

Environmental Literacy Programme, a Catalyst to Proper Waste Disposal Amongst Dwellers in Diobu Area of Port Harcourt Rivers State, Nigeria.

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Abstract

This study examined Environmental Literacy, as Catalyst to proper waste disposal amongst dwellers in Diobu Area of Port Harcourt, Rivers state, Nigeria. The population of the study was made up of 2,420 adult members of organised groups comprising, Land Lords' Association in Diobu, Diobu Women Association and Diobu Youth Forum (young men and women between ages 18-40years). The sample size consisted of 726 members constituting 30% of the population drawn from each group through a purposive simple for equity (242 per group) and the simple random sampling technique to pick respondents. A 15 item Likert type questionnaire titled: Environmental literacy, a Catalyst to proper waste disposal in Diobu Questionnaire" (ELACTPWDIDQ), complemented by face to face interview and direct observation; with $r = 0.72$ index was obtained and used for data collection. The findings revealed that residents in Diobu Area of Port Harcourt in Rivers State still indulge in indiscriminate disposal of waste due to inadequate environmental literacy programmes and sensitisation programmes that are critical for conscientization, which will equip individuals with knowledge, skills and informed practices to proper waste disposal in the area. This could be accredited to negligence on the part of the agency saddled with the responsibility to educate the people on environmental issues and healthy living. It is therefore recommended that the Government and all the stakeholders in the environment be involve in environmental literacy activities to consciously conscientise everyone about cleaner environment towards healthy livelihood in the communities in Rivers State, Nigeria.

Key Words: *Environmental Literacy, Programme, Catalyst, waste disposal, Dwellers.*

1.0 Introduction

Apparently, man cannot survive without exploring his environment to use the numerous resources that abound in his surroundings, this depend on the initiative and experience over time to maximise the potentials available within the vicinity. More so, global environmental issues are connected to demographic dynamics, which includes population size, population growth rate, population densities, and population structures and it economic contributions. All of these issues call for excessive awareness and understanding of the essence of environmental protection and maintenance. Environmental Literacy is essentially the process of educating the entire citizenry about the capacity to perceive and interpret the relative health of environmental systems and take appropriate action to maintain, restore or improve the health of those systems. Roth (1992) as quoted in Eheazu (2013) is of the opinion that Environmental Literacy should be defined in terms of observable behaviours; that is, people should be able to demonstrate in some observable form what they have learned- their knowledge of key concepts, skills acquired, disposition towards environmental issues, and the like.

Waste varies in their types and forms, as there are domestic, industrial, commercial, medical, and special waste among others (Agbi, 2005). Moreover, Babatola (2008), described waste as material that lack direct value and that are no longer useful especially for purpose for which they were initially purchased for. They are rubbishes and garbage we throw out when we are done with it them. In relation to proper waste disposal or management as the case maybe, the environment in which one dwells affect the life one lives. Waste management is the application of techniques that will ensure the orderly execution of the function of collection, transportation, processing, treatment, and disposal of solid waste (Ayotamuno & Gobo, 2004). Therefore proper waste disposal have to do with engaging the right techniques in the collection, transportation and disposal of solid waste in the environment. It should be noted that there is no substitute to a clean and healthy environment, and if man is to live a heathy life in its immediate environment; proper disposal of waste has a direct impact on a clean and healthy environment. Significantly, there are levels and diversities of knowledge that man need to acquire that will guide him in the process of dealing with the environment and particularly how the waste generated through his daily activities are properly disposed.

This work is anchored on Freire's Conscientization theory (1974). "Conscientization is a process of developing consciousness, but consciousness is understood to have the power to transform reality". Psychologically, conscientization entails an awareness of one's dignity in his immediate environment and the society at large. Conscientization, therefore, leads to people organizing themselves to take action so as to change their social realities, and the environment as in the context of this study. Thus every citizen in any community should be conscious of their attitude and behaviour in their immediate environment and act with the consciousness that other human beings are facing the same challenges they are experiencing in term of environmental degradation, environmental pollution, oil spillage, industrial pollution, improper management of waste, bush burning, black sooth experience and the likes.

2.0 Environmental Literacy and Waste Disposal in Rivers State

Globally, literacy has been expanded beyond ability to read and write and enumerate using printed symbols, to more integrated levels which requires to internalise and apply the massive developments in human knowledge, science, technology, and real-life experiences (Eheazu, 2017). More so, according to the Belgrade Charter of 1975 Environmental Education and Training Partnership observes that "the goal of environmental literacy education is to develop a world population that is aware of and concerned about the environment and its associated problems" (EETAP, 1997:1) sited in Eheazu. (2013).To further buttress the assertion stated at the Belgrade Charter of 1975, Eheazu. (2013), is of the view that developing environmental literacy has progressively become a major task for society. Different sectors of society, such as community, government, multinational corporations, schools, media, workplace, associations, organised groups and the civil society organisation, can support this as an on-going venture in their different capabilities.

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. Barrett (2005) asserted that environmental literacy is the best channel to educate people on the need of promoting awareness, by inculcating responsible and reasonable behaviour in them so that their attitude will be environment friendly. Ultimately, the goal of environmental literacy is the development of the requisite skills and attitudes in the individual concisely through the inculcation of relevant knowledge of environmental literacy at appropriate levels of need. (Eheazu, 2016). 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. Mbalisi (2016), further stressed that if we are to resolve and find a permanent solution to our environmental problems, then, we must start and continue to learn, think and decide to act differently to improve our lifestyle and livelihood for healthy living.

In Huston (2016), through Environmental education, communities can begin to realize that their connection to an ecosystem has both positive and negative impacts. Invariably, this realization leads to our communities questioning, what makes a healthy urban ecosystem? How can we, as a community, provide a healthy system in which both people and nature can coexist? Obviously, man in his quest to satisfy his insatiable needs is ignorance of the destruction that his exploit is causing to the earth's delicate ecosystems which invariably cause damage to the environment and ultimately to his own livelihood and health living. Hence, the need for environmental literacy. The conception of environmental literacy and its benefits to the society has been promoted through creative and intensive discuss from diversity of perspectives as it relate to environmental awareness, sensitisation, mobilisation and participation in quality development of the environment. In other words, environmental literacy comprises an awareness of and concern about the environment and its associated problems, as well as the knowledge, skills and motivations to work towards solution of current problems and the prevention of new ones (NAAEE,1999).

2.1 Issues of Research Concern

In Rivers state, the level of waste generated daily is enormous. There are different areas that waste emanate from in the environment, domestic, commercial, and industrial sources. The rate at which waste is been generated in Rivers state, particularly in Port Harcourt supposedly the garden city has been on a steady increase with the population growth, increase migration to the city due to the constant insecurity situation that have pervaded some of the adjunct communities, leading to indiscriminate dumping of refuse in and around the city, on the road and in the drainages. In Oyebamiji, Olumati & Nwogu, (2016), The Rivers State Waste Management Agency (RIWAMA) since its inauguration in 2014 has be involved in environmental sanitation activities to ensure the State is free from environmental hazards, but the inhabitants of the state are yet to appreciate and compliment the efforts of the agency in the area of waste disposal and management. To achieve a clean and safe environment as instructed by the governor of the state, monthly sanitation exercise is organised by the agency for the entire citizens of the state to be involve in clearing the solid waste, domestic waste and cleaning the market place, opening up the drainages, with the aim of reducing diseases or health problem in the state, ("Ministry of Environment". *Riversstate.gov.ng*. Retrieved 12 March 2018).

There is a lot of indiscriminate waste disposal by the residents in Rivers state, as the designated places for waste disposal are not properly mapped out and equipped with adequate disposal container, and this make inhabitants to throw their waste indiscriminately on the streets. This call for serious concern, as the health of the people is at risk, and in most cases women and children are more vulnerable. This study aim to examine the extent to which environmental literacy has served as a catalyst to proper waste disposal in Diobu area of Port Harcourt, in Rivers state.

2.2 Objectives of the Study

The study strived to achieve the following objectives. To:

1. Examine how environmental literacy have helped residents to imbibe the attitude of proper waste disposal in Diobu Area of Port Harcourt in Rivers State.

2. Examine the extent to which environment literacy have assisted to improve the monthly environmental sanitation exercise amongst dwellers in Diobu Area of Port Harcourt in Rivers State.
3. Ascertain how environmental literacy have assisted the Land Lords' Association to curtail the indiscriminate disposal of waste by their tenants in Diobu Area of Port Harcourt in Rivers State.

2.3 Research Questions

The following research questions are posed to chaperon the study,

1. To what extent has environmental literacy help residents to imbibe the attitude of proper waste disposal in Diobu Area of Port Harcourt in Rivers State?
2. To what extent has environmental literacy assist to improve participation in the monthly environmental sanitation exercise amongst the dwellers in Diobu Area of Port Harcourt in Rivers State?
3. To what extent has environmental literacy assist the inhabitants of Diobu to curtail the indiscriminate disposal of waste by their visitors/ new tenants in Diobu Area of Port Harcourt in Rivers State?

3.0 Methodology

The descriptive survey research design was used for this study. The Population is made up of Two thousand, four hundred and thirty (2420) members of organised groups comprising, Land Lords' Association in Diobu, Diobu Women Association, Diobu Youth Forum (comprising both young men and young women between ages 18years to 40years), who are members of different streets and constituent in Diobu Area Of Port Harcourt in Rivers State. The constituent used for this study includes Mile1 Diobu, Mile 2 Diobu, Rumukokwu community and Mile 3 Diobu. Purposive sampling technique was used to select 242 men, 242 women and 242 youths for equity, while the respondents were randomly selected and total of 726 respondents as sample size which represent 30% of the Population as recommended by Nkpa, (1997). A validated 15-item instrument titled, "Environmental literacy, a Catalyst to proper waste disposal in Diobu Questionnaire" (ELACTPWDIDQ), complemented by face to face interview and direct observation; with $r = 0.72$ was used for data collection. 724 completed copies of questionnaire were analysed using mean statistics of each item to measure the influence of Environmental literacy as a catalyst to proper waste disposal in the study area, Criterion mean was 2.5 All items whose values are below 2.5 were rejected and items equal or above 2.5 were accepted.

4.0 Presentation and Analysis of Results

The results are presented below.

Research Questions One (RQ₁): To what extent has environmental literacy help residents to imbibe the attitude of proper waste disposal in Diobu Area of Port Harcourt in Rivers State?

Table 1: Mean Score Analysis Showing Environmental Literacy as tool that has help residents to imbibe the attitude of proper waste disposal in diobu area of Port Harcourt in Rivers State.

S/No	STATEMENT	RESPONSES						
		SA (4)	A (3)	D (2)	SD (1)	Total N=726	X Mean	R
1.	(RQ ₁). To what extent has environmental literacy help residents to imbibe the attitude of proper waste disposal in Diobu Area of Port Harcourt in Rivers State	75 (300)	98 (196)	210 (420)	343 (343)	726 (1259)	1.7	Rejected
2.	There are adequate environmental literacy programme to help residents learn more about environmental issues that affect their livelihood and healthy.	114 (465)	196 (588)	205 (410)	211 (211)	726 (1665)	2.3	Rejected
3.	There are periodic sensitisation activities to help residents know more about proper waste disposal and where to dispose waste in the area.	128 (256)	124 (372)	214 (428)	260 (260)	726 (1308)	1.8	Rejected
4.	The residents of Diobu are informed and know very well the adverse effect of indiscriminate disposal of waste on the road, in the drainages and gutters when rain falls.	118 (472)	197 (591)	204 (408)	207 (207)	726 (1678)	2.3	Rejected
5.	The residents are informed about the adverse effect of keeping waste for too long in their kitchen, in their backyard and in their compound.	117 (468)	170 (510)	212 (424)	227 (227)	726 (1629)	2.2	Rejected
	The area is well designed, and there are signs to inform and show residents where and how to properly dispose waste							
	Grand Mean (x)	2.1						

Table 1 above shows the weighted mean scores obtained from the respondents on how Environmental Literacy programmes has helped residents to imbibe the attitude of proper waste disposal in diobu area of Port Harcourt in Rivers State. Result in items 1,2,3,4 and 5, with weighted values of 1.7, 2.3, 1.8, 2.3 and 2.2 respectively is less than 2.5. Also the overall grand mean of 2.1 is less than the criterion mean of 2.5. This affirmed that the residents of Diobu Area Port Harcourt in Rivers State lack adequate information, skills, initiative and informed knowledge that will help them imbibe positive attitude to proper waste disposal in the environment, and this has made the peoples' behaviour to be unfriendly to the environment in the aspect of waste disposal.

Table 2: Mean Score Analysis Showing how Environmental Literacy as assist to improve participation in monthly sanitation exercise amongst dwellers in diobu area of Port Harcourt in Rivers State.

S/No	STATEMENT	RESPONSES						
		SA (4)	A (3)	D (2)	SD (1)	Total N=726	X Mean	R
1.	There are adequate information about the monthly environmental sanitation exercise in Diobu area Port Harcourt for people to know.	176 (704)	213 (639)	164 (328)	173 (173)	726 (1844)	2.5	Accepted
2.	I usually participate in the monthly environmental sanitation exercise because I am aware of its importance to the environment through organised programmes and sensitisations.	111 (444)	187 (561)	210 (420)	218 (218)	726 (1643)	2.3	Rejected
3.	The residents of Diobu Area do participate in the monthly environmental sanitation exercise because they are aware of health implication of unclean environment through sensitisation programme.	118 (472)	197 (591)	204 (408)	207 (207)	726 (1678)	2.3	Rejected
4.	There are sanitation officers in the Area that enforce and guide people on how to properly dispose their waste during the monthly sanitation exercise.	75 (300)	214 (642)	208 (416)	229 (229)	726 (1587)	2.2	Rejected
5.	The residents of Diobu Area do participate effectively in the monthly environmental sanitation exercise, as that is the only time they dispose their waste properly.	208 (832)	200 (600)	168 (336)	150 (150)	726 (1918)	2.6	Accepted
	Grand Mean (x)	2.4						

Table 2 above shows the weighted mean score obtained from the respondents on how Environmental Literacy as assist to improve participation in monthly sanitation exercise amongst dwellers in Diobu area of Port Harcourt in Rivers State. Result in items 1,2,3,4, and 5 with weighted values of 2.5, 2.3, 2.3, 2.2 and 2.6 respectively. The Grand mean of 2.4 is less than the acceptable mean of 2.5. Result further indicated that respondent rejected items 2, 3, and 4, this affirmed that there are no organised environmental literacy or sensitisation programmes to equip the people on the need to participate effectively in the monthly sanitation exercise; while items 1 and 5 were accepted, implying that the level of participation in the monthly environmental sanitation was mainly to adhere to Government instruction on restriction of movement, and many use that day to dispose their waste through RIWAMA waste disposal van patrolling the Diobu Area of Port Harcourt in Rivers State.

Research Questions Three (RQ₃): To what extent has environmental literacy assist the inhabitants of Diobu to curtail the indiscriminate disposal of waste by their visitors/ new tenants in Diobu Area of Port Harcourt in Rivers State?

Table 3: Mean Score Analysis Showing how Environmental Literacy has assist the inhabitants of Diobu to curtail the indiscriminate disposal of waste by their visitors/new tenants in diobu area of Port Harcourt in Rivers State.

S/No	STATEMENT	RESPONSES						
		SA (4)	A (3)	D (2)	SD (1)	Total N=726	X Mea n	R
1.	The knowledge I have acquired from environmental literacy programme help me to educate my visitor on how to properly dispose waste in the area.	129 (516)	157 (314)	214 (428)	226 (226)	726 (1484)	2.0	Rejected
2.	I usually instruct my visitors/new tenants on how and where to properly disposed their waste in the environment because am well informed.	124 (496)	153 (459)	213 (426)	236 (236)	726 (1617)	2.2	Rejected
3.	The Knowledge, initiative and skills acquired in environmental literacy programmes has helped me to be able to design proper waste disposal tools for visitors/new tenants to use in the area.	106 (424)	148 (444)	211 (422)	261 (261)	726 (1551)	2.1	Rejected
4.	Environmental literacy programme and other sensitisation programmes has helped me to learn how to handle my visitors/new tenants in the aspect of proper waste disposal in the Diobu Area.	128 (256)	134 (402)	204 (408)	260 (260)	726 (1334)	1.8	Rejected
5.	The knowledge, initiative, skills and ability absorbed from environmental literacy and sensitisation programmes has helped me develop proper waste disposal practices/techniques that will also make my visitors/new tenants to adjust accordingly.	124 (496)	153 (459)	213 (426)	236 (236)	726 (1617)	2.2	Rejected
Grand Mean (x)		2.1						

Table 3 above shows the weighted mean score obtained from the respondents on how Environmental Literacy has assist the inhabitants of Diobu to curtail the indiscriminate disposal of waste by their visitors/new tenants in diobu area of Port Harcourt in Rivers State.

The responses in items 1,2,3,4, and 5 with weighted values of 2.0, 2.2, 2.1, 1.8 and 2.2 respectively is less than the cut-off point of 2.5. The overall grand mean of 2.1 is similarly less than the criterion mean of 2.5 as the opinion of respondent indicated that there are no Environmental literacy or environmental sensitisation programmes to equip them with adequate knowledge, skills, initiatives and informed practices that will help them to curtail the indiscriminate disposal of waste by their visitor and new tenants in Diobu Area of Rivers State.

4.1 Discussion of Findings

Research question one on how Environmental Literacy programmes has helped residents to imbibe the attitude of proper waste disposal in diobu area of Port Harcourt in Rivers State reveals that that the residents of Diobu Area Port Harcourt in Rivers State lack adequate information, skills, initiative and informed knowledge that will help them imbibe positive attitude to proper waste disposal in the environment, and this has made the peoples' behaviour to be unfriendly to the environment in the aspect of waste disposal. This assertion corroborate the work of Barrett (2005) that environmental literacy is the best channel to educate people on the need of promoting awareness, by inculcating responsible and reasonable behaviour in them so that their attitude will be environment friendly. In Other words from the responses obtained, the behavioural pattern of the people in Diobu area of Port Harcourt in Rivers State does not show that they have acquire any form environmental education or sensitisation. If not it should show as opined by Roth (1992) as quoted in Eheazu (2013) that Environmental Literacy is seen in terms of observable behaviours; that is, people should be able to demonstrate in some observable form what they have learned- their knowledge of key concepts, skills acquired, disposition towards environmental issues in their communities.

Research question two on how Environmental Literacy as assist to improve participation in monthly sanitation exercise amongst dwellers in Diobu area of Port Harcourt in Rivers State shows that the level of participation in the monthly environmental sanitation was mainly to observe and adhere to Government instruction on restriction of human and vehicular movement on the every last Saturday of the Month. And from direct observation and face to face interview that was used to complement the instrument used, many residents use that day to dispose their waste kept in a corner for a long time through RIWAMA waste disposal van that usually patrol to collect refuse in the Diobu Area of Port Harcourt in Rivers State. During the Interview/ observation section a certain shop owner in Mile2 Diobu area name Uncle Godfrey Brown assert that it is Obvious that RIWAMA primarily focused on the monthly sanitation exercise without adequate sensitisation programme to equip the people on waste disposal practices and the people also have failed to compliment the effort of RIWAMA so far, he suggest that RIWAMA should engage in other activities such that will involve creating waste disposal locations, and make billboards and handbills to inform residents about them. This agreed with assertion of Oyebamiji, Olumati & Nwogu, (2016), that The Rivers State Waste Management Agency (RIWAMA) since its inauguration in 2014 has be involved in environmental sanitation activities to ensure the State is free from environmental hazards, but the inhabitants of the state are yet to appreciate and compliment the efforts of the agency in the area of waste disposal and management.

Research question three on how Environmental Literacy has assist the inhabitants of Diobu to curtail the indiscriminate disposal of waste by their visitors/new tenants in Diobu Area of Port Harcourt in Rivers State reveals that there are no Environmental literacy or environmental sensitisation programmes to equip the residents of Diobu Area in Port Harcourt with adequate knowledge, skills, initiatives and informed practices that will help them to curtail the indiscriminate disposal of waste by their visitor and new tenants in Diobu Area of Rivers State. The responses from the above table corroborate the interview conducted; One Mr Amadi. F in Rumukokwu community off Rivers State University campus when asked how he manage to curtail the indiscriminate disposal of waste by his visitors or new tenants since he is a Land Lord in the Area , he said “there are no programmes or events on ground to educate residents on how to cooperate, unite their one on one efforts and make the environment clean together, people just on their own do what they feel is good and best because nobody is watching or concern about the other person attitude in the environment”.

Another respondent in the Mile 1 axis (Nanka Street Mile 1 Diobu); One Mrs Angela Ejekwu, when asked how she do curtail the indiscriminate disposal of waste by her visitors and new tenants, even her customers since she has a shop in front of her house; she said “ I can only speak for myself because Nigerian no longer care for one another, everyone is chasing money whereas the healthy which is more important is neglected forgetting that if you make money without good environment and good healthy the money id useless; so we must continue to learn and teach others on how to make the environment clean and healthy for us all to enjoy”. Her words compliment the work of Mbalisi (2016), which stressed that if we are to resolve and find a permanent solution to our environmental problems, then, we must start and continue to learn, think and decide to act differently to improve our lifestyle and livelihood for healthy living.

5.0 Conclusion

To crown it all, clue from the submission of the findings made it obvious that Environmental Literacy have the capacity to serve as catalyst to proper waste disposal and speed up the process of realising a cleaner and healthy environment in every community particularly in Diobu Area of Port Harcourt city in Rivers State. To corroborate this assertion, Oyebamiji & Adekola (2008) further said that sustainable development has to do with participatory development, human development and environmental protection for healthy living. That means sustainable development is the integration of economic, social and environmental systems to enhance the livelihood of human. Obviously, any society or community that imbibe the culture of sustainable development through the use of environmental literacy programmes, will experience improved standard of living, growth in the economic system and rapid improvement in the healthy lifestyle of the people and progressive healthy living among the people particularly in terms of environmental protection proper waste disposal and conservation.

5.1 Recommendations

Based on the findings and conclusion of this study, it is recommended that:

- I. Environmental literacy should be taken serious as an integral part of every education system, and student from primary schools be engage in environmental cleanliness.
- II. Government agencies that are saddled with responsibility of Environmental sanitation should see beyond just monitoring monthly sanitation exercise, and also be involve in sensitisation programme, environmental education/literacy programme that will improve the attitude of the people towards cleaner and healthy environment.
- III. Government should endeavour to collaborate with media houses (TV and Radio stations) to initiate, organise and implement environmental literacy friendly programme that will create awareness, stir up the hearts of men to participate effectively in environmental solution based programmes.
- IV. Every stakeholder in the environment should take it as responsibility to start and continue to learn, think and decide to act differently to improve the lifestyle and livelihood of every member of the community for healthy living.

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