

## **Environmental Management Education Curriculum Development for Schools In Oil Bearing Communities in Rivers West Senatorial District**

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### **Abstract**

*The study investigated the need for environmental management education curriculum development for schools in oil bearing communities in Rivers West Senatorial District. The study covered all the 83 public secondary schools, 526 school teachers and 175 principals in both Rivers State Universal Basic Education programme and the senior secondary schools in Rivers State within this educational district. The sample size for this study was 23, which was 30% of the total population. The study adopted the multistage sampling procedure at the first stage, cluster sampling technique was used to group all the schools within the educational district within the local government Area were properly arranged in different order, then stratified random sampling was employed to list both the male and the female teachers who are likely to teach this subject. In this study 23 was male teachers while 294 was female teachers. Descriptive research design was used to carry out four null hypothesis, A 5 - point rating scale was designed to obtain data for the study. Data generated from the research question were analyzed using t-test to test the hypothesis. A self-structured instrument titled sustainable Environmental Management Education Curriculum Development (SEMECD) were used, face and content validities were made by the research experts in science education, measurement and Evaluation department of the faculty of Education, Rivers State University Port Harcourt. A reliability coefficient value of 0.82 was obtained through a test-retest method. The findings indicate that the present nature of environmental degradation and ecological crisis in Niger Delta demand for such curriculum, but that the bulk of the curriculum implementers who are usually the classroom teachers are inadequate, accompanied with lack of facilities, teaching aids are also lacking. So the implementation of an effective environmental management education curriculum is defective, hence there is no existing policy or regulation supporting the implementation of environmental management education in Rivers West Senatorial district, Teachers need to be trained and re-trained for such purposes. Based on the findings, it was recommended among others that Rivers State Ministry of Education should set up a panel to draw up and evaluate a sustainable environmental management education curriculum for schools in Rivers West senatorial district so as to increase the level of awareness in Environmental Management and Safety Education in oil bearing communities.*

**Keywords:** Sustainable, Environmental - Management, Education, Curriculum, Rivers West Senatorial district.

**INTRODUCTION:** The world commission on Environment and development in its report to the United Nations in 1987 defied the term sustainable development as meeting the needs of the present without compromising the ability of future generation as to meet their own needs. But according to Dara

(2008) every development must be considered a sustainable development if the development in its totality put into consideration everything that will conserve the present nature of ecosystem and its biodata today being at present, tomorrow being future and for the generation yet unborn, meaning that the development is not detrimental at any stages, but

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such development must be eco-friendly without any form of environmental degradation which may likely result to total decline in the level of biodiversity of an ecosystem, the development must be proactive in pollution control and environmental safety.

According to Smart (1998), Environmental management is the process of putting together those items of environmental nature where man exists so that man's penetration and exploitation do not have adverse effects on the environment. According to him development projects should be considered on the basis of their long and short term effects.

Government and competent environmental regulatory/protective agencies should be charged with these responsibilities, for a positive and quality human environment, such major projects are evaluated in term of its impacts at base line level (pre-impact), impacts and post impact level. But according to Orime (2016), Environmental Management Education is that kind of education that increases the level of awareness on ecological conservation whether in-situ or ex-situ method. It makes the users of the Biosphere to be environmentally literate and reduces the negative consequences of human and industrial development. Is a total education that addresses all environmental problems ranging from global warming, pollution, deforestation, gas flaring (vertical or horizontal gas flaring), dredging activities, urban decay, noise pollution and the control of hazardous wastes, this environmental issues result to health problems such as cancers, water borne diseases, air borne diseases and even death, hence water and the air are the basic natural resources which no living things can avoid. According to Orime (2006), issues about environmental management education has become a more regionalized and a globalized affairs, hence human races are no longer sensitive about the mother's earth accompanied with very high level of environmental crises in major oil bearing communities in Rivers State, stepping from gas flaring, urban and coastal flooding, pipeline vandalization, drought and loss of fertile soil for agriculture, oil spillage just to mentioned but a few, so proposing for environmental management education will help.

Curriculum development may likely ameliorate these crises level. The Oxford Advance Learners Dictionary (2001) defined the term management as the process of running, controlling, directing and effecting changes in the use of materials and non-materials resources for the purpose of accomplishing a task of an organization. But according to Amaele (2005) Education is often married or linked up to other

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concepts such as schooling, training, he added that apart from Education being a discipline of study, that education is also a transmission of the cultural heritage of a given society, and the cultures of these societies varies or changes, which intend to solve a particular problem. This is within the objective of this research paper, which is to solve and create a lasting solution to the problem of environmental and biodiversity crises/conflict in oil bearing communities. But in addition, the early work of Plato quoted from Ezewu (2000) defined education as "that training which is given by suitable habits to the first instinct of virtue in children when pleasure and pain are rightly implanted in a rational soul". While Amaele (2005) in reminiscing the fate of the early work of Rousseau, said that education is the development of the individual from within (educere), by interacting with the natural environment with the aim of fitting him properly into the society and solving the existing problems for which it suffer" but to solve this existing problems like those of environmental and biodiversity crises/conflicts between the oil bearing community in one side and host communities in another side, then researching which involves a search for knowledge through a scholarly systematic application of scientific principles to find a solution to an identified problems. According to Gboyega (2003), research which captures the problems of the immediate society, bring about development, but he farther defined the term development as an idea that embodies an attempts to improve the conditions of human existence in all ramifications; this is subject to a consensus public opinions which environmental management Education curriculum will solve in Rivers West Senatorial zone.

### **Statement of the Problem**

The recent and the increasing cases of environmental degradation and biodiversity crises in all. oil bearing and hosting communities, have generated several conflicts to biotics and abiotic factors. The predicaments arising from this, is taking a mortal shape and blow to this generation, hence education to change this attitude is lacking, especially as a solution oriented curriculum in schools within this oil bearing/hosting communities does not capture environmental management education as a course of study, this phenomenon have continued to increase ecological threat, environmental illiteracy etc. In addition, essential operational policy to back up environmental management education curriculum in schools are lacking, accompanied with lack of teacher's preparedness to implement the content of the curriculum.

**Purpose of the Study:**To examine critically the environmental problems and current school curriculum in oil bearing communities in Rivers West senatorial district?; To identify ways of implementing Environmental Management Education in school curriculum in rivers west senatorial district?; To measure the level of operational policy and Teacher’s preparedness toward the success of the environmental management education curriculum? And To evaluate the benefits of environmental management Education in oil bearing communities in Rivers west senatorial district?

**Research Question:** The following research questions are posed in the study: What is the major problems facing the implementation of environmental education curriculum in oil bearing communities in Rivers West senatorial district; How do we implement Environmental Management education curriculum in Schools in rivers west senatorial district?; What are the level of operational policy and the teacher’s preparedness toward the implementation of the environmental management education curriculum?; and What are the benefits of implementing Environmental Management Education curriculum in Rivers west senatorial district?

**Hypotheses:** The following hypotheses was formulated to guide the study: There is no significant difference in the opinion of the teachers and the principles on the major environmental problem facing the current school curriculum in oil bearing communities in Rivers West senatorial district.; There is no significant difference in the opinion of the teachers and the principles on how to implement Environmental management education curriculum in Schools in rivers west senatorial district.; There is no

significant difference in the opinion of the teachers and the principles on the level of operational policy and teachers’ preparedness towards the implementation of the curriculum; and There is no significant difference in the opinion of the teachers and the principles on the benefits of implementing environmental management education curriculum in rivers west senatorial district.

**Significance of the Study:** The study will be of immense benefits to a number of people, students, stakeholders, society, teachers, politics, industries, institutions, government and organization. The study shall be a source of secondary data for further research, it shall provide a baseline data information for environmental managers and decision makers. This study will aid a total reduction in environmental crises and biodiversity cases, especially in oil bearing communities in Rivers west senatorial district.

**Scope of the Study:** This study purely focused specifically on schools within the rivers west senatorial district. Factors associated with the implementation of Environmental management education in schools curriculum in Rivers west senatorial district are the availability of professional environmental management educators (Teachers), effective and efficient school facilities such as laboratory, sufficient school administrators/policy from a competent regulatory agencies, that must be recognized by curriculum association of Nigeria, Nigeria educational research and development Council (NERDC) etc. the rivers west senatorial district are made up of the following:

S/N	Names of LGA	No. of Schools Recognized	No. of Teachers as of July 2022	No. of Principals
1.	Abua/Odual	10	65	21
2.	Ahoada West	9	70	20
3.	Ahoada East	10	65	22
4.	Akukutoru	10	65	21
5.	Asaritoru	10	66	21
6.	Bonny	10	65	21
7.	Degema	11	65	21
8.	Ogba/Egbema/Ndoni	10	65	21
	<b>Total</b>	<b>83</b>	<b>526</b>	<b>175</b>

**Source:** Field Survey (2022).

**SELECTED SCHOOLS WITHIN THE STUDY**

- |                    |                    |
|--------------------|--------------------|
| <b>Abual/Odual</b> | <b>Ahoada East</b> |
| 1. GSS Abua        | (1) WACHS Ahoada   |

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2.	GSS Emelego		(2)	GTC Ahoada
3.	CSS Otapha		(3)	UICSS Edeoha
4.	CSS Emago Kugbo		(4)	CSS Odiabidi
5.	ECSS Aminigboko		(5)	GGSS Ahoada
6.	GGSS Abua		(6)	GSS Ogbo
7.	GCSS Okpeden	(7)		CSS Odiemierenyi
8.	CSS Okoboh		(8)	CSS Okporomini
<b>Ahoada West</b>				
1.	JGS Joinkrama	(1)		<b>Akukutoru</b>
2.	GSS Okarki		(1)	GSS Abissa
3.	CSS Oyigba		(2)	CSS Kula
4.	GCSS Mbiama	(4)	(3)	GSS Iidama
5.	UCSS Idu-Ekpeye		(4)	AGSS Abonnema
6.	GSS Ubeta		(5)	CSS Obonoma
7.	CSS Akinima			<b>Andoni/Opobo</b>
8.	ICSS Okogbe		(1)	GSS Asarama
	<b>Asaritoru LGA</b>	(3)	(2)	GSS Ataba
1.	KNC Buguma			GSS Ngo
2.	KCC Buguma		(4)	CSS Ikuru Town
3.	CSS Ido	(6)	(5)	CSS Agwut-Ogbolo
4.	CSS Krakrama	(7)		CSS Ibotiriem
5.	WEC Buguma			CSS Ekede
6.	CSS Ifoko		(8)	CSS Ebukuma
7.	CSS Abalama		(9)	CSS Angulama
	<b>Ogba/Egbema/Ndoni</b>			<b>Ogoba/Egbema/Ndoni</b>
(1)	CSS Erema		(5)	CGSS Omoku
(2)	CSS Obigwe		(6)	CSS Obirikom
(3)	CSS Oboburu		(7)	EGS Okwuzi
(4)	GSS Ndoni		(8)	GSS Akabukar

**Materials and Method:** The study covered all the 83 public schools in rivers west senatorial districts, 526 school teachers, 175 principals exist within this educational district. The sample size for this study is 23 which were 30% of the total population. The study adopted the multistage sampling procedure, at first stage, clusters sampling technique was used in all the local government areas and the schools under their distinct, this was properly arranged in different form covering total number of teachers and the principals, then stratified random sampling technique was employed to know the male and the female teachers who are considered the curriculum implementers who shall teach the subject; in this study descriptive

research design. was used to carry out four null hypotheses, A5-point rating scale was designed to obtain data for the study. A self-structured instrument titled “Sustainable Environmental Management Education curriculum development (SEMECD) were used for the study. Data generated from the research questions were analyzed using t-test to test the hypotheses, while mean, standard deviation, and percentage and for research questions accordingly face and content validities were made by the research experts in science education, measurement and evaluation department of the faculty of Education, Rivers State University Port Harcourt. A reliability coefficient value of 0.82 was obtained through a test-retest method.

## Results

**Table 1: Approach ranking the major problem against the establishment of Environmental Management Education into the school’s curriculum in oil bearing communities in Rivers West Senatorial District**

S/N	Approach and Response impeding the introduction of environmental management education	X	SD	%	Rank Order
1.	Lack of Professional Environmental Management Education Teacher	20	4.5	71.1	1 <sup>st</sup>

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2.	Lack of supporting/operational policy	18	4.2	64.3	2 <sup>nd</sup>
3.	Lack of instructional materials/teachers aids	16	4	57.3	3 <sup>rd</sup>
4.	Lack of awareness and pre-information	15	3.95	52.6	5 <sup>th</sup>
5.	Lack of funds as take of grants	15.6	3.95	55.7	4 <sup>th</sup>

Source: Field Survey, (2022)

**Table 2: Opinion on how to implement Environmental Management Education Curriculum in Schools in oil bearing communities in Rivers West senatorial district**

S/N	Opinions of Respondents on how to Implement Environmental Management Education Curriculum	No of Respondent	X	SD	%	Rank Order
6.	A conference of all curriculum association of Nigeria should be organize.	80	13	3.69	42.9	3 <sup>rd</sup>
7.	Conference of Nigerian educational management board directors should be held.	68	13	3.69	42.9	4 <sup>th</sup>
8.	Meeting of all zonal educational management boards directors should be held.	68	13	3.69	42.9	2 <sup>nd</sup>
9.	Conference of joint action of stakeholder in oil bearing communities/all Nigerian principal and teachers should be held.	15		90	52.6	1 <sup>st</sup>
10.	Opinions and public participation in Environmental policy should be organized.	58	116	3.41	41.4	5 <sup>th</sup>

Source: Field Survey, (2022).

Table 1 above explained various approaches rating and ranking problems impending the introduction of Environmental Management Education into the school for oil bearing communities in Rivers West senatorial districts. In the table above, item no 1 ranked highest with 71.1%, item no 2 ranked second with 64.3%, item no 3 ranked 3<sup>rd</sup> with 57.1%, item no 4 ranked 4<sup>th</sup> with 55.7% while item no 5 ranked 5<sup>th</sup> with 52.6%. This means that lack of professional environmental management education teachers affected the implementation of the curriculum, followed by lack of supporting/operational policy and lack of instructional materials etc.

Details of responses ranking and rating the opinions of respondents toward the implementation of

environmental management education Curriculum in schools in oil bearing communities; in table 2 above, item no 9 rank 1<sup>st</sup> with (52.6%) suggesting that conference of joint action committee of the stakeholders in oil bearing communities/All Nigerian Principal and Teachers should be organize, with the theme: “the need for Environmental management education in oil bearing communities in Rivers West senatorial district”, item no 2 ranked with an agreeable percentage of 42.9%, suggesting that meeting of all zonal educational management board directors should be held, item no. 6 ranked 3<sup>rd</sup> with 42.9%, suggesting that conference of Curriculum Association of Nigeria (CAN) should hold, to discuss the major issues about environmental management education in Rivers West senatorial district.

**Table 3: Approach rating and ranking the availability of supporting policy toward, the implementation of Environmental management education into the secondary schools curriculum in Rivers State Senatorial district.**

**Table 3: Opinion on how to implement Environmental Management Education Curriculum in Schools in oil bearing communities in Rivers West senatorial district**

S/N	Opinions of Respondents	No of Respondent	X	SD	%	Rank Order
11.	Ministry of Education should be informed.	120	24	46	85.7	2 <sup>nd</sup>
12.	Nigerian Educational Research and Development Council (NERDC) should be consulted.	130	26	52	92.9	1 <sup>st</sup>

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13.	Community Development Committee (CDC) and community educational stakeholders should be consulted.	120	24	46	85.7	3 <sup>rd</sup>
14.	National University Commission should be advised	10	20	4.5	71.4	4 <sup>th</sup>
15.	A proposal should be sent in form of a request to school management board.	60	12	3.5	42.9	5 <sup>th</sup>

Source: Field Survey, (2022).

In table 3 above, item no 12 ranked 1st with 92.9%, suggesting that Nigerian Board of Educational Research and Development Council (NERDC) should be inform, item no 11 suggested that ministry of

education should be consulted, item no 13 ranked 3 with 85.7% suggesting that CDC and stakeholders within the oil bearing communities should be informed about this proposals etc.

**Table 4: Approach rating the benefit of implementing Environmental Management Education Curriculum in schools within oil bearing communities in Rivers West senatorial district.**

S/N	Opinions of Respondents	No of Respondent	X	SD	%	Rank Order
16.	It will reduce the level of environmental crises/pollution.	10	3.16	42.9		2 <sup>nd</sup>
17.	It will increase awareness on eco-safety and conservation.	13.3	3.65	57.1		1 <sup>st</sup>
18.	It will reduce cases of biodiversity crises/conflict in host communities.	8.3	2.8	35.7		3 <sup>rd</sup>
19.	It will minimize conflict among youths and oil companies	7.3	3.71	31.4		4 <sup>th</sup>
20.	It will bring about a sustainable development	3.3	1.83	14.9		6 <sup>th</sup>

Source: Field Survey. (2022)

Table 4 explaining details of the benefits of environmental management education in schools curriculum in oil bearing communities in rivers West senatorial district. Item 17 ranked first with 57.1% suggesting that environmental management education will increase awareness on eco-safety and bio-

conservation, item 16 ranked 2 with 42.9%, suggesting that the introduction of environmental management education will reduce the level of environmental crises and pollution, item 18 ranked 3<sup>rd</sup> with 35.7%, suggesting that it will reduce cases of biodiversity crises/conflict etc.

**Table 5: T-test Analysis of significant difference between the mean rating of the respondents of the opinions of teachers/principals on Problem impending against the establishment of Environmental management education into the school's curriculum in oil bearing communities in rivers west senatorial district**

Sex	No of Respondents	X	SD	DF	T-Cal	T-crit	Decision
Females teachers	294	3.16	28				
Males Teachers	231	3.08	32	5.25	3.29	1.96	Rejected

Source: Field survey, (2022).

**Table 6: T-test analysis of significant difference between the mean rating of the respondents of the opinions of Teachers/Principals on how to implement environmental management education curriculum in schools in rivers west senatorial district**

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Sex	No of Respondents	X	SD	DF	T-Cal	T-crit	Decision
Females teachers	294	3.00	28				
Males Teachers	231	2.91	30	525	3.29	1.96	Rejected

Source: Field survey, (2022).

From the table 5 above, the t-calculated value of 3.29 is greater than the table value of 1.96 at 0.05 level of significance, thus the hypotheses was accepted the null hypotheses, that significant difference is found in the mean ratings of male and female teachers opinions on the problem impending the establishment of environmental management education in oil bearing

communities in rivers west senatorial district. From the table 6 above, the calculated value is 3.29 which is higher than t-crit. Which is 1.96 at 0.05 level of significance, hence the hypotheses is rejected. This implies that there was significant difference in mean rating of male teachers and female teachers on how to implement environmental management education curriculum in schools in rivers west senatorial district.

**Table 7: T-test analysis of significant difference between the mean rating of the respondents of the opinions of teachers/Principals on the availability of policy and teachers preparedness toward the implementation of environmental management education curriculum in rivers west senatorial district**

Sex	No of Respondents	X	SD	DF	T-Cal	T-crit	Decision
Females teachers	294	2.96	30				
Males Teachers	231	2.84	32	525	3.29	1.96	Rejected

Source: Field survey, (2022).

**Table 8: T-test analysis of significant difference between the mean rating of the respondents on the benefits of implementing environment management education curriculum in Rivers State West senatorial district**

Sex	No of Respondents	X	SD	DF	T-Cal	T-crit	Decision
Females teachers	294	3.00	28				
Males Teachers	231	2.91	32	525	3.29	1.96	Rejected

Source: Field survey, (2022).

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From the data above, the t-cal is 3.29, which is greater than t-crit which is 1.96 at 0.05 level of significance, the null hypotheses which state that there is no significant difference in the mean rating of females and males teachers regarding the opinions of Teachers/Principals on the availability of supporting policy on the teachers preparedness toward the implementation of environmental management education curriculum in rivers west senatorial district.

**Findings:** The findings showed that Environmental Management Education is crucial in all oil bearing/host communities in rivers west senatorial district following the level of environmental and biodiversity crises/conflicts among the users of the ecosystem, in Niger Delta, specifically rivers west senatorial district, but that the problem which the proposed curriculum is facing, is lack of professionally trained environmental management education teachers, who are to drive and implement the curriculum content, others are lack of facilities/teaching aids, lack of operational and effective policy to regulate the curriculum to a successful end, teachers need to be trained and retrained to accomplished such educational objectives.

**Conclusion:** The study concluded that Environmental Management Education will bring an eco-harmonious relationship, safety of wild lives, restore peace mid will minimizes conflicts in rivers west senatorial districts, but that the success of every curriculum rest on the effective implementation of the content and the organization, and as such requires a functional and operational policies. A sustainable environmental management education curriculum within the rivers state is targeted to reduce crisis, irrespective of several shortcoming, such as lack of teaching aid, lack of effective teachers to implement the curriculum, lack of laboratory and funding, especially as it have to do with the Niger Delta eco-system.

**Recommendations:** The study recommended the following: Rivers state ministry of Education in collaboration with Nigeria educational research and development council (IERDC), Curriculum Association of Nigeria (CAN) should set up a professional panel to draw up a special Environmental

management education Curriculum in Rivers west senatorial district, so as to raise the level of awareness in environmental management and eco-safety in oil bearing communities.; Government should support oil bearing communities in provision of facilities to their schools.; A round table environmental management forum should be establish to address some major environmental crises.; and Companies operating in a community should support their host communities in essential services and preach for the conservation of their ecosystem for sustainability.

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