

Sanitation Education Programme: A Preventive Approach to Thwart Black Sooth Menace in Borokiri Area of Port Harcourt in Rivers State, Nigeria.

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Abstract

This study examined Sanitation Education Programme: A preventive approach to thwart black sooth menace in Borokiri Area of Port Harcourt, Rivers state, Nigeria. It was observed that the emergence of the black sooth into Port Harcourt is gradually turning into a serious environmental issue that must be dealt with as quickly as possible. The population of the study was made up of 3,200 members of community based organisations comprising, Land Lords' Association in Borokiri, Borokiri Market Traders union (BMTU), Borokiri Women Association and Borokiri Youth wing. The sample size consisted of 400 respondents which was selected through a multi stage sampling technique. A 15 item Likert type questionnaire titled: "Sanitation Education Programme: A Preventive Approach to thwart Black Sooth Menace in Borokiri Area Questionnaire" (SEPAPATBSIBQ), complemented with key person interview. The findings revealed that residents in Borokiri Area of Port Harcourt in Rivers State are well aware of the black sooth menace that have pervaded the entire state, and they are acquainted with the adverse effect of this deadly plague. However, the residents lack adequate skills and strategies to tackle or prevent eventual epidemic that might break out if the black sooth menace continues. It is then recommended that sanitation education programmes and sensitisation programmes that are critical for healthy living and prevention of epidemic be put in place to prepare the people for unforeseen circumstance in future.

Key Words: Sanitation Education, Programme, Preventive Approach, Black sooth, Menace

Introduction

The Environment in Rivers State is being placed under incremental pressure from growing population, changing lifestyle, industrialisation, and improvement in living standard. All of these can be narrowed down to the quest of man to satisfy all his yearnings. Therefore, he is involved in some activities and many of these environmental unfriendly activities has created ecological complications in the environment. The incessant exploration and exploitation of crude oil in the State has also increased the risk of environmental pollution. Most of the communities in Rivers State, with peculiarity to Port Harcourt city has recently been plague with a harmful and deadly environmental pollution issue that perpetrate black particles in the air and around the environment. The United Nation Evaluation Programme assert that the Niger Delta residents have for many decades suffered the severe exposures of pollution due to various industrial and non-industrial operations and processes (UNEP, 2011). The emergence of black sooth in the garden city of Port Harcourt can therefore be termed as air pollution as a result of environmental pollution from the activities of oil exploration and exploitation in the environment.

It is common that indigenious communities and households would depend on the available resources in their place of origin since available resources is a sine qua non for sustainable

living. Also, the people of Rivers state depend squarely on their natural environment, (land-soil, water resources-rivers and water-pots, and forest- mangroves and swamps) for subsistence and survival by engaging in farming (crop production), fishing and other craftwork that could earn them livelihood in the environment. Customarily, fishing and farming have been the main source of employment, and until date, account for more than half of the region's occupation. However, widespread pollution that accumulated over the years devastated the environment, and consequently the livelihood of the people by causing epidemic and diseases that may be difficult to combat (NDDC, 2004). Furthermore, different communities and ethnic groups have for many years engaged in prolonged conflicts with one another, the oil companies, law enforcement agencies, and the government, particularly over their rights including land acquisition and ownership, settlements in form of monetary compensation, environmental degradation, and deprivation. Although, the number of people that are living in poverty falls below the national average, in comparison with the rest of the country, on socioeconomic indicators such as education, environmental quality, and health, its performance is largely lower (NDDC, 2005 & UNDP, 2006).

The emergence of the incomplete combustion generally known as **Black Sooth** was first noticed in parts of Port Harcourt city, Rivers State capital and some neighbouring local government areas like Eleme, Oyigbo, Ikwerre, and Obio/akpor, local government councils close to the state capital Port Harcourt towards the end of 2016 (Yakubu, 2017). Residents in these areas began to complain of black dust or soot staining their clothes and properties or settling on their packed cars overnight. The more the observations gained momentum the more the 'black dust' spread to other locations. In a bid to unravel the cause of this deadly menace, the Rivers State government early in 2017 set up a committee led by the state Commissioner for Environment, Dr. Roseline Konya, to look into the issue. It was the committee that later unravelled the likely cause of the 'soot' which was narrowed down to illegal refining by crude oil thieves and the crude act of setting ablaze recovered crude and refining facilities of the illegal refinery operators by security agencies ("Ministry of Environment". *Rivers state.gov.ng*. Retrieved 15th September, 2018). The Konya-led state government committee also revealed as much when in another public reaction, stated that the state government had been advising security agencies to devise a better means of dealing with operators of illegal refineries to contain the spread of the soot which had continued to increase in intensity as it spreads to other areas in the State (Nigerian Tribune Newspaper, 2018).

There were some protest by civil society organisation to that effect to call the attention the appropriate authorities to do a fact-finding on the actual cause and the remedy to this harmful black sooth that has pervaded the entire city of Port Harcourt and its sub-hub communities. However, no appreciable result have been achieved, and the people in the environment are suffering, breathing in unhealthy and harmful air full of black particles. Meanwhile, the awareness level of the people about the menace of black sooth, how to manage and live with it for now till there is a remedy, and importantly how to be sensitive in the environment, inculcate healthy behavioural attitude and personal hygiene habit to prevent eventual epidemic that might occur from this deadly menace of black sooth is lacking (Nigerian Tribune Newspaper, 2018). The Borokiri Area in Port Harcourt is not left out, as one of the congested hubs where fisher men and women dwells to do their business, due to its waterfront access and closeness to the Bonny River and the Bonny Creek. The terrain also include such area as the Borokiri Market, Nembe Waterside from where boat transit to Bonny Island and the Navy Barracks where naval officers reside for close monitoring of the Bonny River and the Creek.

Problem of Research Concern

The nature of our environment and its surrounding is of great importance to our livelihood. In this regard, the people need to be aware of the potentials inherent in their corporate responsibilities and actions to make their setting hygienic and healthy to inhabit. In years past, strict sanitary bye-laws have been passed, with sanitary inspectors carrying out regular and surprised inspections of households for the purpose of ensuring that good sanitary habits prevailed amongst the populace. For instance in 1985, the Buhari/Idiagbon regime launched the War Against Indiscipline (WAI). One of the cardinal objectives of that campaign was the war against filth which eventually resulted into the monthly National Environmental Sanitation Day. The horrendous and dehumanising conditions of our physical environment particularly in Rivers State, call for state of emergency as it relate to the menace of the black sooth in Port Harcourt. This study intend to examine the impact of sanitation education on the people of Borokiri area in Port Harcourt, Rivers State based on their awareness level, sensitisation knowledge, informed skills and change in behavioural attitude towards their immediate environment in respect to the menace of black sooth that is ravaging the city of Port Harcourt.

Objectives of the Study

The study intend to achieve the following specific objectives. To:

1. Examine the extent to which sanitation education have assisted to improve the awareness level of the inhabitants about the emergence of the menace of black sooth in Borokiri Area of Port Harcourt in Rivers State.
2. Scrutinize the extent to which sanitation education has equipped the people with informed knowledge and skill about the black sooth to ensure a clean and healthy environment in Borokiri Area of Port Harcourt in Rivers State.
3. Ascertain the extent to which sanitation education has broaden the environmental sensitivity of the people on healthy behavioural attitude towards the prevention of epidemic that may break out from black sooth menace in Borokiri Area of Port Harcourt in Rivers State.

Research Questions

The following research questions are carved out to guide the study,

1. To what extent has sanitation education assist to improve the awareness level of the inhabitants about the emergence of the menace of black sooth in Borokiri Area of Port Harcourt in Rivers State?
2. To what extent has sanitation education help to equip the people with informed knowledge and skill about the black sooth for healthy livelihood in Borokiri Area of Port Harcourt in Rivers State?
3. To what extent has sanitation education broaden the environmental sensitivity of the people on healthy behavioural attitude towards the prevention of epidemic that may break out from black sooth menace in Borokiri Area of Port Harcourt in Rivers State?

The Concept of Sanitation Education

The concept of Sanitation education entails the process of making everyone in the environment responsible in making the environment clean and healthy to dwell in. Sanitation Education promote responsible environmental behaviour and sustainability of the environment (Okorie, 2016). Furthermore, the reason for sanitation education is to change the people's behaviour towards their environment because the level of environmental problems plaguing the world are enormous. But perhaps the most serious and worrisome in Nigeria is the physical environment in terms of the low level of sanitation and gross environmental indiscipline in our cities and communities. In fact, never before, in the history of Nigeria has the need become more

imperative and urgent to sharpen our consciousness concerning our surroundings. For in such consciousness and awareness lies our dignity and recovery as a people and as a nation. This is because some Nigerian still go about with the dangerous impression that “dorti no dey kill black man” (Filth does not kill black man) (Anijah-Obi, Eneji, Ubom-Bassey, Dunnamah & William, 2013). They stress further that Environmental Sanitation Education programme will serve to complement existing activities and strategies with more effective, planned and well organised events such as seminars, yearly world Environment Day Celebrations, Saturday Environmental Clean-up Exercises, environmental exhibitions, competitions, workshops and even award of cash prizes to the best and cleanest schools or communities. These activities are necessary in order to effectively impart, sensitize and infuse in the citizens a sense of decency, discipline and responsibility towards the environment.

Sanitation education programmes according to Okorie, (2016) are such that will demonstrate good sanitary behaviour, practice of responsible waste disposal mechanism, showing the consequence of air and water pollution and the relevance of sanitation to healthy living. Such form of educational activities includes the following:

- i. Environmental sanitation education (clean-up exercise)
- ii. Pollution education
- iii. Hygiene education
- iv. Community health education

Significance of Sanitation Education to Healthy Environment

The responsibilities of environmental educators thus include development of an environmentally literate society capable of internalising issues and making decision based on real environmental perspectives. Ekweozor (2002) affirmed that human pursuit and struggle in life are relatively associated with the production of waste and population growth, industrialization, poor disposal attitudes of people, urbanization, and swing from agriculture, are important issues associated with the environmental sustainability. The prevalence of communicable diseases as evidenced in the increasing number of cases of typhoid, malaria, cholera, dysentery, guinea worm infections throughout the country underscore the need to be well informed about the environment and health (Anijah-Obi, et al, 2013). A good number of these cases could be avoided through a programme of environmental education aimed at developing the appropriate attitudes and values that are consistent with effective environmental sanitation. Invariably, environmental sanitation programme is an absolute tool for creating public awareness in such areas as indiscriminate solid waste disposal, preservation of forests and wildlife conserved areas, protection of social amenities, and maintenance of the ecosystem against air and land pollution and the like. It will facilitate the required change in people’s perceptions, orientations, attitudes, habits, inclinations, and practices, which will in turn reduce their negative impact on the environment.

In actual fact, all of these issues call for great awareness and understanding of the essence of environmental sanitation, protection and maintenance (Agbi, 2005). The same opinion was strained in Jiboye, (2009) in line with the recommendation programmes of action to achieve the Agenda 21, which is on sustainable development. The reports was based on educating, reorienting and creating public awareness and training people on the need for environmental sustainability. To further buttress this assertion Okorie (2016), affirmed that sustainability of the environment depends on the people and their willingness to take responsibility for their action or inaction on the environment. And to achieve this, they need relevant information about the environment and its associated issues and challenges, how to properly use the valuable resources that abound in the environment and also acquire informed skills and

knowledge that will expedite positive behavioural change towards the environment to sustain it. Apparently, with appropriate Environmental Sanitation education, inculcated at the formative age of the child, Nigerians can still achieve the vision of the type of environment considered most desirable to bequeath to our nation. Also, environmental education which is geared towards changing the habits, attitudes and perceptions of the adults could be achieved through non-formal education using the mass media and any other acceptable sources. (Anijah-Obi, et al, 2013).

3.0 Methodology

The descriptive survey research design was used for this study. The Population is made up of Three thousand and two hundred (3200) members of community based organisations (CBOs) in Borokiri, which comprises of Land Lords' Association in Borokiri, Borokiri Market Traders Union (BMTU), Borokiri Women Association, Borokiri Youth Wing (BYW), who are residence or business owner in Borokiri community, Port Harcourt in Rivers State. Multi stage sampling technique was used. First cluster sampling was adopted to put the respondents in their clusters namely- Nembe water side, Borokiri sandfill, Borokiri Market, Borokiri waterfront. Second, purposive sampling technique was used to select specific categories of community based organisations in the clusters which comprises of Land Lords' Association in Borokiri, Borokiri Market Traders Union (BMTU), Borokiri Women Association, Borokiri Youth Wing (BYW), and third, random sampling technique was used to select 100 respondents from each organisation, given a sample size of 400 respondents used for the study. The instrument for data gathering was a validated 15-item instrument titled, "**Sanitation Education Programme: A Preventive Approach to thwart Black Sooth Menace in Borokiri Area Questionnaire**" (SEPAPATBSIBQ), complemented with key person interview. The questionnaire was designed in the pattern of 4-point Likert rating scale of agreement, and a reliability test conducted which yielded an r- value of 0.86. The data collected were analysed descriptively using percentage and mean statistics, with minimum acceptable mean value of > 2.50.

4.0 Results Presentation and Discussion

The results are presented below, and the discussion of findings.

- 1. Research Questions One (RQ₁):** To what extent has sanitation education assist to improve the awareness level of the inhabitants about the emergence of the menace of black sooth in Borokiri Area of Port Harcourt in Rivers State?

Table 1: Mean Score Analysis Showing Sanitation education as a mean to improve awareness level of the inhabitant about the emergence of the black sooth in Borokiri area of Port Harcourt in Rivers State.

S/N	STATEMENT	RESPONSES						
		SA (4)	A (3)	D (2)	SD (1)	Total N=400	X Mean	R
1.	(RQ ₁). To what extent has sanitation education assist to improve the awareness level of the inhabitants about the emergence of the menace of black sooth in Borokiri Area of Port Harcourt in Rivers State? There are adequate sanitation education about the emergence of the black sooth in Borokiri and its environ	185 (740)	157 (471)	43 (86)	15 (15)	400 (1312)	3.3	Accepted

2.	The residents of Borokiri are aware and well informed about the adverse effect of Black sooth on their health in the environment	256 (1024)	106 (318)	35 (70)	3 (3)	400 (1665)	3.5	Accepted
3.	Sanitation education has made me realised that black sooth is dangerous to human health	214 (856)	179 (537)	5 (10)	2 (2)	400 (1405)	3.5	Accepted
4.	The residents are well informed about the causes and effect of the black sooth on the environment	218 (872)	197 (591)	14 (28)	7 (7)	400 (1498)	3.7	Accepted
5.	Sanitation education has made me realised that black sooth is an environmental problem	287 (1148)	108 (324)	2 (4)	3 (3)	400 (1479)	3.7	Accepted
	Grand Mean (\bar{x})	4.4						

Table 1 above shows the weighted mean scores obtained from the respondents on how Sanitation education as a mean has helped to improve awareness level of the inhabitant about the emergence of the black sooth in Borokiri area of Port Harcourt in Rivers State.

Result in items 1,2,3,4 and 5, with weighted values of 3.3, 3.5, 3.5, 3.7 and 3.7 respectively is higher than 2.5. Also the overall grand mean of 4.4 is higher than the criterion mean of 2.5. This affirmed that the residents and business owners in Borokiri Area of Port Harcourt in Rivers State has improved awareness level about the black sooth and how to cope with the situation at the moment. In other words the inhabitant of Borokiri community are well informed about the emergence, causes and adverse effect of black sooth menace.

To this end, the finding corroborate (Agbi, 2005) that all environmental issues such as; flood, pollution, erosion, dusty air and oil spill, waste disposal and many others call for great awareness and understanding of the essence of environmental sanitation, protection and maintenance. The same opinion was stressed in Jiboye, (2009) in line with the recommendation programmes of action to achieve the Agenda 21, on sustainable development which was based on educating, reorienting and creating public awareness amongst the citizenry on the need for environmental sustainability. Also, findings from key person interview revealed that the people are aware of the black sooth invasion through different form of environmental sanitation programmes in the state.

Research Question Two (RQ2): To what extent has sanitation education help to equip the people with informed knowledge and skill against the black sooth for healthy livelihood in Borokiri Area of Port Harcourt in Rivers State?

Table 2: Mean Score Analysis Showing how Sanitation education has help to equip the people with informed knowledge and skill against the black sooth for healthy livelihood in Borokiri area of Port Harcourt in Rivers State.

S/No	STATEMENT	RESPONSES						
		SA (4)	A (3)	D (2)	SD (1)	Total N=400	X Mean	R
1.	There are adequate knowledge on how to guide against the negative effect of black sooth	36 (144)	53 (159)	150 (300)	161 (161)	400 (764)	1.9	Rejected
2.	Sanitation education has helped me to develop personal hygiene habit against the black sooth menace in my environment	43 (172)	81 (243)	189 (378)	87 (87)	400 (880)	2.2	Rejected
3.	The residents of Borokiri are equipped with adequate skill to tackle the black sooth in their environment	18 (72)	37 (111)	148 (296)	197 (197)	400 (676)	1.7	Rejected
4.	There are sanitation officers available in the area to guide people on how to protect themselves against the havoc of the black sooth in Borokiri	15 (60)	48 (144)	208 (416)	129 (129)	400 (749)	1.8	Rejected
5.	I have improved knowledge of the black sooth, its damage to the environment and how to response to it.	48 (192)	40 (120)	162 (324)	150 (150)	400 (786)	2.0	Rejected
	Grand Mean (x)	2.4						

Table 2 above shows the weighted mean score obtained from the responses on how Sanitation education has help to equip the people with informed knowledge and skill against the black sooth for healthy livelihood in Borokiri area of Port Harcourt in Rivers State. Result in items 1,2,3,4, and 5 with weighted values of 1.9, 2.2, 1.7, 1.8, and 2.0 respectively. The Grand mean of 2.4 is less than the acceptable mean of 2.5. Result further indicated that respondents rejected items 1, 2, 3, 4 and 5, this affirmed that there are no adequate sanitation education programme to furnish the people with informed knowledge and required skills to guide against the deadly plague and tackle the black sooth menace in Borokiri Area of Port Harcourt.

The findings revealed that the people do not have adequate knowledge and skilled required to tackle the black sooth menace, and without this informed knowledge and skill to initiate activities that will guide against the adverse effect of the black sooth menace and to preserve

the environment, the people will be vulnerable. The finding is in line with the assertion of Okorie (2016), which affirmed that sustainability of the environment depends on the people and their willingness to take responsibility, and they need relevant information about the environment and its associated problems, how to properly use the valuable resources that abound in the environment and also requires informed skills and knowledge that will expedite positive behavioural change towards the environment to sustain it; without which the people will become vulnerable to the dangers that are eminent in the environment.

Research Questions Three (RQ₃): To what extent has sanitation education broaden the environmental sensitivity of the people on healthy behavioural attitude towards the prevention of epidemic that may break out from black sooth menace in Borokiri Area of Port Harcourt in Rivers State?

Table 3: Mean Score Analysis Showing how Sanitation education has broaden environmental sensitivity of the people on healthy behavioural attitude to prevent any out-break of epidemic from the black sooth menace in Borokiri area of Port Harcourt in Rivers State.

S/No	STATEMENT	RESPONSES						
		SA (4)	A (3)	D (2)	SD (1)	Total N=400	X Mean	R
	(RQ ₃). To what extent has sanitation education broaden the environmental sensitivity of the people on healthy behavioural attitude towards the prevention of epidemic that may break out from black sooth menace in Borokiri Area of Port Harcourt in Rivers State?							
1.	Sanitation education programme help me to be sensitive to the adverse effect of black sooth on my body and health	29 (116)	17 (51)	217 (434)	137 (137)	400 (738)	1.8	Rejected
2.	The residents are informed that constant washing of every domestic material is key to prevent epidemic break-out from black sooth	24 (96)	13 (39)	191 (382)	172 (172)	400 (689)	1.7	Rejected
3.	Sanitation education about black sooth has helped me to develop certain environmental behaviour or habit for healthy living	10 (40)	14 (42)	165 (330)	211 (211)	400 (623)	1.6	Rejected
4.	Sanitation education about black sooth has helped me to change my health lifestyle to prevent diseases	18 (72)	34 (102)	143 (286)	205 (205)	400 (665)	1.7	Rejected
5.	Sanitation Education Programme has prepare me for eventual break-out of epidemic from black sooth in future.	4 (16)	10 (30)	176 (352)	210 (210)	400 (608)	1.5	Rejected
	Grand Mean (x)	2.1						

Table 3 above shows the weighted mean score obtained from the respondents on how Sanitation education has broaden environmental sensitivity of the people on healthy

behavioural attitude to prevent any out-break of epidemic from the black sooth menace in Borokiri area of Port Harcourt in Rivers State. The responses in items 1,2,3,4, and 5 with weighted values of 1.8, 1.7, 1.6, 1.7, and 1.5 respectively is less than the cut-off point of 2.5. The overall grand mean of 2.1 is obviously less than the criterion mean of 2.5 as the view of respondents showed that there are no Sanitation Education to Environmental sensitivity to broaden the mind of the people on healthy behavioural attitude that can prevent eventual out-break of epidemic from the black sooth in the nearest future if there is no solution to the deadly plague.

The findings exposed that the people lack sanitation education programmes that should prepare them, and equip them with adequate knowledge, informed abilities, skills and initiative that will help tackle and combat eventual break-out of cancer as predicted or any other form of epidemic from the black sooth menace. Key person interview revealed that that they only hear about the danger of the particle flying all over the place. One Mr Austin Douglas a Land Lord say “I only know say something like black particle dey everywhere and we they smoke the thing like ciga, nobody dey tell us how we go take stop the smoking, and some people say the thing dey cause cancer..Naa only God go help us ooo”. The findings agrees with a report by Tribune Newspaper (2018) that no appreciable result have been achieved since the emergence of the incomplete combustion called black sooth, and the people in the environment are suffering, breathing in unhealthy and harmful air full of black particle. The report further reads that the awareness level of the people about the menace of black sooth, how to manage and live with it for now till there is a remedy, and importantly how to be sensitive in the environment, inculcate healthy behavioural attitude and personal hygiene habit to prevent eventual epidemic that might occur from this deadly menace of black sooth is lacking.

Conclusion

Environmental protection and maintenance are very key ingredients for healthy and sustainable environment for better livelihood. Therefore, the emergence of Environmental sanitation programme is a global movement sponsored at different level over time, to help stern the tide of environmental degradation and to avert the consequences that might lead to non-sustainability of the human race. The emphasis is that all environmentally literate person is seen as one who has acquired environmental values and knowledge to generate requisite action for sustainable human and socio-economic development at both local and global levels for healthy and friendly environment. The key to a healthy and beautiful environment is based on preventive measures rather than curative services. Therefore, with the occurrence of the menace termed ‘BLACK SOOTH’ it is apparent that the residents in Rivers State needs to be educated and sensitised, and sanitation education will be a great approach to in this regard.

Recommendation

Based on findings, the following are therefore recommended:

1. Sanitation Education programme should be employed as a tool to educate, reorient, create public awareness and train people for environmental sustainability in the communities as a preventive measure.
2. Government, civil society organisations and every stakeholder that are involve in environmental education should be willing to sacrifice towards sanitation education and sensitisation programmes, which is paramount in promoting responsible environmental behaviour and sustainability of the environment.
3. The Government as a matter of preventive measure should construct health facilities and upgrade the existing ones for testing and to carter for any form of out-break that might occur from this deadly plague of black sooth.

4. The ministry of Environment should ensure that a strategy is design to end the emission of this incomplete combustion. A process should be put in place to end the air pollution that has pervaded the whole state.
5. The Government should consider the establishment of a University of Environment in the state to help in promotion of environmental education.

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