

ENVIRONMENTAL EDUCATION STRATEGIES AND SUSTAINABLE FOREST MANAGEMENT IN BAKASSI LOCAL GOVERNMENT AREA OF CROSS RIVER STATE

by

Dr. Eneyo Okon Eyo

Email: eneyoeyo15@gmail.com

Phone no: 08036712237

Department of Environmental Education
University of Calabar

Abstract

The main purpose of this study was to investigate environmental education strategies and sustainable forest management in Bakassi Local Government Area of Cross River State. To achieve the purpose of this study, three hypotheses were formulated for the study, literature review was carried out accordingly, and a survey design was adopted for the study. A simple random sampling technique was used to select the subjects of the study. The questionnaire was the instrument used for data collection. A total of 200 questionnaires containing 15 items each were administered in five communities of the study area. The data collected from the administration of the instrument were analyzed using Pearson Product Moment Correlation Coefficient Analysis. The 0.05 level of significances was used for the statistical testing of the hypotheses. It was found out that there is a significant relationship between attendance at workshops, community participation, mass media campaigns and sustainable forest management. Based on the findings and conclusions of the study, it is recommended that Government and environmental conservation agencies should make concerted effort to ensure that there is adequate awareness creation on sustainable forest management through the Mass Media. More so, the widely spread to the forest community. Government and NGOs should always organize seminars and workshops to enlighten people on how to conserve the environment. Environmental Education should be introduced in school curriculum/ curricular to enable access to fundamental knowledge on environment and improve attitudes towards environment.

Keywords: Environmental education strategies, sustainable forest management, community participation

Introduction

Environmental Education is an important tool in natural resource management. It can help improve people's understanding of ecological system. Isu (2013), postulate that Environmental Education is a process of transmission of Environmental awareness for a change of values and attitudes for a sustainable use of the immediate environment and proper management. Environmental Education is also a process that allows individuals to explore environmental issues, engage in problem-solving and take action to improve the environment. As a result, individuals develop deeper understanding of environmental issues, and have the skills to make informed and

responsible decision. Smith (2010), sees Environmental Education as the organized effort to teach people about how the environment functions and how human beings manage their eco-system in order to live a sustainable life. Environmental methods or practices that are applied in solving environmental problems. The forest and all it contains is an important natural resources required for the survival of mankind and other species within the forest ecosystem. This makes it necessary for humans to develop positive attitude towards the conservation of the forest and all it contains. The essence is to ensure that man and other living organisms continue to benefit from the numerous services provided by the forest, these services include sequestration of carbon, regulation of temperature, provision of watershed, prevention of soil erosion, habitat for various plants and animal species, medicinal herbs and shrubs, food among others. The issue of sustainable forest management in particular and environmental conservation in general has it recent time generated debates in many countries of the world. Sustainable forest management and conservation can be enhanced through adequate Environmental Education strategies that can keep the people informed of depleting forests and its resources.

Environmental Education is a learning process that increase knowledge and awareness about the environment and the associated challenges, develops the necessary skills and expertise to address the challenges and fosters attitude, motivation and commitment to make informed decisions and take responsible action. Environmental Education sensitizes people about the environment and environmental challenges. It could be formal or informal, in the formal setting, it involves classroom experience where students are taught how to conserve the environmental resources, while the informal ranges from the community-based Organizations, community Participation, use of Mass Media Campaign, Workshops and conferencing. Forest play a vital role in regulating climate, controlling water runoff, providing shelter and food for wildlife, and purifying the air. Forest provide valuable materials such as wood and paper pulp. Forest also have cultural and historic values that deserve to be protected. Forest is a large tract of land covered with trees and underbrush extensive wooded area. From the beginning of times, civilization itself rested on the forest. The use of the forest resources of the environment to ensure the wellbeing of man, has been the aim of all generations. Today, the value of forest remains very high than ever before, whether you are a student, hunter, trader, civil or public servant, a builder or an ordinary artisan. The factories and industries depend on forest for the survival of the business (Obot 2008). Not all communities are blessed with forest, but every human being needs forest, hence forest is a great treasure which nature has given to man. We need forest resources for our health wellbeing, social purposes and economic development.

Forest protect and stabilize soils and local micro-climates as well as soil hydrology and the efficiency of the nutrient cycle between soil and vegetation. The forest is also the primary environment for hunters, food gatherers and agrarian people. In addition, forest are also the sire for recreational activities of modern humans. Orim (2014), state that sustainable forest management means the adoption of environmentally appropriate socially beneficial and economically beneficial measures of managing forest for present and future generations. Environmental Education is used more broadly to educate the public and other audiences through

print Materials, Conferences, Websites, Mass Media Campaign and others. Forests are complex interacting ecosystems. The interactions of climate, soil, vegetation and fauna have created an ecosystem in which plant and animal species have developed genetic qualities adapted to the physical environment; a functioning cycle of minerals and nutrients is a crucial condition for stability of the forest ecosystem. Forests act as nutrient reservoir, forests reduce erosion and minimize the siltation of rivers and reservoirs. Animal and plant species disappear with the depletion of forest. Forests are the home of remarkable diversity of different forms of life. However, it seems clear that poverty is the root of deforestation. Development in Nigeria (2013) sees poverty as underlying cause of deforestation. Those who are poor and hungry often destroy their immediate environment in order to survive. They cut down forests; their livestock overgraze; they overuse marginal land; and in growing numbers, they crowd into congested cities. Forests are declining worldwide, but the greatest forest losses are in Africa, South Africa and Asia.

Forests are lost most often to settlement, conversion to agriculture or pasture, exploitation for wood products or fire. It is pertinent to note that before large scale human disturbances of the world forests began many thousands years ago, forest probably covered 6 billion hectares, since nearly one third of the area has been converted to cropland, pasture, settlement and unproductive wasteland. Forests also provide services such as soil and water protection, maintenance of soil quality, regulation of local climate, provision of habitats for animals and useful agricultural crops and storing bio-diversity services which are crucial in agriculture.

Sustainable Forest management is the management of forest according to the principles of sustainable development, which is development that meets the need of present and future generation (Bisong, 2004). It involves managing the forest environment to the yearning of the population without compromising the use of such resources by the future generation. Environmental Education Strategies is aimed at designing and equipping people with the skills to address the biological, social and economic aspects of forest resource management. As the demand for sustainable forest management continues to increase to be a means for transformation, this may be through enlightening consumers to change their conceptions about the environment (Oshita, 2014). Adullahi (2012), stated that formal and informal Environmental Education tools are necessary for transforming sustainable development of forest resources management. Formal Environmental Education alone cannot resolve the challenges of the environment, hence the integration of informal education strategies for sustainable forest management. It can take the form of Mass media, bill board, workshops, seminars, Community based organization, face to face interaction between Environmental Education specialists considering the need for the massive involvement of all consumers of environmental resources in the eradication of destructive practices in the exploitation of forest resources. Since inception, Environmental Education has remained a major approach of Nigeria conservation foundation, with the main objective of promoting Environmental Education and Awareness in almost all strata of the Nigeria Society.

It is arising from the above, that this research work is carried out to examine how Environmental Education Strategies can influence sustainable forest management, identifying the various activities of man that impact negatively on

forestry resources and above all, contribute useful Environmental Education Strategies which could be put in place by the government, NGOs, and the general public to reverse the problem, in Bakassi Local Government Area. This research focused on some informal education strategies to determine its influence on sustainable forest management in Bakassi Local Government Area, specifically the researcher considered the influence of workshops, Community Participation and mass media campaigns on the management of forest resources in the study area.

Research Methodology

This research work is set to investigate if there any relationship between environmental education strategies and sustainable forest management in bakassi local government area.

For the purpose of this study, survey design was considered the most appropriate considering that population of the study is infinite and as such the researcher only took a survey of a cross section of the respondent. The design also enable the researcher to determine the relationship between environmental education strategies and sustainable forest management in Bakassi Local Government Area of Cross River State.

The study area is Bakassi Local Government Area, it lies between latitude equator and longitude East of the Greenish Meridian. The Local Government Area consists of ten political wards. It is identified by numbers (1-10). The Headquarters of the Local Government Area is currently located in Ikot Effiom in ward seven. The Bakassi Local Government Area is bounded by Akpabuyo Local Government Area in the North, Calabar South in the West and in the south by the Atlantic Ocean and in the West and in the East by the Republic of Cameroon. According to the ministry of lands, Calabar, Cross River State, Bakassi Local Government Area is about 372 square kilometers with a population of about 32,035 inhabitants (NPC 2006) as project up to 2019. The people of Bakassi are predominantly Christians, some are still practicing African Traditional Religion (ATR). Their occupation is predominantly fishing, others do farming while the rest are Petty Traders. The Bakassi people speak English, Efik while a hand full speak Ibibio, Efruit and Ejagham

The population of the study consisted of all inhabitants of the study area. According to National population census Figure projected 2019, the population of Bakassi Local Government Area is about 32035 people living in the Area. (NPC 2006). Population for the study comprises of Fisher-men, farmers and traders.

The simple random sampling technique was used for sample selection. This first started with the breakdown of the Local Government Area into three zones: Bakassi South, Central, and North. This is followed by the selection of respondents for the study. Thirty respondents were selected from Ikot Effiom communities. 35% from Ikang, 45% from Edikidim, 32% from Ekpene Esule and 58% from Nsidung community. The process of selection of the communities and the respondents include listing all the 35 communities into the three different zones, the village were written on a piece of paper, rolled into balls and put in a container each representing a zone, shaken properly, the researchers drew five communities from each of the zones. Hence, five wards we're selected. This was followed by choosing the respondents by compiling the names of the compounds in the communities and dividing it by the number of samples needed from such communities. Here, every compound that falls on the division is selected and a sample is picked from that compound.

A sample of respondents from five communities in the study area was selected, they comprised of both male and female community members resident in the area.

Table 1: Sample distribution based on zone, sex and communities.

S/No	Zone	Community	Male	Female
1.	North.	IkotEffiom	20	30
2.	Central.	Ikang	20	35
3.		Edikidim.	25	45
4.	South	Ekpene Esuk	12	32
5.		Nsidung.	30	58
	Total			200

The instrument considered most appropriate for data collection in the study was the questionnaire design by the researcher. The questionnaire consists of 15 items. The questionnaire was tagged Environmental Education Strategies and Sustainable Forest Management (EESFMQ). The questionnaire was designed and divided into four sections A, B, C, D. Section A was designed using four point modified Likert scale type of strongly agree (SA), Agree (A), disagree (D), strongly disagree (SD) and personal data of the respondents, section B-D contained items measuring the variables of the study. Items 1-5 measured Mass media campaigns. The instrument was validated and reliability estimate established.

The Data were analyze using Pearson product moment correlation analysis as a statistical tool. Each of the hypothesis was tested at 0.05 level of significance and discussion was made on the result of the hypothesis tested.

Results

Hypothesis One

There is no significant relationship between attendance of workshops and sustainable forest management, the hypothesis was tested at 0.05 level of significance using Pearson product moment correlation analysis. The result of the analysis. The result of the analysis is presented below.

Table 1: Result of Pearson product moment correlation analysis of the relationship between workshops and sustainable Forest Management

Variable	$\sum x$	$\sum x^2$	$\sum xy$	Cal.r
	$\sum y$	$\sum y^2$		
Attendance of workshops	3654	6857	89758	0.52
Forest resource degradation	3264	6694		

Significant at 0.5 critical $r = 0.138$, $df = 198$,

The result of the above analysis reveals that the calculated r-value of 0.52 is greater than critical value of 0.138 at 0.05 level of significant with 198 as degree of freedom. This implied that the result is significant since the calculated value is greater then the critical value. With this, the null hypothesis was rejected, while the alternate hypothesis upholds.

This therefore means that workshop significantly relate with sustainable forest management. This means that there is a significant relationship between workshops and sustainable forest management in Bakassi Local Government Area.

Hypothesis two

There is no significant relationship between community participation and sustainable forest management. The hypothesis was tested at 0.05 level of significance using Pearson product moment correlation analysis with 198 degree of freedom. The summary of the result obtained from this data analyzed in respect of the above hypothesis is presented in the table below.

Table 2: Result of Pearson moment correlation analysis of the relationship between community participation and sustainable forest management (N=200).

Variable	$\sum x$	$\sum x^2$	$\sum xy$	Cal.r
	$\sum y$	$\sum y^2$		
Community participation	3668	6779	98767	0.68
Forest resource degradation	3334	6466		

Significant at 0.05, critical r= 0.138 df =198

The result of the analysis therefore shows that there is significant relationship between community participation and sustainable forest management.

Hypothesis three

There is no significant relationship between Mass Media Campaign and sustainable forest management.

The hypothesis was tested at 0.05 level of significance using Pearson product moment correlation analysis with 198 as degree of freedom. The summary of the analysis is presented in the table below;

Table 3: Result of Pearson product moment correlation analysis of the relationship between mass media campaigns and sustainable forest management (N 200)

Variable	$\sum x$	$\sum x^2$	$\sum xy$	Cal.r
	$\sum y$	$\sum y^2$		
Mass media campaign	3788	7539	98553	0.63
Sustainable forest management	3334	6466		

Significant at 0.05, critical = 0.138, df= 198

The result of the above analysis indicates that the calculated r-value of 0.63 is greater than the critical value of 0.138, at 0.05 level of significance with 198 as degree of freedom. This implied that the result is significant hence the null hypothesis was rejected. The result of the analysis therefore shows that media campaign significantly relates with sustainable forest management in the study area.

Discussion of findings

The finding of hypothesis one is in line with the earlier findings of FAO (2015), the ability of a country to follow a sustainable development path is often determined by the capacity of it's people and institutions to encourage the local people to participate in workshop designed for forest management.

Also the finding contradicts the finding of Ndifon (2015) that raising awareness on forest and forestry through workshops despite recurring statements of the international community and worldwide commitment to raise general awareness on sustainable forest management through forestry sector has not been successful so far and foresters as well as forest owners are often unable to make themselves understood. This is because most of them fail to attend workshop on issues concerning forest management. The finding also supports Bisong (2004) revealed that NGOs Coalition on Environment (NGOCE) through its various members has initiated conservation programmes across various forest communities in Cross River State to sensitize and create awareness about the value of the forest.

The result of the second hypothesis which state that, there is no significant relationship between community participation and sustainable forest management, following the computed data, this null hypothesis was rejected because the calculated r-value was found to be greater than the calculated value.

The finding is in support of Arowosoge and agreed that local people are generally more positive towards forest resources conservation. Enameh-Agboloso, etal (2015) observed that community participation connotes the involvement of local people in decision making process involving the management of forest resources within their area of abode. Also, Osumba (2011) adds that community participation could enhance sustainable use of forest resources support

the establishment of community forestry association and protect the traditional interests of local communities customarily resident in and around forests.

The result of the third hypothesis state that, there is no significant relationship between Mass media campaign and sustainable forest management. The Data computed in respect to this hypothesis shows that the null hypothesis should be rejected because the calculated r-value was found to be greater than the tabulated value.

The finding of this hypothesis agrees with Hesselnk, (2007), to have an agency's message reach the general public, the agency has to build a sound relationship with the media. Also Silori (2007) maintained that people are most likely to appreciate resources management if only benefits are gained from them to offset the associated costs. Kapoor (2011) noted that Mass media tried to suggest some alternatives to people and policy makers on the importance and sustainable means of managing the depleting forest ecosystem.

Conclusions

The aim of this study was to investigate and present report on Environmental Education Strategies and Sustainable Forest Management in Bakassi Local Government Area of Cross River State. Based on the results of the analysis, the following conclusions are made:

That there is a significant relationship between workshops; community participation, Mass Media Campaign and sustainable forest management.

That there is a significant relationship between community participation and sustainable forest management.

That there is a significant relationship between mass media campaign and sustainable forest management.

Recommendations

Based on the findings of this study the following recommendations were made;

1. Government and NGOs should always organized seminar, and workshops to enlighten people on how to conserve the environment.
2. Environmental Education should be introduced in school curriculum/curricular to enable access to fundamentals knowledge on environment and improve attitudes towards environment.
3. Government and environmental conservation agencies should make concerted effort to ensure that there is adequate awareness creation on sustainable forest management through the mass media. More so, the media should ensure that information on sustainable forest management is widely carried out in communities for sustainable forest management.

REFERENCES

Bisong (2004) Farming system Human Ecology and Biological Conservation in the Cross-River State Rain Forest of unpublished PhD thesis University of Port Harcourt, Nigeria.

- Enuameh-Agboloso, A. D. A. S. K. Enuameh, Kotoka, J. J. Ziggah-Aborta, F and M. Dabi (2015) comp in Forest Resource Management as a tool in Reducing the Effects of Climate Change and Enhancing Sustainable Development. The International Journal of Humanities and social studies. Vol. 3, Issues 8, P, 285-293.
- FAO (2015). Global Forest Resources Assessment Forest Facts by Country.
- Kapoor, K. (2011) Role of Mass Media Promoting Environmental Awareness: Allah Abad District, India International Conference on Chemical, Biological and Environmental Science (ICC ESS) Bangkok December.
- Ndifon E. N. (2015). Environmental Awareness Strategies and Forest Conservation in Akamkpa Local Government Area of Cross River State, Nigeria. Unpublished M. Ed thesis, Unical.
- Ogar, D. A. (2001) impact of forest and some non- forest policies on deforestation in South Eastern Nigeria.
- Orim, O. O. (2014). Public perception of government of politics on the management of forest resources in Cross River State, Nigeria unpublished M.Ed Thesis, Unical.
- Oshita, O. O. (2002). Conflict management in Nigeria, Issues and challenges (4th Ed) Abuja centre of peace; Celestine Bassey publication.
- Osumba, P. A. (2011), Pay Back Anticipation: A Driving Force in Community participation in Forest Management. Proceedings of the 13th Biennial Conference of international association for the study the Commons (IASC) in Hyderabad, India pp.
- Smith, G. (2010). Sustainability and schools Education for interconnection, Adaptability Education 1, (10) 67-80