GOVERNMENT PROGRAMMES IN CHECKING THE OCCURRENCE OF HABITAT LOSS AND THEIR IMPLICATIONS FOR MAINTAINING SUSTAINABLE ENVIRONMENT IN OGONI, RIVERS STATE, NIGERIA

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ABSTRACT

The study set to find how government programmes can check the occurrence of habitat loss and their implication in maintaining a sustainable environment in Khana and Gokana local Government Areas in Ogoni of Rivers State. In order to achieve this aim, the objectives were to identify government programmes that could help curb the problem of habitat loss and the implication of this programmes in maintaining the environment. For this study, the survey design was adopted. The null hypothesis was to find out the difference between programmes embarked on by the government and the checking of habitat loss. The data was collected through the use of questionnaires. Responses to questionnaires were analyzed using mean and grand mean for the research objectives and Z-test for the hypothesis. The result revealed that the government has made serious effects to curb the problem of habitat loss through several environmental programmes, but the community dweller still embark on massive destruction their environment in search for fuel sources like firewood. It is recommended that the government should make the prices of fuel cheap to avoid the rural dweller from going often for alternative source of energy.

KEYWORDS: Government programmes, habitat loss, sustainable environment, environmental degradation.

1. INTRODUCTION

The most profound cause of environmental degradation, including habitat loss in Ogoni land is crude oil spill. The problem is further aggravated by deforestation, industrialization and poor agricultural practices. Collectively these situations have unleashed havoc with far-reaching, life threatening implications on community traditional lifestyles and livelihood. The results of the unchecked oil spills, the actions of oil bearing communities in bunkering business (production or refining crude oil), government negligence to enact and enforce stringent environmental laws that will check the rate of habitat loss in Ogoni; has lead to the complete destruction of the ecosystems. The people suffer due to some species extinction. Mangrove forests have fallen due to the toxicity of oil spills from oil.

These ultimately have resulted in pockets of environmental devastation. Because of these activities, crops are destroyed, farms are no longer fertile, farmers toil in the field yet, they have to buy food to eat and hunters go home without a catch. Here, environmental adult education can through educational programmes of conscientization, provide sustainable and practical solution to the problems stated above. Effort to overcome continuous environmental degradation and establish sustainable development around the world can be advanced by providing for citizens of all ages with opportunities to become more environmentally informed, committed and active; and thus, more environmentally literate. This depends on the competency of the change agents. Their priorities should be to ensure the sustainability of the environment by taking the necessary precautions and raising public awareness through literacy programme.[15]

Literacy means basic knowledge in a given area[1]; the ability to read and write; having the necessary knowledge and information in a certain field or any deeds, fulfilled without mistakes.[12] Consequently, environmental literacy is defined as basic functional education for all people which provides them with the elementary knowledge, skills and motives to cope with environmental need and contribute to sustainable

development. Environmental literacy is conceived as functional literacy.[16] Roth[13] believed that environmental literacy is beyond certain cognitive skills and the basic definitions of literacy, the ability to read and write. He claimed that "environmental literacy builds on an ecological paradigm. Environmental literacy is the capacity to perceive and interpret the relative health of environmental systems and to take appropriate action to maintain, restore, or improve the health of those systems". Environmental literacy in its totality seems to comprise of the same elements as environmental culture, consciousness and behaviour taken together. Based upon an evolving understanding of environmental literacy, it will include six main components namely ecological knowledge, socio- political knowledge, knowledge of environmental issues, cognitive skills and environmental responsible behaviour.[14]

Anijah-Obi[2] identified man as the critical agent who make and unmake the environment and whose life has normally become endangered by his own actions and ignorance. Thus, there is urgent need for a radical change of attitude and complete transformation in the way natural resources can be used. This change according to Anijah-Obi[2] can be achieved through deliberate campaigns of public enlightenment interactive and information exchange. Acquisition of environmental literacy becomes a veritable tool that can help the individuals appreciate and understand the existing and impending woes of environmental degradation. Environmental literacy and education can provide necessary knowledge for the interpretation of the complex issues that shape the environment as well as managing it sustainably. It is important to note that we are in one way or the other involved in environmental degradation. If we are not part of the solution, we are part of the problem. Everyone is affected by environmental problems and therefore, we all have a stake in solving them. But our collective success will depend on how much we know and how creatively we apply this knowledge.[2]

Emeh[5] argued that all sound environments require an environmentally sound literate person. He further emphasized the need for participatory adult education, based on productive activities of the adults and helping to restructure their needs and goals for sustainable future. In other words, illiterate farmers may not know the adverse consequences of bush burning, clear cutting and application of herbicides on the forest ecosystem.

Kostwa[8] in support of Emeh's view maintained that all illiterate individual cannot save the environment. He can only be slave to his environment. He saw environmental literacy whether formal or informal as a pre-condition for the attainment of sustainable development.

Ndukwe[9] observed that for adequate and effective orientation of Nigerians, especially at the rural level, mass literacy campaign is necessary to educate more than 80% of the people who are illiterate and therefore, cannot understand as well as appreciate the essence of environmental conservation and protection. Inyian-Abia[7] put it that Nigeria need very urgent an adequate dosage of environmental literacy. According to him, this is considered as a right and privilege. Thus, for all populace to be adequately aware of environmental degradation, they need to be educated. Chawla and Cushing[4] saw the instrumentality of environmental literacy in the solution of the problem of habitat loss and posited that adequate environmental literacy is still very much lacking in Nigeria when compared with developed nations. Erodogen[6] observed that it is imperative to raise the environmental consciousness of Nigerian citizen in order to transform the value awareness about the environment in the general public consciousness. This could be achieved through intensive campaign of public enlightenment, adequate information exchange and deliberate Environmental Literacy Programmes. Environmental Literacy Programmes on environmental matters is capable of engendering sustainable management of the natural resources. This is because it aims at developing and training the individual so as to improve him for his own benefit and that of the society in which he works, plays, and lives. It is precisely, this new image that environmental adult literacy aims at, by introducing new concepts as it changes old ideas and conventional wisdom. These new ideas are intended to radically transform our traditional ideas, attitudes, cultural beliefs, life-style and consumption patterns which contradict the concept of natural resources protection and conservation.

Ballontype[3] had observed the potential of environmental education in solving the problem of destruction of natural resources. He put it that environmentally literate people will appreciate the need to make use of the existing forest base judiciously, plant trees for everyone, they cut down and the need to accept family planning as a measure of minimizing the depletion of forest resources. According to Roth[13] environmental adult literacy should be spread to all and sundry. We need to educate the rural dwellers on the causes of habitat loss, its adverse consequences and ways of solving such problem. Only formal education system cannot be enough to successfully carry out this great task. Hence, there is need to adopt basic literacy programmes which also can be regarded empowerment. Without formal education, adult environmental literacy programme will assist people to solve the problem of habitat loss.

2. Objective of the Study
This study is design to:

i. Identify the programmes that are embarked upon by government in checking the occurrence of habitat loss and their implications for maintaining sustainable environment.
ii. Determine the implications of programmes embarked upon by government for maintaining sustainable environment.

3. Hypothesis

Ho: There is no significant difference between the programmes embarked upon by government and the

checking of habitat loss.

Table 1: Population Distribution.

Union of civil servants/ farmers / timber dealers	Total number of union of civil servants / farmers/ timber dealers
National Union of Local Government Employees (NULGE) Gokana Branch	650
National Union of Local Government Employees (NULGE) Khana Branch	617
Kilsi Fadama Yam Production Farmers of Gokana	425
Khana Farmers Association	450
Kibagha Timber Dealers Organization of Gokana	300
Bori Timber Dealer Association (BTDA) Khana	380
TOTAL	**2822**

Sources:

4. MATERIALS AND METHODS

4.1 Research design

The survey type of research was use in this study. Further, this design is considered adequate for the study because survey research is one which a group of people or items is studied by collecting and analyzing data from only a few people or items considered to be representative of the entire group.[10]

4.2 Population of the study

The population for the study is 2822 which consist of the Local Government workers (civil servants), union of timber dealers and farmers who are domiciled in Gokana and Khana Local Government in Rivers state. Below is the distribution of the population.
(1) National Union of Local Government Employee (NULGE) Gokana Branch.
(2) National Union of Local Government Employee (NULGE) Khana Branch.
(3) Local Agric Fadama Gokana III
(4) Agricultural Department Khana Local Government Area
(5) Kibangha Timber Dealers Organization of Gokana.
(6) Bori Timber Dealers Association (BATDA) Khana.

4.3 Sample and sampling Techniques

The sample for this study is 1834 which is 65% of the population of 2822.

The proportion of the sample size is first determined before getting the number of elements from each of the group. This is in relation to the population and is being multiplied by the size of each of the group by this proportion. 65% of (2822) becomes 1834 as a result and is being multiplied by the proportion of each group to get the sample size of each group. Six groups have been chosen for this study from the area of study.

Table 2: Sample Distribution.

Names of Civil Servants Groups, Farmers and Timber Dealers Union	Population	Sample size
National Union of Local Government Employee NULGE (Civil Servants) Gokana Branch	650	423
National Union of Local Government Employee (NULGE) Khana Branch	617	401
Kilsi Fadama Yam Production Farmers of Gokana	425	276
Khana Farmers Association	450	292
Kibagha Timber Dealers Organization of Gokana	300	195
Bori Timber Dealer Association (BTDA) Khana	380	247
TOTAL	**2,822**	**1,834**

This is done for proper and easy collection of information / data.
Below is the table that shows the distribution of sample according to the said group.

Sources
(1) National Union of Local Government Employee (NULGE) Gokana Branch.
(2) National Union of Local Government Employee (NULGE) Khana Branch.
(3) Local Agric Fadama Gokana III
(4) Agricultural Department Khana Local Government Area
(5) Kibangha Timber Dealers Organization of Gokana.
(6) Bori Timber Dealers Association (BATDA) Khana.

4.4 Validity of the Instrument
To ascertain the validity of the instrument that was used for the study, the instrument for the study is given to a group of experts in the Department of Adult and Non-Formal Education Comments and remarks from these experts were included in the instrument to ensure their face and content validity before administrating them.

4.5 Reliability of the Instrument
To ascertain the reliability of the instrument, the test re-test method was adopted. The instrument was administered twice on twenty (20) respondents from outside the sample at an interval of two weeks. The two sets of score generated were correlated using Pearson Product Moment correlation statistic analysis. A correlation co- efficient of (0.75) was recorded as shown on Table 3. This was considered high enough to adjudge the instrument as reliable. This is in line with the works of Nzeneri.[11]

Table 3: Calculation of Reliability Coefficient.

Simple	X	Y	X^2	Y^2	XY
1	80	54	6,400	2,916	4,320
2	60	60	3,600	3,600	3,240
3	60	56	3,600	3,136	3,360
4	58	54	3,364	2,916	3,132
5	70	42	4,900	1,764	2,940
6	72	66	5,184	4,356	4,752
7	76	60	5,776	3,600	4,560
8	80	68	6,400	4,624	5,440
9	72	66	5,184	4,356	4,752
10	67	69	4,489	4,761	4,623
Total	**695**	**595**	**48,897**	**36,029**	**41,810**

$$r = \frac{N\sum xy - (\sum x)(\sum y)}{\sqrt{\{N\sum X^2 - (\sum x)^2\}\{N\sum y^2 - (\sum y)^2\}}}$$

Where
r = Pearson Product Moment Condition
N = number of pairs or scores

$\sum xy$ = Sum of the products of X and Y distribution

$\sum X$ = Sum of the data in x – distribution

$\sum y$ = Sum of the data in y – distribution

$\sum x^2$ = Sum of squares in x distribution

$\sum y^2$ = Sum of squares in y distribution

$\left(\sum x\right)^2$ = Sum of the data in x squared

$\left(\sum y\right)^2$ = Sum of the data in y squared

$$r = \frac{10x41810 - (695)(595)}{\sqrt{10x48897 - (695)^2}\ 10x36029 - (595)}$$

$$= \quad \begin{array}{l} 418100 - 413525 = 4575 \\ 488970 - 483025 = 5945 \\ 360290 - 354025 = 6265 \end{array}$$

$$r = \frac{4575}{\sqrt{5945x6265}}$$

$$r = \frac{4575}{\sqrt{37245425}} = \frac{4575}{610290}$$

$$= \quad 0.75$$

4.6 Method of Data Collection
The copies of the questionnaire were administered with the help of five research assistants. The instruments were administered to the respondents after a careful explanation of the content to them.

The researchers and his assistants visited the two local governments areas selected for this study during the working hour to administer the questionnaire to the local government workers. The research administered the questionnaires to the farmers during their meetings. This is applicable to the timber dealers.

4.7 Method of Data Analysis
The data analysis involved sample distribution of frequency mean, grand means and Likert type scale.

The responses to the questionnaire were scored on four point scale in an increasing order as follows;

Strongly Agreed	(SA) =	4
Agreed	(A) =	3
Disagreed	(D) =	2
Strongly Disagreed	(SD) =	1

The data so generated was organized, analyzed and presented in table for the purpose of clarity.

The mean ($\bar{x}$) for each item was obtained using the formula: $\bar{x} = \dfrac{\sum fx}{N}$ where

$\bar{x}$ = Mean, $\sum$ = add together,

f = frequency of occurrence,

N = number of events or observation

For any item in the questionnaire to be accepted, it must score a mean $(\bar{x})$ weight of not less than 2.5. The points on the rating scale in the questionnaire were added and the sum divided by 4 (since it is a four-scale). The average is 2.5. Thus, 2.5 is the separating mean (7) time from which accepted and rejected responses were determined.

The null hypothesis was test at 0.05 or 5% level of significance using z-test. The z-test is usually adopted in testing hypothesis about difference between two population means where the sample size is large (Nworgu, 1991).

The Z-test statistic is computed using the formula below;

$$Z = \frac{\bar{X}_1 - \bar{X}_2}{SD_x}$$

Where SDx = standard error of difference between means,

$$SD_x = \sqrt{\frac{S^2}{\dfrac{1}{n}} + \frac{S_2^{\ 2}}{n_2}}$$

$$\therefore Z = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\dfrac{S_1^{\ 2}}{n_1} + \dfrac{S_2^{\ 2}}{n_2}}}$$

The null hypothesis was rejected if the Z calculated is greater than Z critical O. Otherwise, it will be accepted.

5. RESULT AND DISCUSSION

The programmes embarked upon by government in checking of the occurrence of habitat loss.

Table 4: Analysis of Responses from Respondents on the Programmes Embarked upon by Government to check the Occurrence of Habitat Loss.

S/No	Research Items	Khana $\bar{X}$	Gokana $\bar{X}$	Grand Mean	Remarks
16	Enforcement of appropriate law and policy making on environmental issue, help in solving the problems of habitat loss.	3.29	3.48	3.39	Accepted
17	The radio, television, print media, jingle, debates, posters, handbills are some of the progammes government uses in creating awareness on ways of solving the problems of habitat loss.	3.42	3.74	3.58	Accepted
18	Enactment of various forest act, oil spill decree and edict have assisted in reducing the rate of forest depletion and oil spill.	3.09	3.38	3.24	Accepted
19	Public enlightenment campaign, workshops seminar, and conferences organized by government are good ways of creating awareness about oil spill, forest management and protection.	3.38	3.62	3.5	Accepted
20	The forest laws and regulation promotes the establishment of forest reserve.	3.23	3.03	3.13	Accepted

Analysis of data as shown on Table 4 revealed that response to all items indicate that programmes embarked upon by government can help in checking the occurrence of habitat loss. All items recorded grand mean scores that are above the criterion mean. Specifically, enactment of various Forest Acts, Oil Spill Decrees and Edit, public enlightenment campaigns, workshops, seminar and conferences and formation of forest laws and regulation recorded grand mean scores of 3.39, 3.58, 3.24, 3.5 and 3.13 respectively. This implies that the programmes embarked upon by government are strong and capable enough to check the occurrence of habitat loss in Ogoni.

The implication of programmes embarked upon by government for maintaining sustainable environment.

Table 5: Analyses of Responses from Respondents on Programmes Embarked upon by Government for Maintaining Sustainable Environment.

S/No	Research Items	Khana $\bar{X}$	Gokana $\bar{X}$	Grand Mean	Remarks
21	Enforcement of appropriate law and policy making on environmental issue, help in solving the problems of habitat loss.	3.29	3.48	3.39	Accepted
22	The radio, television, print media, jingle, debates, posters, handbills are some of the progammes government uses in creating awareness on ways of solving the problems of habitat loss.	3.42	3.74	3.58	Accepted
23	Enactment of various forest act, oil spill decree and edict have assisted in reducing the rate of forest depletion and oil spill.	3.09	3.38	3.24	Accepted
24	Public enlightenment campaign, workshops seminar, and conferences organized by government are good ways of creating awareness about oil spill, forest management and protection.	3.38	3.62	3.5	Accepted
25	The forest laws and regulation promotes the establishment of forest reserve.	3.23	3.03	3.13	Accepted

Analysis of data as shown on Table 4 revealed that response to all items indicate that programmes embarked upon by government can help in checking the occurrence of habitat loss. The implication is that the programmes embarked upon by government have positive impact and can help for the maintenance of sustainable environment in Ogoni.

Test of Hypothesis

Ho: There is no significant difference between the environmental adult education programmes embarked upon by government and the checking of habitat loss.

Table 5: Z-Test Analysis of Scores on Environmental Adult Education Programmes Embarked upon by Government and the Checking of Habitat Loss in Khana and Gokana Local Government Areas.

Source of Variance	No	Grand Mean	SD	Z-Cal	Z-Crit	Level of Significance
Khana	940	3.28	0.33	3.7	1.9	5%
Gokana	894	3.45	0.36			0.05

Test of data on hypothesis as indicated on Table 5 showed that grand mean, standard deviation, z-calculated and z-critical of data collected from Khana and Gokana Local Government Areas on the difference between environmental adult education programmes embarked upon by government and the checking of habitat loss. The table showed that the grand mean of Khana Local Government Area is 3.28 while that of Gokana is 3.45. Subjecting to z-test analysis, the result showed that z-calculated 7.6 is greater than z- critical table value of 1.9 (z-cal > z-crit) at 5% or 0.05 level of significance from this result the null hypothesis is rejected and the alternative adopted. This means that there is a significant relationship between environmental adult education programmes embarked upon by government and the checking of habitat loss.

Research question four looked at the environmental adult education programmes embarked upon by government in the checking of the occurrence of habitat in Ogoni. The result from the data collected as analyzed agreed that environmental adult education programmes embarked upon by government is capable of.

6. SUMMARY AND CONCLUSIONS
The relationship between environmental adult education programmes embarked upon by government and the checking of the occurrence of habitat loss include: enforcement of appropriate laws and policy making on environmental issues, creating awareness on ways of solving the problem of habitat loss through radio, television, print media, jingles, debates, posters, handbills, enactment of various Forest Acts, Oil Spill Decrees and edict, public enlightenment campaign, workshops, seminar, and conferences.

There is significant difference between the checking habitat loss in Ogoni and that all the programmes can have positive impact on the prevention of the occurrence of habitat loss in Ogoni. All the programmes embarked upon by government are meant to educate, inform, conscientize and sensitize the affected communities on the ills of deforestation, oil spill and causes of habitat loss and consequences to man and the ecosystem.

Research question five looked the implications of the programmes embarked upon by government for maintaining sustainable environment. Programmes embarked upon by government are in research question. Close look at the implication of the programmes for maintaining sustainable environment, they can have positive impact on the prevention of habitat loss and the sustainable environment can be achieved through these programmes.

environmental adult education programmes embarked upon by government and the checking of habitat loss in Ogoni of Rivers State.

Despite government programmes to check habitat loss the people and enforcement agents show lukewarm response to environmental issues. They encourage pipeline vandalisation, artisanal refining of crude oil and deforestation which cause habitat loss in the area. The Federal, State and Local Governments should be assisted by environmental adult education in policy formation and enforcement of the laws and policies about deforestation and the use of natural resources. These law and policies should not be contradictory. For instance the cost price of fuel and kerosene should not be out of the reach of the common man. An attempt to increase the pump price of petroleum products will intensify the rate of deforestation and pipeline vandalisation.

Farmers should be made to rehabitate the forest by planting young trees for replacement of every one tree fallen. This should not be applicable to only the farmers but every one that fall a tree.

The traditional method of conserving the forest ecosystem should been encouraged. This include, reservation of certain areas of the land for religious purpose, prohibiting firewood collection from certain areas and declaration of sacred days, and use of traditional method to manage the forest through recognized government and traditional institutions.

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