

## **An Assessment of Environmental Impacts of Developed Tourism Projects in Selected Sites in Cross River State, Nigeria.**

### **Abstract**

*This work examined the environmental impact of developed tourism projects in the selected sites in Cross River State. The study has some specific objectives and was guided by research questions. A total population of 24,914 was involved while the working sample size was 345. Structured questionnaire were used to collect data. This number was obtained using Taro Yamane's Formula: A total of 60 People were interviewed under in-depth interview. They were selected using Ukabuilu's formula  $\{R=(C,I,Y)\}$  The data collected were analyzed using simple percentage, average and frequency distribution. The study revealed that developed tourism projects have significant environmental impacts in communities where these attractions are located. These impacts are manifested in the areas of reduced forest, marine, land, biological archaeological, and water resources, and increased pollution. Socio-religious life of the people was also affected. On the positive side, the development of these projects helped in maintaining peace, means of identification, and reduction of culture mutilation, promotion of cultural resources and prevention of loss of cultural property. It was observed that there has been improvement in the areas of infrastructural development. Benefits of those projects outweigh their costs. Finally, it was observed that positive impact can be improved upon through correcting negative effects and adhering to environmental ethics. It was recommended that every state should carry out impact assessment prior to tourism project development, and collaboration among the stakeholders. Suggestions for further studies were also stated.*

**Key words:** *Environmental impact; environmental ethics; impact assessment; cost and benefit analysis.*

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## INTRODUCTION

### 1.1 General Background

Nigeria is endowed with a lot of tourism attractions. Some of these attractions have been developed by government, private sector and individuals to earn profit, which is one of the main aims of any business. The development of these tourism projects aid in transforming, maintaining and improving tourism (both for leisure and business). However, the implications of developing most of these sites are often overlooked in pursuit of profit by the owners of such sites. Tourism projects are known to have some environmental effects on the areas they are located, on the customers (tourists), host communities, owners and government. In Nigeria, these effects are manifested in some of the sites where tourism projects are developed. Some of these environmental effects are on forest and/marine products, land and water uses, flood, erosion, and population, congestion, biological and archaeological resources. It is important to note that the effects of these tourism projects are not often evaluated or at best they are haphazardly evaluated as project implementation proceeds.

It is based on the above that Klein (2004) maintained that since developed tourism sites are places where people go to spend their leisure time with their friends, families or even alone to enjoy recreational activities like sports, sightseeing, food and beverages, efforts must be made to ensure that they are safe from environmental hazards. It is ideal to ensure that the locating of such projects will not be inimical to the people residing in, within and around such areas. For Wall and Mathieson (2006), the development of tourism projects have the following environmental impacts on land and water uses, flood, pollution, biological and archaeological resources to the owners, employers and environs of the areas they are sited. Burns (2002) also supports this view when he said that developed tourism projects bring about the above impacts but some of the impacts may be positive or negative (favourable or unfavourable) to the employers, employees and the environs.

This study examined the environmental impacts of developed tourism projects in Nigeria with particular reference to Cross River State. The study is essentially a post project evaluation between 2004 and 2012 of impact using the following tourism projects: Obudu Cattle Mountain Resort, Cross River National park, and Tinapa Business Resort as case studies. The aim was to assess the environmental impacts of development of these tourism projects to ascertain the critical issues involved in the development, and to suggest ways of ameliorating or eliminating any negative impacts while enhancing the positive aspects.

### Statement of Problem

Nigeria is endowed with a lot of tourism potentials. Some of them have been developed to protect and preserve our national and cultural heritage for recreational purposes and sight-seeing, albeit with the aim of making profit. Invariably, Nigeria has developed some tourism projects like Ojukwu Bunker and War Museum in Umuahia., Enugu Museum and Yankari Game Reserve in Bauchi to earn revenue like other top ten tourism countries in the world such as: the United States, Spain, France, Italy, China, Germany, United Kingdom, Austria, Hong Kong and Greece (HCIMA Year Book 2003) and if possible provide an alternative source of revenue to oil.

It is pertinent to stress that most of the developed tourism projects in Nigeria were not subjected to environmental impact assessment at best by non experts; they were haphazardly assessed by non experts before they were built (Awujo and Ukabuilu, 2005). Cost and benefit analysis was not conducted. For any project to worth embarking on, the benefits must outweigh the costs. Emphasis should not be on profit making alone. The environmental problems such as traffic jam, pollution and biodegradation that result from large influx of tourists are also believed to be posing threats to tourists and the public. This has made many people to waste much time on roads in addition to exposing their life to risks of pollution particularly pollution from automobile exhausts.

Hence, this research evaluated the various environmental impacts confronting selected tourism projects in Cross River State and determined whether the positive environmental impacts outweigh the negative ones. The aim is to enable us develop strategies with which to enhance the positive impacts while reducing and correcting the negative ones. **Objectives of the Study**

To address the problems outlined above effectively, the research was generally aimed at assessing the impacts of tourism projects with a view to ascertaining whether the negative impacts outweigh the positive impacts. This is to enable us identify the proper ways of enhancing the positive and reducing the negative impacts, while encouraging the development of more tourist sites. The specific objectives are to:

- i) Study the environmental effects of tourism projects on the Forest and Marine resources of host communities
- ii) Evaluate how the environmental effects of tourism projects have affected the availability of potable water and land uses in the study area.
- iii. Examine how the environmental effects of the tourism projects have contributed to flood, erosion and pollution on the study areas.
- (iv) Study the environmental effects of tourism projects on the biological and archaeological resources of host communities.

### **Research Questions**

Based on the statement of problem and objectives stated above, the following research questions were formulated to guide the research.

- a) How has the environmental effect of tourism projects affected the Forest and Marine resources of host communities?
- b) How have the environmental impacts of tourism projects affected the land use and availability of potable water of the study area?
- c). What are the environmental effects of these tourism projects on flood, erosion and pollution in the communities of our study?
- d. How has the tourism projects affected the biological and archaeological resources of the host communities?

**1.6 Scope of Study:** It is not possible to study all tourism projects in Nigeria or in Cross River State in a research of this nature. Such an approach will not only amount to a bold claim, but will also end up ignoring specific issues and details required in impact assessment. This explains why we chose three key projects in Cross River State to represent all tourism projects in the state. The sites are: Obudu Mountain Resort, Cross River National Park and Tinapa Business and Leisure Resort. Each of these sites is of international standard.

These three sites were selected because they have cultural resources required for the study, ranging from archaeological resources like artifacts, features and sites to ethnographic resources such as landscape features, shrines, monuments, arts, crafts and traditional festivals. They are therefore good tourist havens.

### **Research Methodology**

This section reviews the methods employed in the collection, presentation, analyses and interpretation of data. This will hopefully aid the reader in comprehending the topic under study.

**Methods of Data Collection:** This study which involves examining the environmental impacts of existing or ongoing tourism projects established in selected areas, the relevant information were obtained through in-depth interview and administration of structured questionnaire.

For in-depth interview, four groups of people were interviewed. They include the aged, educated, illiterates and youths. Five people represented each group. These respondents include the elders in the town, union leadership, youth leaders, staff and management of the sites, motor-bike riders union and women leaders. These five persons who are knowledgeable of the sites and the environs represented each group. The primary research was conducted in three different study areas, where twenty persons each were interviewed.

Adequate attention was also paid in selecting people to be interviewed because the quality of information obtained is a function of the class and type of people interviewed. This is why this formula given by Ukabuilu (2001:62) was found valuable. This is mathematically put as  $R = f(C, I, Y)$ . Where R = refers to result obtained from the interview, F= refers to function,

C = refers to class of people to be interviewed, I = refers to interviewees who have in-depth knowledge of the area and Y = refers to years of experience of the respondents. This approach forms the basis for selecting the interviewees in the areas selected. Therefore, the aged, educated, illiterate and the youth form the class of people (C), while the elders of the towns unions' leadership, youth leaders, management staff of the sites and trade union leaders were observed to have in-depth knowledge of the sites (I) and years of experience (Y). Therefore, our result (R) is a function of the above factors.

The structured questionnaire was administered on 394 respondents drawn from the selected communities (Bechelle, Oban/Okwangwo and Adiabo) where the Obudu Mountain Resort (OMR), Tinapa Business and Leisure Resort (TBLR) and Cross River National (CRNP) are located respectively. A sample size of 345 was drawn from a population of 24915 (which was estimated 2006 population of the three communities) using Taro Yemen formula. A total of 345 copies of the questionnaire were duly filled and submitted; 115 copies were received from each community.

### **Method of Data Presentation and Analysis**

Descriptive statistics were used for data presentation and analysis. Descriptive analysis method was used where the researcher wants to describe further certain information collected through key informants. Statistical methods like coding in tables which is recomputed into frequency, mode, percentages and means were used to arrive at results. The results obtained were compared with information collected from informants and these helped in reaching conclusion.

### **Validity and Reliability of the Research Instrument**

The data obtained are valid because of the class of people that give such data. However, the model given by Ukabuilu (2001) was also strictly adhered to. Data were also validated when the result obtained through oral interview, field observations and structured questionnaire were compared, contrasted and used to corroborate each other. To test the reliability of the instrument, the researcher after two weeks of validity test re-administered the same structured questionnaire to six different people (two from each site) and ascertained the extent of deviation from the ones earlier administered. When there are no variations in the responses obtained from two sets of informants, it is assumed that the instrument is reliable (Ukomadu, 2008)

### **Results**

#### **Impact on Environment**

Four major areas were addressed in the attempt to assess the environmental impact of developed tourism projects in Cross River State. These areas include impact on land and water resources, biological and archaeological resources, geology, and forest/marine products. It was found from respondents through oral interview and structured questionnaire that developed tourism projects have both positive and negative impacts on the areas. Table 1 below reveals that most of the forest and marine products have been reduced at OMR, TBRL and CRNP after the development in 2013.

From the Obudu community, 87% of the respondents said that the land was not affected by the development of tourism projects in 2004, but in 2013, 89.2% indicated that the land for farming was affected. At Adiabo, 93.5% said the land was not affected in 2004 but in 2013, 89.1% of the respondents said that their land was seriously affected after the development. A total of 80,000 square meters were deforested and cleared for development projects.

In Table 2 the impacts on water and land uses are presented. On the contrary, 95.7% of respondents said that the land was not affected while only 4.3% said it is partly affected at CRNP in 2013. A total of 4,000sqm/km was left untouched by the park and the trees and shrubs were at its natural/virgin state. Water in the Oban /Okwangwo was not affected. A total of 13% respondents indicated that water was partially affected in 2012, while 87% respondents said that water was not affected in 2004.

**Table 1: Analysis of Respondents Responses to Ascertain the Impact on Environment (Forest/Marine Products) indicating when they are at increase**

Variables	OMR		TBRL		CRNP	
	2004	2013	2004	2013	2004	2013
i) Transmission poles	70 (60.9)	45 (39.1)	95(82.6)	20 (17.4)	100 (87)	15 (13)
ii) Indian bamboo	65 (56.5)	50 (43.5)	95 (86.6)	20 (17.4)	100 (87)	15(13)
iii) Firewood	70 (60.9)	45(39.1)	100 (87)	15 (13)	100 (87)	15 (13)
iv) Chewing stick	57 (49.6)	58 (50.4)	100 (87)	15 (13)	70 (60.9)	45(39.1)
v) Ogbono	75 (65.2)	40 (34.8)	95 (82.6)	20 (17.4)	58 (50)	57 (49.6)
vi) Giant snail	80 (69.6)	35(30.4)	100 (87)	15 (13)	95 (82.6)	20 (17.4)
vii) Bush meat	75 (65.2)	40 (34.8)	100 (87)	15 (13)	95 (82.6)	20 (17.4)
viii) nuts/fruits	50 (43.5)	65 (56.5)	105 (91.3)	10 (8.7)	70 (60.9)	45 (39.1)
ix) Periwinkles	65 (56.5)	50(43.5)	110 (95.7)	5 (4.3)	70 (60.9)	45 (39.1)
x) Prawn	75 (65.2)	40 34.8)	110 (95.7)	5(4.3)	70(60.9)	45 (39.1)
xi) Banana / plantain	40 (34.8)	75 (65.2)	110 (95.7)	5 (4.3)	45 (39.1)	70 (60.9)
xii) Vegetable leaves	70 (60.9)	45 (39.1)	113 (98.3)	2 (1.7)	15 (13)	100 (87)
xiii) Medicine plant	50 (43.5)	65 (56.5)	115 (100)	(-)	35(30.4)	80(69.6)
<b>Total</b>	<b>842</b>	<b>653</b>	<b>1348</b>	<b>147</b>	<b>923</b>	<b>572</b>
<b>Average /%</b>	<b>64.8(56.4)</b>	<b>50.2 (43.6)</b>	<b>103.7(90.2)</b>	<b>11.3(9.8)</b>	<b>71(61.7)</b>	<b>44(38.3)</b>

**Source: Field Survey Data 2013.**

On the other hand, 95.7% of respondents at CRNP said water was confirmed to be unaffected and 4.3% indicated that was partially affected. Respondents confirmed that less than 6 plots of land were used for building of offices, museum and hostels at various sections of the site.

### **Impacts on Water and Land Uses**

The study reveals that developed tourism have impacts on land in the following areas, land uses, water and forest. Table 2 also indicates that a lot of agricultural land for farming was lost during the development. At Adiabo where TBRL was constructed with about 80,000m/square was the major area where the communities normally plant their agricultural products. Imeh (2013: Per. com) confirmed that these communities do plant their cassava, yams, melon, palm trees, mangoes and bread fruits. He said, the community used to harvest large quantity of cassava and maize there. But today, they are all no more. Reje (2013: Per. com) said that his people normally plant cashew and different types of vegetables at the Adiabo, but all are now in short supply due to lack of land for such production

**Table 2: Impact on land and water resources**

Variables	OMR		TBRL		CRNP	
	2004	2013	2004	2013	2004	2013
<b>Land / soil/ water</b>						
Seriously affected	7 (6.5)	5	7 (6)	102	-	-
Not affected	(4.3)		(88.7)		100 (87)	110(95.7)
Partially affected	100 (87)	6	108 (94)	8 (7)	15 (13)	5 (4.3)
	(6.5)		-	5 (4.3)		
	8 (6.5)					
	103(89.2)					
<b>Forest</b>						
Seriously affected	10 (8.7)	80	-	115	-	-
	17.4)		(100)			
Not affected					108 (94)	108 (94)
Partially affected	70 (60.9)	75	110 (95.7)	-	7 (6)	7 (6.)
	(65.2)		5 (4.3)	-		
	85(30.4)	20				
	(17.4)					
<b>Water</b>						
Seriously affected	-	-	5 (4.3)	100	=	( )
Not affected	100 (87)	100	(87)		115(100)	110
Partially affected	(87)		95 (82.7)	7 (6.1)	(95.7)	
	15(13)	15	15 (13)	8 (6.9)	=	5 (4.3)
	(13)					

**Source: Field Survey Data 2013.**

The development has also affected the land where different animal and plant species are grown. Through key informants, there was a portion of the land near the river where Indian bamboos were grown, but the development swept them off. Grass cutter, bush pigs, jackals, bush cows, antelopes, snakes and rabbits have diminished in number in the areas. Hunters complained that wild life has become so depleted that they get average of 1 to 3 small games as against over 8 big games and 14 to 20 small ones that they used to get per week prior to the use of their community land for tourism projects at Adiabo (Okim, 2012: Per com and Edokor 2013:per com).

Similarly, some fishery zones were also affected as a result of some bodies of water that were sand-filled and swampy areas that were cleared. Hence, crabs, periwinkles and prawns were no longer obtained in the expected amount at Adiabo. Also at OMR and CRNS, poaching or killing of animals is now prohibited though majority of the land was not used for tourism development (Takon, 2013: Per. Com.).

The implication of these is that farmers, hunters and fishermen whose livelihood was directly dependent on these resources in these areas were negatively affected. The table also reveals that there is an introduction of exotic species of plants. This is mainly seen at Adiabo and Obudu in

the course of beautification of the area. There is also disruption of wild breeding cycles and behaviour at Adiabo, CRNP and Obudu. It was also gathered that during the stone blasting at OMR to get level land for building, most of the wild animals ran away. At CRNP, more especially at Oban sectors, two quarry production companies were suspended from further operation in June 2012 as a result of the efforts of the blasting of stones which now put the wild animal at Oban area on the run. At Adiabo where TBLR was built, a lot of medicinal herbs and roots were destroyed. Medicinal plants for malaria, blood pressure level, dysentery, medicine for sexually transmitted diseases, eye problems, appendicitis, antidote for all kinds of poison, anti snake and scorpion bite were cleared during the development of the projects at Adiabo. Most people who believed strongly in their traditional medicine for health maintenance now experience difficulties (Mbat, 2013: Per. Com).

### Impact on Flood, Erosion, Pollution and Traffic Congestion

The study revealed that development of tourism has impact in the following areas: flooding, erosion, pollution, traffic jam and congestion. These impacts are presented in Table 3.. The data showed that flood, erosion and pollution have reduced while traffic jam and congestion have increased. Through oral interviews, Ibiang (2012: per com) indicated that before the development, one of the major issues normally discussed at Bechelle village was on how to control flood/erosion from entering their houses through gutter and erosion channels.

**Table 3: Impact on Flood, Erosion and Pollution (indicating when it is at increase)**

Variables	OMR		TBRL		CRNP	
	2004	2013	2004	2013	2004	2013
Flood	95 (82.6)	20 (17.4)	90 (78.3)	25 (21.7)	90 (78.3)	25 (21.7)
Erosion	100 (87)	15 (13)	95(82.6)	20 (17.4)	75 (65.2)	40 (34.8)
Pollution	100 (87)	15 (13)	100 (87)	15 (13)	98 (85.3)	17(14.7)
Traffic jam	40 (34.8)	75 (65.2)	45 (39.1)	70 (60.9)	90 (78.3)	25 (21.7)
Congestion	25(21.7)	90 (78.3)	37 (32.6)	78 (67.4)	50(43.5)	65 (56.5)
<b>Total</b>	<b>360</b>	<b>215</b>	<b>367</b>	<b>208</b>	<b>403</b>	<b>172</b>
<b>Average</b>	<b>73(62.6)</b>	<b>43 (37.4)</b>	<b>73.4(63.8)</b>	<b>41.6 (36 .2)</b>	<b>80.6 (70.1)</b>	<b>34.4(29.9%)</b>

**Source: Field Survey Data 2013**

We also confirmed that before 2004 Obudu people found it very difficult to move around the communities some hours after rainfall, but now, all streets in Obudu, Bechelle, ranch and all access roads and major roads have all been tarred with good drainage systems, though flooding still persist at Kejuil. The same problem has also drastically reduced at Adiabo and Nsan , Buabre, Bamba, Okoroba and Old Mfamyer at CRNP areas as a result of the road grading done by CRNP

Water pollution was said to have reduced at each of the sites as at 2013. But noise pollution was said to have increased. A total of 13%, for OMR and TBLR and 37% at Oban/Okwangwo confirmed this in 2013. It was also found through oral interviews that noise pollution was very common. This noise came from parties, occasions, sound of musical sets and generators. These had



led to disturbance of sleeping and reading patterns of host community members. The effects of noise on man are well noted by Okpoko (1999:7) which was confirmed by Ibiannng's (2013: Per. Com.) view.

It was also noted that apart from the adverse effects of noise on the mental, sensory and nervous systems of man, it hampers students' concentration at the schools at the ranch and those studying during holiday. These effects probably explain Federal Environmental Protection Agency (FEPA) legislation on permissible noise level.. Also, air pollution was observed resulting from the use of vehicles, smoking of cigarette and Indian hemp, indiscriminate dumping of wastes at unauthorized places which decay and emit repulsive odour. At Bechelle, their water Grotto from which they normally obtain their drinking wate hve been converted to swimming pool.

**Congestion:** The oral interview revealed that congestion is more during dry season when there are large number of people at these areas, where the sites are located. Ekpo (2012:per.com) reveals that due to large influx of tourists, prices of items normally increase, including transport fare, hotel accommodation and cost of labour. Traffic jam was also found to have increased at Obudu, and Adiabo in 2013. The in-depth interview revealed that during August to January (when they normally have large influx of cars), they do have traffic jam. The study also revealed that there was not much traffic jam at CRNP area.

#### **Impact on Biological and Archaeological Resources:**

Biological and archeological resources were found to be affected. In this sub-area, it was found that development of tourism projects has resulted to loss of natural landscape and agricultural land, destruction of flora and fauna. Preservation of historic building and monument was observed. It also revealed how the projects, have negatively affected plants and animal communities and disrupted wildlife breeding cycles behaviour. In Obudu, all items mentioned from i-x above indicated positive responses except plant and animal communities which reduced in 2013. Similarly, plant and animal communities and historic sites and monument were reduced at Adiabo area. .But in all, other aspects like promotion of ecological environment, preservation of historic building, appearance of the area, natural landscape and exotic species improved. Through key informants, it was ascertained that the river at Adiabo which serves as the link between Calabar and other states was still maintained. The Indian bamboo that partly surrounded the 80,000m<sup>2</sup> where the tourist attraction was built were intact. Eroko River was maintained at Oban Park . At OMR, the development affected their historic monument like their

**Table 3: Impact on Biological / Archaeological Resources (indicating the year when there have been more impact of these items)**

Variables	OMR		TBRL		CRNP	
	2004	2013	2004	2013	2004	2013
(i) Promotion of natural environment from ecological decline	27 (23.5)	88(76.5)	40 (34.8)	75 (65.2)	25 (21.7)	90 (78.3)
(ii) Preservation of historic building/moment	15 (13)	100(87%)	82 (71.3)	33(28.7)	22(19.6)	93(80.4)
(iii) Improvement of the areas of appearance	5 (4.3)	110 (95.7)	15 (13)	100 (87)	22 (19.6)	93(80.4)
1v) improve natural landscape & land for Tourism development	5 (4.3)	110 (95.7)	15 (13)	100 (87)	20 (17.4)	95(82.6)
(v) Improve of flora and fauna including plants and animals	8 (7)	107 (93)	27 (23.5)	88(76.5)	15 (13)	100 (87)
(vi) Improve landscape, historic site and monument	22 (19.1)	93(80.9)	57 (49.6)	58 (50.4)	50 (43.5)	65 (56.5)
(vii) Protecting plant and animal communities	75 (65.2)	40(34.8)	100 (87)	15 (13)	15 (13)	100 (87)
(viii) Introduction of exotic species	25 (21.7)	90(78.3)	20 (17.4)	95 (82.6)	15 (13)	100 (87)
(ix) Improve wildlife breeding cycles	85 (73.9)	30 26.1)	97 (84.3)	18 (15.7)	15(13)	100 (87)
(x) Improvement of natural appearances	25 (21.9)	90 78.3)	50 (65.2)	65 (34.8)	15 (13)	100 (87)
<b>Total</b>	<b>292</b>	<b>858</b>	<b>503</b>	<b>647</b>	<b>214</b>	<b>936</b>
<b>Average</b>	<b>29.2( 25.4)</b>	<b>85.8(74.6)</b>	<b>50.3(43.7)</b>	<b>64.7(56.3)</b>	<b>21.4 (18.6)</b>	<b>93.6(81.4)</b>

**Source: Field Survey Data 2013.** NB: The numbers in brackets are alternate percentages of the figure beside.

fore-father's burial areas. Some historic monuments of families were affected in the development of Adiabo. Aking (2013: Per. Com.) said that "where I buried my father and mother were seriously affected, hence I cannot have a point of contact with my father anymore". At Bechelle, the first old British houses are still preserved and maintained. Natural appearance was found to have improved. It is pertinent to note that improvement was also done at CRNP to maintain Natural Park through the planting of more trees at the area.

## **SUMMARY OF FINDINGS**

In this sub-section we present summary of our findings. Impacts are manifested on the following areas:

### **(a) Impacts on Land Uses and Marine Products**

- i. Traffic congestion, noise pollution, and erosion were observed to have increased in these areas due to large influx of tourists. Farm land and marine products have reduced.

### **b) Impacts on Biological and Archaeological Resources**

- (i) Loss of natural landscape and agricultural land were observed to have increased.
- (ii) Destruction of flora and fauna at Adiabo and Obudu were observed.
- (iii) Diminished habitats for plants, wildlife and fish as a result of construction and operational activities which led to reduction in forest products, meats, seafood, fruits and vegetables.
- (iv) Destruction of historical sites and monuments such as grave yard and shrines where the people claim to worship their gods and communicate with their ancestors.

### **Social Equity of the Impacts**

In order to address the distributional equity, which has posed serious problems in the study areas, we sought to know those that suffer more of the hazards and those that enjoy more of the benefits accruing through socio –cultural impacts from the developed tourism projects. Obviously the community members who depend on the natural resources as their means of livelihood are disadvantaged. The tourism projects have also affected religious life of the people. The educated especially the botanist, zoologist, horticulturists, plant and animal scientists and geologists who use these areas for their researches also have been adversely affected.

Notwithstanding the negative impacts and challenges posed by development of tourism sites, there are some positive impacts. Tourism projects created some employment and income for some indigenes. Also some chiefs, youths and elders received some gratification. With the improved income, the standard of living improved for some indigenes. Housing improved from thatched houses to concrete built houses roofed with galvanized sheets. There was improvement in communication and road networks.

### **Conclusion**

This study was conceived with the aim of assessing the environmental impacts of developed tourism projects in Cross River State. Our findings revealed that tourism development led to significant positive and negative impacts on forest, marine products, land and water, biological and archaeological resources, and on the social and religious life of the people. It was also found that the impacts were not equally distributed among the communities and among the residents. Some experienced more impacts than others. .

It was observed that the positive impacts can be improved upon especially through correcting and preventing the negative impacts and adhering to environmental ethics guidelines. In summary, the positive impacts outweigh negative impacts.

### **Recommendations on ways of Improving Environmental Impacts**

- Rules and regulations on how to improve the environmental sanitation should be incorporated into environmental tourism guide.
- Environmental ethics leaflets should be provided to tourists before and during their visit
- There should be a good relationship between the communities and the organizations in maintaining peace among people.
- Those displaced of their livelihood occupation should be re-trained and provided means of alternative livelihood.
- Rules must be put in place, prohibiting deforestation, killing of animals and other products from the site by the communities.
- The role of archaeologist, economist, sociologists and anthropologist and tourism experts must be sought before embarking on any tourism project development. It is pertinent to ensure proper project evaluation on the area before any project is developed in order to carry out the historical environmental impact assessment (HEIA). Tourism experts should consider the pros and cons associated with developing such areas and recommend preventive measures for any problem.
- Developers should practice environmental ethics and corporate social responsibility

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