health experts say that there are three factors responsible for widespread open defecation. These factors range from:

Poverty

Lack of lavatories and

Ingrained cultural norm, which makes the practice socially accepted in some parts of the society. This is where administrative hegemony should come to bear.

Poverty is one of the major factors responsible for widespread open defecation in Nigeria. This stems from the fact that most houses in the villages and even in some cities, especially the slums do not have toilets. Poverty is a multifaceted concept, which may include social, economic, and political elements. Absolute poverty, extreme poverty, or destitution refers to the complete lack of means necessary to meet basic personal needs. Irrespective of massive wealth, huge population, a well-developed economy and abundant natural resources such as oil, the poverty level in Nigeria is still very high. According to the data compiled by the World Poverty Clock which was drawn from both household surveys and new projections on country economic growth from the International Monetary Funds' World Economic Outlook, it is believed that, Nigeria has overtaken India as the country with the largest number of people living in extreme poverty, with an estimated 87 million Nigerians, or around half of the country's population, are believed to be living on less than \$1.90 a day (Adebayo, 2018).

The findings, based on a projection by the World Poverty Clock and compiled by Brookings Institute, show that more than 643 million people across the world live in extreme poverty, with Africans accounting for about two-thirds of the total number.

Nigeria with a population of about 182 million is one of the fastest growing economies in sub-Saharan Africa. Its Gross Domestic Product (GDP) quadrupled between 2005 and 2015 but has not been able to translate its rapid growth into fast poverty reduction (World Bank group, 2017). According to the group, three factors have been identified as likely contributors to Nigeria's persistent high poverty levels; a) economic growth without expanded jobs and other opportunities for all citizens, b) economic growth which has been accompanied by high rates of population growth, and c) there is evidence of inequality which has been rapidly increasing. Further, Nigeria is falling behind on several key indicators, including measures of household access to basic services (Molini et al, 2015). The entire region has limited access to Water Sanitation and Hygiene (WASH) services. Fifty-seven million people in Nigeria continue to live without access to improved sanitation facilities.

Against this backdrop, the Nigeria WASH poverty diagnostic assessed the dynamic and often deleterious relationship between poverty and access to WASH services. Although in recent years, Nigeria has successfully reduced its poverty rate by approximately 10 percent from 46.4 percent at 2004 to 36.2 percent in 2013. But this reduction in poverty rate has not translated into the reduction in the total number of poor citizens. These poor have less or no access to basic infrastructure- such as electricity, water and sanitation and thereby increasing the rate of open defecation. Thus, poverty is seen as one of the factors leading approximately 23 million to 46 million Nigerians into practicing open defecation.

Secondly, Lack of lavatories is another major cause of open defecation in our society. When pressed by the call of nature, some people respond in the most nauseating manner that makes other people wonder

whether we are any better than animals that inhabit our planet. This can be attributed to lack of lavatories in the public areas. In response to that, many Nigerians seem to have that bizarre interest in defecating in public places such as bus stations, footpaths, public roads, motor parks and other public places you can imagine (Atuma, 2016). Lack of access to toilets have been a major challenge in the country, both in the urban, semi-urban and rural areas, thereby making many Nigerians resort to open defecation or use of pit toilets which poses huge health, environmental and social risks. According to a statement made by a primary school pupil of a government primary school in Akwa Ibom state, he said

‘We used to go into the bush to defecate when there was no toilet. The school had pit toilets but it was not good, always smelling. So we preferred going to the bushes behind the school whenever we want to ease ourselves’ (John-Mensah, 2017).

This is a common phenomenon found in Nigeria where most people will prefer to defecate in the bush because even the available toilets cannot be used. Despite huge technological, scientific and industrial advances in the world today, an estimated 108 million Nigerians still lack access to good toilets as stated by the United Nations in 2017 world toilet day. Currently, available data shows that 67 percent of the population does not have decent toilets, 33 percent lack clean water, and 26 percent practice open defecation (Ogundipe, 2017). In essence, only 39% of the world population use toilets that is connected with safe sewage system. Even where the residents have one form of toilet in their often dilapidated houses-usually a pit latrine, many of which are bursting at the seams, the residents prefer the more quickly and dangerous method of doing their business on the bushes. The adults do theirs in the night and at dawn under the cover of darkness. Above all, by 2030, the sustainable Development Goals (SDG), specifically SDG 6, aim to reach everyone with sanitation and have the proportion of untreated waste water and increasing recycling and safe reuse.

While the state governments should persuasively get communities, schools, markets to understand the health and economic consequences of defecating openly, there is also the need to coerce communities to stop open defecation by adopting methods and possible laws that are more stringent and have a top-down approach.

Thirdly, ingrained cultural norm, which makes the practice socially accepted in some parts of the society, equally contributes to the problem of open defecation. Some communities in Nigeria and some other parts of the world have some awful practices of defecating in bushes, rivers and open designated toilets. Worse still is the attitude of some rural dwellers in Nigeria who in most cases defecate in rivers and lakes which serves them as sources of drinking water in those communities without recourse to the environmental and health consequences of their actions. In most rural communities, these practices are deeply tied to their culture and traditions, hence making it a big challenge to overcome.

In some West African countries like Nigeria, Ghana, Burkina Faso and Mali, the practice of open defecation is surrounded by cultural taboos and beliefs particular to many ethno-linguistic groups who live there. While total sanitation techniques such as Community-Led Sanitation (CLTS) have been generally successful in West Africa, some communities where Water Aid works are particularly resistant to abandoning open defecation (Doucoure, 2009). Culture is said to be the particular knowledge, beliefs, and understanding of art, law, morals, customs and other skills and habits that a person acquires as a member of the society. Beyond their individual differences, the members of a group or a society have particular ways of thinking and behaving, and will react to situations in similar ways (Doucoure, *ibid*).

In some countries like Burkina Faso and Mali, people are ashamed or embarrassed to be seen walking in the direction of a latrine or toilet- even by close relatives such as their spouses or children- as other people will know that they are going to relieve themselves. Most people avoid walking

directly towards toilets and some prefer not to have any at home as they feel that defecating in the bush offers them more privacy. Some parts of Igbo ethnic groups in Nigeria believe that living with human excreta is unacceptable because the smell is offensive and off-putting. In fact it is a taboo in Igbo land to defecate in somebody's farm especially when there are fresh crops planted there, one is free to defecate only in unused bushes while in the Northern region of the Nigeria, and they prefer open defecation because they believe if prevented them from smelling unpleasant. Latrines are only intended for certain categories of rich people, and you should not compete yourself with them by building latrines, even if you can afford the cost. In Bwaba ethnic group in Burkina Faso, if someone gives you food, you are expected to defecate in his field (and fertilize the crops), as the act of giving entities, ie the giver to receive something in return. In Ghana too, the fear of being possessed by demons or losing one's magical powers is the leading cause of open defecation. In Mali and for Idoma people in Nigeria, open defecation is seen as an ancestral practice passed down through generations. The Muslims and Hindus associate open defecation with good health and with a wholesome rural life. It is associated with rising early and being industrious as well as with strength and exposure to healthy fresh air. All these practices contribute to increasing practice of open defecation, thereby thwarting governments and some agency's efforts in fighting against open defecation.

5. Health Implications Of Open Defecation

Open defecation has very grave health implications for the population, especially the children who are the most vulnerable. This situation has reached an alarming rate in Nigeria. Apart from weakening children and even adults through frequent diarrhea, cholera, Typhoid, health experts have said that at times, it makes children susceptible to conditions such as stunting and malnutrition. It increases the risk of polio infection, especially as the faecal-oral route is seen as an important transmission pathway. It has also been confirmed that just a gram of faeces contains approximately 10 million viruses, one

million bacteria and a thousand parasite cysts. It has also been revealed those children's faeces, which are most likely to be handled more carelessly, contain more bacteria than adults. This is why cholera outbreak is so common in Nigeria.

Again, apart from the disease causing by open defecation, there are also other associated dangers of open defecation. Cases of attacks by dangerous animals like snakes, scorpion, and other wild animals attack individuals while engaging in open defecation. There are equally cases of women being raped in the bushes. In the rural areas, the availability of bushes facilitates the practice of open defecation, but in the cities, they may find it difficult to see bushes. They rather dispose them in public places, refuse dumps and so on. The implication is that flies easily perch on these faecal discharges and bring back with them disease-causing microbes, which are later passed on to humans through contaminating their food. Those defecated in the market places contaminate our exposed food in the market which we later buy, eat and fall sick. Cases of families perishing after consuming contaminated food are very common especially our fruits and vegetables. Also stench and bad air from all these rubbish cover the air polluting the environment.

In most developed countries and civilized societies, that mean well for their citizens, administrative hegemony must be seen in the area of sanitation as option for the government of the day. This they can do by investing heavily on the eradicating open defecation and backing it up with law enforcement. A recent media dialogue in Jos area of Plateau state revealed that the country would require an investment of about USD 8.3 billion to effectively check on open defecation. If the country considers her most valuable asset to be human capital, nothing should be considered too much to invest in its development. This was the view of the richest man in the world, Bill Gates, when he visited Nigeria recently.

Again, If i may ask," What are the duties of town planners in Nigeria? Their work should not end with approving the refection of buildings in towns and

communities. Town planners in Nigeria and other government agencies in charge of the environment have to ensure that toilets are not just an afterthought when then putting up structures. This should be directed more too public areas like market places because this is the worst areas affected now. Leaders and stakeholders should intensify their efforts towards enlightening people on the dangers of open defecation by using open jingles through the radios, Television and the print media conscientising them on the evils of open defecation. In the rural areas, every household must ensure that they install a standard pit latrines or quick flush system.

6. Administrative Hegemony And Open Defecation In Nigeria

When we talk of administrative hegemony, we mean administrative domination, influence and power which the political authority has in the state. How can the state power be used to stop this horrible act of open defecation? The state should come in to help in stopping open defecation by lording it over the citizens through coming out with rules, policies and programmes geared towards fighting against the bad habit in our country. The work is suggesting that the state governments should persuasively get communities, schools, markets to understand the health and economic consequences of defecating openly. There is also the need to coerce communities to stop open defecation, by adopting methods and possible laws that are more stringent and have a top-down approach.

Taking a lesson from Cambodia for instance, according to 2008 census Cambodia is one of the only three countries not in sub-Saharan Africa with rural sanitation coverage below 20%. But the Royal government of Cambodia has set its own Millennium Development Goal (MDG), known as the Cambodia Millennium Development Goal (CMDGs) which include the specific target of increasing the proportion of rural population with access to improved sanitation from 8.6% in 1996 to 30 percent in 2015. The sanitation CMDG has been further reinforced by the rural water supply and

sanitation that every person in the rural communities, has access to safe water supply and sanitation services by 2025 (Roseboom, et al,2011). This is one of the ways of bringing administrative power into action. Nigerian government should include improved water supply and sanitation in rural and urban communities in Nigeria by including it in their Sustainable Development Goals (SDGs). This will facilitate the provision of quick flush toilets in every public places and in homes. Laws punishing offenders should be established and enforced like in developed countries. In essence, anybody caught defecating openly should be made to face the wrought of the law.

Irrespective of how backward it may seem, open defecation is sadly not limited to only the rural communities, but it is also widely practiced in urban centers in Nigeria, especially the slums in the cities. Individuals tend to build houses with no thought for the provision of adequate sanitation or toilet facilities. This practice is not only uncivilized but it continuously casts a blight on the integrity and rating of our country in the international arena.

7. Recommendation And Conclusion

The MDG goals 7, no 6 states that worldwide, 2.1 billion people have gained access to improved sanitation. The proportion of people practicing open defecation has fallen by half since 1990. According to the final report on MDGs, more than a third of the world's populations (2.4 billion) are still without improved sanitation. The target to have the global population without adequate toilets by 2015 was not reached. Consequently, subsequently sanitation has been pushed onto the post-2015 sustainable development goals (SDGs) (Berzunki, 2015). Nigeria still lack the political infrastructure to reform sanitation and faced with security and political concerns that overshadow development goals. It is believed that about thirty-nine million people defecate outside in Nigeria. The urgency of addressing the problem stems from the fact that, an improved sanitation and hygiene promotion like (use of toilets, improved access to safe water and proper waste management) would significantly

mitigate all of the attributed economic losses to government. This is an exploratory research aimed at creating a policy dialogue on how administrative hegemony can be brought to bear as a panacea for improving sanitation marketing in Nigeria. Using Ebonyi state as a study area,

Remedies and Recommendations.

The work therefore, recommends the following

1. There should be intensive and aggressive public awareness and government action. This can be carried out through the use of schools, churches, public gatherings. It shouldn't be left for government alone to campaign and preach for the need for improved sanitation
2. Community- let total sanitation, behavior change communication, and sanitation marketing to generate sanitation demands and strengthen the supply of sanitation products and services, leading to improved health for people in rural areas. The government can go to the extent of compensating individuals who keep their environment clean and punishing the defaulters whose environment is dirty.
3. Government should re-awaken public sanitary inspectors that should be appointed in every square kilometer residents even in market places.
4. Building of well organized, well-built and public conveniences in public and market places. Where the cost cannot be sustained or afforded, then a branded low-cost pour flush latrine sold by trained suppliers as adopted Cambodia should be adopted.
5. Sanitation promotions at a distance are (through bill boards, radio messages, fixing of monthly sanitation days) is not going to work in Nigeria. But much more direct and aggressive efforts are required by providing these low cost toilets directly to the households especially in rural areas where open defecation is so high. There is the need to implement and monitor the progress.
6. Fixing Nigeria's sanitation problems will take more than money and infrastructure. Widespread corruption, lack of community co-

operation and support would likely hamper efforts of the government to improving sanitation. Irrespective of all other intervening problems in Nigeria, it is pertinent to know that sanitation is an essential long-term investment will help Nigeria to grow.

Again, intensive collaboration among stakeholders is highly necessary. Like the world toilet organization, lien aid, the water SHED program, USAID, DAI, and others are all engaged in marketing efforts, either as funders or implementers. All these organizations involved meet periodically, carry out exposure visits to their respective implementation areas, share success and failures and generally continue to refine their approaches in an effort to make implementations more effective.

References

1. Atuma, U (2016). Why do Nigerians delegate in Open Spaces ? www.sunnewsonline.com.
2. Adebayo, B, (2018). Nigerian overtake India in extreme poverty ranking. <http://edition.cnn.com>.
3. Berzuruki, A. (2017). The consequences of deteriorating sanitation in Nigeria. Council on foreign relations. <https://www.cfr.org>.
4. Doucoure, S, (2009). Towards total sanitation. Socio-cultural barriers and Triggers to total sanitation in West Africa.
5. Ngwu, U, (2017). The Practice of open defecation in rural communities in Nigeria: A call for social and behavioral change communication intention. www.academia.edu. Vol 7, Issue, 3,2017.
6. Ogundipe, S, (2017). 108 Million Nigerians lack proper toilet facilities – UN. www.vanguardngr.com.
7. Molini, V, Gething, P (2015). Developing an updated poverty map for Nigeria. Washington DC. World Bank.
8. Orude, (2018). 46 Million Persons practice open Defecation in Nigeria – Federal Government. The sun. 6/3/2018.
9. John-Mensah, O, (2017). How being open defecation free zone helped. Dailytrust.com.ng/
10. Roseboom,J, Jacks, C, Phyrum, K, Roberts, M and Baker, T, (2011). Sanitation Marketing in Cambodia. Waterlines, Vol. 30. No 1.