

Effect of Tourism Consumption on Ecological Development of Host Communities in Cross River State, Nigeria

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Abstract: Research on environmental tourism or ecotourism is on the rise in recent time. This is arguably because of the growing intellectual curiosity on the negative consequences of tourism on the environment. Researchers are of the opinion that the adverse impact that tourism can have on the environment both undermines the basic resource for tourism in coastal areas and heavily affects other non-tourist economic activities. This study therefore examined the effect of tourism consumption on ecological development of host communities in Cross River State, Nigeria. Specifically, the study seeks to ascertain the effect of tourism services, tourism products, hotels, transportation and infrastructural facilities on the ecological development of host communities. The researchers administered questionnaire on a sample of 400 respondents but only 300 were fully completed and returned. The data collected were analysed using descriptive and inferential statistics like percentages, mean, standard deviation and regression model of the Ordinary Least Square (OLS). Findings revealed that – Service, Hotels, Transportation and Infrastructure have positive impact on the Ecological Development of the Host Communities. It is noted that Product has a negative impact on the ecological development of the communities. Thus, increase in product will bring about a decline in the ecological development of the host communities R^2 and adjusted $R^2 = 0.979$ or 98%. The researchers hereby infer that this exposes the fact that if tourism products increase in form of more buildings, sites, recreational facilities; all of these will erode the natural environment. Therefore, in this research, the ecological condition of the host communities as exposed by the findings is unfavourable and unpleasant. The study therefore recommends that the government and policy makers should come up with effective policies that will enhance the conservation of the environment and also attract tourists by setting up “effective” Task Force to monitor the implementation of sustainable tourism policies as stipulated in the Gazette. There is need for Cross River State Government to strive and make available data/statistics showing the contribution of Tourism to the Gross Domestic Product (GDP) of the state. Currently there is a seeming dearth of statistics in tourism. These Tourism organizations should develop modalities in form of wide varieties of communication techniques to create awareness on how tourist should behave in terms of pro-environmental actions. These techniques include media, interpersonal, intrapersonal forms of communications. This way, sustainable ecological development will be achieved.

Key words: Tourism, Tourism Consumption, Ecological Development, Host Communities

I. INTRODUCTION

Today, tourism is considered to be one of the world's fastest growing industries. Perhaps, because of its perceived impact on environment, socio economic and cultural development of the host communities. According to Kolawole, Mbaiwa and Mmopelwa (2016), the demand for tourism and quest to diversifying various economies has aggravated the momentum of the development paradigm in various destinations. Areas with high-value natural resources, like oceans, lakes, waterfalls, mountains, unique flora and fauna, and great scenic beauty attract tourists and new residents (in-migrants) who seek emotional and spiritual connections with nature. Because these people value nature, selected natural environments are preserved, protected, and kept from further ecological decline. Lands that could be developed can generate income by accommodating the recreational activities of visitors (Kreag, 2001). Nigeria's tourism landscape is extremely rich and beautiful for global tourist attraction; the weather, climate, vegetation, quality airspace, sunshine, beautiful scenery, the rock, falls, captivating beaches, historical relics, rich cultural diversity, friendly peoples and wildlife are Nigeria's tourism assets. This makes Nigeria a leading tourism paradise in Africa (Eneji, Odey & Bullus, 2016). That, notwithstanding, the tourism potentials of Nigeria remain grossly untapped. However, reports show that Africa and Nigeria inclusive still remain a potential tourists destination. As noted by the World Trade Organization (WTO, 2014) in Eneji, Odey and Bullus (2016), tourism and hospitality industry is one of Africa's greatest but most under invested assets, with market worth \$50billion, but has \$203.7-billion of untapped potential which represents four times its current level. The Organization's forecast for international tourist arrivals to Africa indicates that “there will be 77.3 million visitors in 2020. This represents an annual growth rate of 5.5% over the decade, which is above the global growth rate of 4.1%.

Consequently, if this projection and forecast is to be feasible a proactive measure will need to be put in place to develop, beautify, preserve and conserve the natural environment to make the tourist destinations remain attractive. Tourism and the environment play complimentary role in the environmental, social, economic and cultural development of

host countries just as they also have negative consequences, thus the relationship between tourism and the natural environment remains both debatable and contentious. Tourism can positively impact the environment of the host community through the preservation/restoration of the ancient monuments, sites and historic buildings, the creation of national parks and wildlife parks, protection of reef and beaches and the maintenance of forests. On the other hand tourism may have direct negative environmental impacts on the quality of water, quality of air and noise levels. This could be manifest in sewage disposal into water, use of powered boats on inland waterways and sheltered seas, increased usage of the internal combustion engine for tourist transport, oil burning to provide the power for hotels' air conditioning, noise levels in urban areas through nightclubs and other forms of entertainment, increased road, rail and air traffic. Tourist influence can also affect the environment through physical deterioration of both natural and built environments through hunting and fishing (impacts on the wildlife environment), sand dunes can be damaged and eroded by over-use, vegetation can be destroyed by walkers, ancient monuments may be disfigured and damaged by graffiti, eroded or literally taken away by tourists, the construction of a tourism superstructure utilises real estate and may detract from the aesthetics, the improper disposal of litter can detract from the aesthetic quality of the environment and harm wildlife (Radnic, undated).

The above analysis have shown that tourism is not only a powerful tool for economic development but a factor in the physical environment as well if not properly planned it can have destructive effects on biodiversity and pristine environments, and can result in the misuse of natural resources such as freshwater, forests and marine life. At a number of sites tourism development has resulted in serious water shortage affecting both local communities and industry, forests have been depleted and coral reefs have been damaged (Ghulam Rabbany, Afrin, Rahman, Islam & Hoque, 2013). It is therefore imperative to strike a balance between tourism and the environments of host communities because of the various accruable benefits emanating from tourism consumption. Tourism is borne out of the desire for leisure activity, which entails a discretionary use of time, money and recreation but presently, tourism is no longer a leisure but an activity that has captured the attention of economists as a major source of foreign exchange for developing and developed countries, compelling aspiring nations to develop both tourist sites, standardize operations and improve infrastructures such as electricity, airports, rail, roads, and seaports that support tourism (Eneji, Odey & Bullus, 2016).

Statement of the Problem

Research on environmental tourism or ecotourism is on the rise in recent time. This is arguably because of the growing intellectual curiosity on the negative consequences of tourism on the environment. Researchers are of the opinion that the adverse impact that tourism can have on the

environment both undermines the basic resource for tourism in coastal areas and heavily affects other non-tourist economic activities. To avoid these impacts tourism needs to be planned, managed and undertaken in a way that is environmentally sustainable, socially beneficial and economically viable. According to Muhanna (2006) as tourism moved into the 21st century, the enterprises have to make the environment a priority. Because tourism is now perceived as the world's largest industry and the environment is taking centre stage in tourism development. Extant literature is replete with a number of research on environmental tourism or ecotourism, but most of these researches are carried out outside the shores of Nigeria thus making it uncertain to determine the extent to which tourism has impacted on the ecological development of host communities in Nigeria. The focus of this study is in Cross River State, Nigeria with a number of functional tourist destinations caring out a number of tourist centred activities like services, products, hotels, transportation and infrastructural facilities that invariably impact on the environment. This study is important in this area in order to ascertain residents' perceptions on environmental impacts of tourism in the host communities and by extension to provide a framework for tourism development in Nigeria. Consequently this study will examine the effect of tourism consumption on ecological development of host communities in Cross River State, Nigeria

Objectives of the Study

The main objective of the study is to examine the effect of tourism consumption on ecological development of host communities in Cross River State, Nigeria. Specifically, the study intends to:

- i. Ascertain the effect of tourism services on the ecological development of host communities.
- ii. Determine the effect of tourism products on the ecological development of host communities.
- iii. Examine the effect of hotels on the ecological development of host communities.
- iv. Evaluate effect of transportation on the ecological development of host communities.
- v. Determine the effect of infrastructural facilities on the ecological development of host communities.

Hypotheses of the Study

H₀₁: Tourism services have no significant effect on the ecological development of host communities.

H₀₂: Tourism products have no significant effect on the ecological development of host communities.

H₀₃: Hotels have no significant effect on the ecological development of host communities.

H₀₄: Transportation have no significant effect on the ecological development of host communities.

H₀₅: Infrastructural facilities have no significant effect on the ecological development of host communities.

Justification for the study

This study is significant in a number of ways. First, knowledge from tourism consumption and ecological development in Cross River State, Nigeria will help to reinforce the growth of tourism and sustainable environment in Nigeria and the success of tourism industry in Cross River State will help to revive other tourist destinations and also foster the emergence of new ones. Arguably, these would impact on the development of the economy at large. Second, this study will not only swell literature of ecotourism, but it will also add fresh voice to the literature in the underreported zone like Nigeria and other African region.

II. REVIEW OF LITERATURE

Tourism and Tourism consumption

Tourism has been viewed from different standpoints but researchers are in agreement that it has to do with travelling, leisure, change of environment, recreation among others. For example, tourism means business activity connected with providing accommodation, services and entertainment for people who are visiting a place for pleasure (Adetola, 2017; Oxford Advanced Learner's Dictionary). As cited by Adetola (2017), tourism can be taken to comprise "activities of persons travelling to and staying in place outside their usual environment for not more than one consecutive year and not less than twenty-four (24) hours for leisure, holiday, business and other non-remunerated purpose (World Tourism Organisation, 1996)." Tourism is considered to be one of the world's fastest growing industries which provide millions of jobs in different parts of the world including Nigeria and Cross River State in particular. The State has been a major tourism hub in Nigeria, with an estimated 4500 tourists trooping in each year (Cross River State Tourism Bureau). Tourism is a major part of the state's economy and Cross River prides itself as the nation's paradise; therefore, staging different tourism activities to attract tourists to the state. These activities include the Calabar Christmas Carnival, Obudu Mountain Race and the Leboku Festival (Okonkwo & Odey, 2017). As tourists visit an area, tourism consumption makes several impacts on the host community. These impacts could be economic, environmental, social and cultural. Each category includes positive and negative impacts. According to Kreg (2001), not all impacts are applicable to every community because conditions or resources differ. Community and tourism leaders must balance an array of impacts that may either improve or negatively affect communities and their residents. Leaders must be sensitive and visionary, and must avoid the temptation of glossing over certain difficulties tourism development creates. Tourism leaders must also balance the opportunities and concerns of all community sectors by working against conditions where positive impacts benefit one part of the community (geographic or social) and negative impacts hurt another. Conversely, community sensitivity to tourism means avoiding undue burdens on the industry that could thwart its success. Local leaders should not expect tourism to solve all

community problems. Tourism is just one element of a community's avenue for community development. While creative strategic development of tourism amenities and services can enhance the community or correct local deficiencies, tourism, like all business development, must assure that its products (attractions and services) attract customers. Overbearing rules and restrictions, and overburdening taxes can make tourism businesses less attractive or competitive (Kreg, 2001).

Tourism and Ecological Development

Tourism is a major source of income and foreign exchange earner for countries with tourism potentials. Ecotourism, an aspect of environmental tourism makes significant impact on the environment, empowers host communities, respects the culture of indigenous people and conserves biodiversity. It is one of the fastest growing aspects of tourism especially in developing countries (Ijeomah & Eniang, 2018; Magigi & Ramadhani, 2013), where the resources are present. But when ecotourism is poorly planned and hastily implemented, it can become an absolute disaster to the environmental, social, and economic wellbeing of the tourism destination (Hill & Tim, 2009; (Okonkwo & Odey, 2017). Kolawole, Mbaiwa & Mmopelwa (2016) highlighted the negative impacts of tourism on the environment as increased crime rate, traffic congestion, noise and air pollution, destruction of natural environment. The expansion of tourism has the potential to destroy an environment where tourists visit. According to Ghulam Rabbany, Afrin, Rahman, Islam & Hoque (2013), the adverse impact that tourism can have on the environment both undermines the basic resource for tourism in coastal areas and heavily affects other non-tourist economic activities. To avoid these impacts tourism needs to be planned, managed and undertaken in a way that is environmentally sustainable, socially beneficial and economically viable.

Related Empirical Literature

Ijeomah and Eniang (2018) examined ecotourism and national development in Nigeria: Prospects and challenges. The study relied on extensive pictorial analysis that showcased the tourist potential and challenges in Nigeria. Findings revealed that Nigeria is at advantage to attract both local and international tourists and therefore derive significant benefits for national development. However, the ecotourism resources of Nigeria are not packaged and promoted. Tourism in Nigeria is faced with numerous challenges: the biodiversity components are under serious threat; high rate of poaching and habitat destruction; lack of infrastructures; sabotage; poor global image; high level of insecurity; lack of awareness about tourism and conservation; poor tourism culture; insufficient facilities in eco-destination; poverty; corruption; underfunding; poor motivation of rangers; harassment by security personnel; poor road network and consistent traffic jam and poor maintenance culture amongst others. Using an econometric regression model of the Ordinary Least Square (OLS), Anionwu (2018) examined the impact of tourism

consumption on the social development of host communities, particularly in Cross River state, Nigeria. The study revealed that tourism consumption has significant social impact on the host communities. The quality of life of the host communities is said to have improved by tourism, thereby leading to an overall improvement in the standard of living of the host communities through the provision of facilities for Tourism purposes. On the negative perspective attitudes such as smoking, drug abuse and crime which are not consistent or in line with morality abide in the studied tourist destination. It was found that the cost of enjoying tourism products and services are relatively high that the poor cannot afford the cost of visiting tourist sites and hotels. Okonkwo and Odey (2017) impact of sustainability on tourism development in Nigeria: A Case Study of Cross River State, Nigeria using descriptive statistics. Findings revealed that tourists love Cross River because of its serene natural environment and availability of natural parks such as the Cross River National Park. The hosting of major tourism driven festivals such the Calabar Christmas Carnival which is the biggest street party in Africa, the Obudu Mountain Race which attract athletes from all over the world, and the Leboku Festival hosted in the biggest village in West Africa – Ugep. Tourism has contributed immensely to the economy of the state, the sustainability of the environment, and the socio-cultural standing of the locals. It has greatly improved the standard of living and quality of life. Neeta and Rashi (2017) examined environmental impact of tourism. The study relied on secondary information from extant literature. The study found that tourism has the potential to create beneficial effects on the environment by causal to environment protection and conservation. The relationship of tourism with the environment is complex. It involves many activities that can have unpleasant environmental effects. Adetola (2017) examined tourism and sustainable development in Nigeria: Attractions and limitations of carnivals and festivals using secondary information from extant literature. The study revealed that Nigeria is blessed with several features which are reflections of the country's cultural diversity and historical trajectory. These cultural events including carnivals and festivals have attracted several international recognitions and made the country a preferred tourism destination. The carnivals and festivals possess the potentials for contributing to development of the country through economic empowerment and provision of infrastructure at such destinations. Prominent among such carnivals and festivals are the Grand Durbar Festival, the famous Argungu Fishing Festival, the Atilogwu Dancers and the New Yam Festival, the boat Regatta in Lagos and Yenogoa, the Olofin Festival in Idanre, Ondo state, Ojude Oba Festival, Ijebu-Ode, Ogun State, the Olojo Festival at Ile-Ife, the Osun Festival in Osogbo, Osun State, Lagos, Abuja, Calabar and Rivers carnivals. In spite of the benefits to the people and government through attraction of foreigners and locals to these events, there are deleterious consequences of tourism especially on human security which needs to be addressed. These include various environmental impacts on the event

sites, people and surrounding areas, displacement of people and worshippers from such sites and lack of access to the economic resources such as water and land.

Eneji, Odey and Bullus (2016) carried out a study on diversification of Nigeria's Economy; impact of tourism on sustainable development in Nigeria using descriptive statistics and simple percentages evaluation. The study shows that tourism has significant positive impact on the economy, but the subsector is still under-invested and under-utilized. All the dimensions investigated were sensitive to changes in tourism development in a comparative analysis of ten African Countries; capital investment in tourism (CIT), domestic tourism consumption(DTC) and visitors' tourism exports(VTE). Tourism has direct impact on employment, income, infrastructure and standard of living. There is also a direct linkage between tourism, environment and the local economy in terms of social and economic development. Nigeria has abundant, but untapped resources. Kolawole, Mbaiwa & Mmopelwa (2016) examined the environmental impacts of tourism on community people's quality of life in Maun, Botswana using descriptive statistics, factor analysis, chi-square, structural equation model and the AMOS 16.0 software. The estimated standardised coefficient for the path from environmental impacts to people's quality of life is -0.18 and statistically significant ($p < .05$) of which the variance explained by the model is 26%. The significant negative relationship between tourism environmental impacts and people's quality of life could be associated with the identification of the factors including drivers of environmental pollution and degradation of environment that poses health and safety problems in the community. Benson (2014) examined the impact of cultural tourism to sustainable development in Nigeria. The study relied on extensive literature review to elicit the needed information for the study. Findings revealed that it is only when deliberate efforts is injected into improving cultural tourism endowment that the patronage of tourists into cultural sites can increase and invariably transform them into money – spinning tourism resorts, to ensure sustainable development.

Ghulam Rabbany, Afrin, Rahman, Islam & Hoque (2013) examined the environmental effects of tourism. The study relied on literature survey and secondary information. The study revealed that the relationship of tourism with the environment is complex. It involves many activities that can have adverse environmental effects. Many of these impacts are linked with the construction of general infrastructure such as roads and airports, and of tourism facilities, including resorts, hotels, restaurants, shops, golf courses and marinas. The negative impacts of tourism development can gradually destroy environmental resources on which it depends. On the other hand, tourism has the potential to create beneficial effects on the environment by contributing to environmental protection and conservation. It is a way to raise awareness of environmental values and it can serve as a tool to finance protection of natural areas and increase their economic importance. Davies and Cahil (2000) examined the

environmental implications of the tourism industry. This study uses a framework developed from the industrial ecology literature to assess the impacts of the tourism industry on the environment. identified impacts from tourist-related transportation, including aircraft, automobiles, and recreational land and marine vehicles; tourist-related development, tourist activities, and direct impacts of the lodging and cruise industries. Opportunity for upstream and downstream leverage within the tourism industry is considerable and the fragmented nature of the tourism industry is not conducive to regulation that encompasses all aspects of the industry.

Literature gap

In the final analysis, extant literature particularly researches carried out in Nigeria revealed that Nigeria's tourism landscape is extremely rich and beautiful for global tourist attraction; the weather, climate, vegetation, quality airspace, sunshine, beautiful scenery, the rock, falls, captivating beaches, historical relics, rich cultural diversity, friendly peoples and wildlife are Nigeria's tourism assets. This makes Nigeria a leading tourism paradise in Africa (Eneji, Odey & Bullus, 2016). Other related empirical literature investigated also revealed a robust and insightful findings in this study area suggesting that literature on ecotourism and environmental tourism are rife, but most of the studies investigated were carried out outside the shores of Nigeria. This also suggests that there is limited empirical study on ecotourism and environmental tourism in Nigeria. Thus warranting an empirical investigation in this study area because of the growing curiosity of governments and the global agencies in protecting the environment and strides by researchers to balance the relationship between tourism and the natural environment. This study bridges the literature and knowledge gap by examining the effect of tourism consumption on ecological development of host communities in Cross River State, Nigeria.

III. METHODOLOGY

Research Design

This study adopted a survey design with its descriptive and inferential intent. According to Dominic and Winner (1987), the survey method is relevant in eliciting responses required in finding solutions to the research problems which necessitated the study. They observed that survey research method is used in all areas of life – namely; business, administration, advertising, politics, policy making e.t.c. Also, it is used in research outfits, in government as well as nongovernmental organizations. The design of the study also test the hypotheses to identify the relationship between variables and constructs.

Population of the Study

The unit of analysis/defined population for the study is made up all individuals that constitute host communities who themselves may be also the stakeholders. They are also

the beneficiaries (positive or negative) of the outcome of Tourism consumption activities for this study the unit of analysis of this study is finite.

In the present study the population are drawn from three tourist zones (Calabar Municipal local Government Area, Obudu Local Government Area and Odukpani Local Government Area) in Cross River state. According to the National Population Commission of Nigeria the population of the catchment areas are: Odukpani LGA: 179,392, Obudu LGA: 186,650 and Calabar: 222,980 respectively. The population is finite (that is it is known) because the researchers were able to obtain the estimate of the total population of the catchment areas for the study which come to 589,022.

Table 1: Host Communities

Name of Societies	Population of the Host Communities	Sample Size
Odukpani LGA	179,392	122
Obudu LGA	186,650	127
Calabar LGA	222,980	151
Total	589,022	400

Source: computation from field survey, 2016.

Sample Size and Sampling Procedure

To determine the sample size, from the three tourist zones (Calabar Municipal local Government Area, Obudu Local Government Area and Odukpani Local Government Area) in Cross River state for the purpose of questionnaire distribution; multistage sampling technique was used. This was carried in three stages. According to Chukwuemeka (2002), multi-stage sampling is somewhat the combination of the other sampling techniques. At least, it combines two methods.

The first stage was a judgemental identification of catchment units for the study which include (Obudu cattle ranch resort, Adiabo Tinapa Business Resort, Calabar Municipal, and communities/ wards of the local governments in the three tourist zones (Calabar Municipal local Government Area, Obudu Local Government Area and Odukpani Local Government Area- where we have the Adiabo Tinapa Business Resort) in Cross River state. Judgmental sampling is a non probability sampling that makes use of typical cases among the population to be studied, which the researchers believes will provide them with the necessary data needed (Michael et al, 2012).

The second stage was a sub-sampling also called a two-stage sampling. This was a purposive enumeration of the managers of the tourist centres, community leaders, youths, women, men, traditional rulers, shop/business owners, professionals, elites/ stakeholders and political leaders of the communities in the local governments.

In the third stage otherwise called the three-stage sampling, the simple random sampling technique was also used to select various members of respondents from each of the communities/ wards and tourist centres in the three tourist zones state above.

To determine the sample size, for the purpose of questionnaire distribution; the Taro Yamani formula was used.

The formula is stated as thus:
$$n = \frac{N}{1+N(e)^2}$$

Where: n = Sample size

N = Population

E = Margin error (5% or 0.05)

I = Constant

Substituting in the above formula:

$$\begin{aligned} N &= \frac{589,022}{1+589,022 (0.05)^2} \\ &= \frac{589,022}{1+589,022 (0.0025)} \\ &= \frac{589,022}{1473,555} \\ &= 399.7 \\ &\approx 400 \end{aligned}$$

For the purpose of allocation of sample stratum, the researcher adopted R. Kumaisons (1997) formula. Below is the R. Kumaisons formula for sample size distribution:

$$nh = \frac{nNh}{N}$$

Where

n = Total sample size

Nh = The number of items in each stratum in the population

N = Population size

nh = The number of units allocated to each stratum

$$n = 400$$

Substituting in the above formula for the purpose of allocating the questionnaire to the host communities, we have:

$$\text{Odukpani; } \Rightarrow nh = \frac{400 \times 179,392}{589,022} = 121.8 = 122$$

$$\text{Odubu; } \Rightarrow nh = \frac{400 \times 186,650}{589,022} = 126.8 = 127$$

$$\text{Calabar; } \Rightarrow nh = \frac{400 \times 222,980}{589,022} = 151.4 = 151$$

Sources of Data

Both primary and secondary sources of data were employed by the researcher for this study. Secondary sources were made up of published works by other authors closely related to the present topic, they include: books, professional journals, business and government reports. Primary data were generated from the field through the use of structured questionnaires.

Research Instrument

The major instrument used for this study was the questionnaires which were constructed to tap information from the respondents. The researchers administered 400 copies of the questionnaire but only 300 were dully completed and returned. The 5 point summative scale the rating scale model questionnaire was adopted. The rating scale is shown as follows;

Table 2 5 Point Summative Rating Scale Model

0	1	2	3	4
No impact at all	Low impact	Moderate impact	High impact	Very high impact

The questionnaire was designed based on previous empirical studies carried out by researchers on the economic and socio-ecological impact of tourism. Additionally, the preceding researchers adopted some questionnaire items from Brunt and Courtney (1999), Ribeiro, Vareiro, and Remoaldo (2012) in their socio-economic and environmental (SEE) impacts as well as tourist-host interaction studies respectively.

Statistical Method of Data Analysis

The study is concerned with finding the impact of an independent variable (e.g. Tourism, which is deconstructed with sub-variables such as Service, Products, Hotel, Transportation, and Infrastructural Facilities) on dependent variables (Ecological Development). Consequently, the researcher used the Regression Analysis of Ordinary Least Square (OLS).

Model Specification (TC= EES)

Using the knowledge gained from the conceptual framework of the topic, " effect of tourism consumption on ecological development of host communities in Cross River State, Nigeria, the model incorporated tourism consumption-service, product, hotels, transportation and infrastructural facilities- as independent variables and ecological development as dependent variables. Thus, the model for the study is stated as follows:

The structural form of the model

$$ECD = f(\text{SER, PRO, HOT, TRAN, INF}) \dots (1)$$

The mathematical form of the model

$$ECD = \beta_0 + \beta_1 SER + \beta_2 PRO + \beta_3 HOT + \beta_4 TRAN + \beta_5 INF + \dots \quad (2)$$

The econometric form of the model

$$ECD = \beta_0 + \beta_1 SER + \beta_2 PRO + \beta_3 HOT + \beta_4 TRAN + \beta_5 INF + \mu_t \quad (3)$$

Where;

ECD = ECOLOGICAL DEVELOPMENT

SER = SERVICE

PRO = PRODUCTS

HOT = HOTELS

TRA = TRANSPORTATION

INF = INFRASTRUCTURAL FACILITIES

f = Functional relationship

β_0 = the intercept or the constant

$\beta_1 - \beta_5$ = the co-efficient of the explanatory variables

μ_t = Stochastic error term.

Table 3: Economic a priori expectation

Parameters	Variables		Expected Relationships	Expected Coefficients
	Regressand	Regressor		
β_0	ECD	Intercept	(+/-)	$0 < \beta_0 > 0$
β_1	ECD	SER	+	$\beta_1 < 0$
β_2	ECD	PRO	+	$\beta_2 < 0$
β_3	ECD	HOT	+	$\beta_3 < 0$
β_4	ECD	TRA	+	$\beta_4 < 0$
β_5	ECD	INF	+	$\beta_5 < 0$

Source: Researchers compilation

A positive '+' sign indicate that the relationship between the regressor and regressand is direct and move in the same direction i.e. increase or decrease together. On the other hand, a '-' shows that there is an indirect (inverse) relationship between the regressor and regressand i.e. they move in opposite or different direction.

IV. PRESENTATION OF EMPIRICAL RESULTS

Demographic Profile of Respondents

Table 4: Gives an overview of the demographic and socioeconomic characteristics of the sample.

Table 4.1: Demographic profile of the sample

Demographic profile	Frequency	Percentage (%)	Cumulative Percent
Sex/Gender			
Male	180	60.0	60.0

Female	120	40.0	100.0
Age			
18 -25	164	54.7	54.7
26-35	80	26.7	81.3
36-60	56	18.7	100.0
Marital Status			
Single	182	60.7	60.7
Married	118	39.3	100.0
Occupation			
Civil Servant	38	12.7	12.7
Lecturer	19	6.3	19.0
Business/Trading	45	15.0	34.0
Others	198	66.0	100.0
Place of work			
Hotel and Tourism	20	6.7	6.7
Others	280	93.3	100.0
Annual income			
₦1,000 - ₦199,000	207	69.0	69.0
₦200,000-₦500,000	71	23.7	92.7
₦600,000 - ₦1,000,000	12	4.0	96.7
₦1,100,000 - ₦2,000,000	10	3.3	100.0
Educational Qualification			
OND/WASC	244	81.3	81.3
PGD/First Degree/ HND	16	5.3	86.7
Masters Degree	22	7.3	94.0
PhD	18	6.0	100.0

Source: Field Survey 2016

From table 4.1, 60.0% of males responded to the questionnaire while 40.0% of the respondents are females. Majority of the respondents, that is 54.7%, are between the ages of 18-25 years. 26.7% of them fall between the ages 26-35years. While 18.7% of the respondents are between the ages of 36-60years. The marital status of the respondents revealed that 60.7% of the respondents are single, while 39.3% of the respondents are married. The same table shows that over 12.7% of the respondents are civil servants, while 6.3% of them are lecturers, 15.0% of the respondents are into business/trading, 66.0% of the respondents are into other forms of businesses. Annual income revealed that 69.0% of the respondents earn between ₦100,000 – ₦199000, 23.7% earn between ₦200000- ₦500000. 4.0% of the respondents earn between ₦600000 - ₦1000000 per annum and 3.3% earn between ₦1100000 - ₦2000000 per annum. The above figures show that majority of the members of the Host Communities (almost 70%) are low income earners or otherwise referred to the bottom-of-the-pyramid earners. This therefore is the more reason it has become imperative to find out what improvement has come to them through Tourism.

Table 4 indicates that all the respondents had formal education. Majority of the respondents 81.3% had West African School Certificate (WASC)/ Ordinary National Diploma (OND). Only 5.3% had FIRST DEGREE/Higher National Diploma (HND)/ Post Graduate Diploma (PGD). Finally, 7.3% had Masters Degree while 6.0% had Ph.D. Given these statistics, the researcher was delighted to note that a good majority of the respondents had what can be described as acceptable formal educational background which was a plus for the Host Communities. It made it reassuring and made it possible for them to attend to the questions with ease. And indeed they reacted intelligently and satisfactorily to the questionnaire. This was an evidence which showed that they are very much aware and alive to their environment.

Regression Result

Table 5: The extent to which Tourism Consumption (TC) affect the Ecological Development of the Host Communities

Model	B	Std. error	T	Sig.
(Constant)	-.050	.027	-1.835	.067
IMPACT OF PRODUCTS	-.008	.025	-.332	.740
IMPACT OF SERVICES	.070	.034	2.040	.042
IMPACT OF HOTELS	.546	.043	12.640	.000
IMPACT OF TRANSPORTATION	.312	.033	9.400	.000
IMPACT OF INFRASTRUCTURE	.106	.041	2.569	.011
R	0.990			
R²	0.980			
Adj. R²	0.979			
F-statistic	2848.717			0.000

Source: Field Survey 2016

Dependent Variable: ECOLOGICAL DEVELOPMENT

The impact of tourism consumption on the ecological development of the host communities was evaluated using the regression model. Table 5 showed the precision of the model which was analyzed using economic a priori criteria and statistical criteria.

Evaluation based on economic a priori criteria

This subsection evaluates the regression results based on a priori (i.e., theoretical) expectations. The sign and magnitude of each variable coefficient was evaluated against theoretical expectations. From table 4.14, it is observed that the regression line have a negative intercept as presented by the constant (c) = -.050. This means that if all the variables are held constant or fixed (zero), ecological development of the host communities will be valued at -.050. Since the a-priori expectation is that the intercept could be positive or negative, it result therefore conforms to the theoretical expectation.

Table 5 shows that tourism, hotels, transportation and infrastructure have positive impact on the ecological

development of the host communities. This means that if tourism, hotels, transportation and infrastructure are developed and improved, it will bring about more increase in the ecological development of the host communities. On the other hand, product has a negative impact on the ecological development of the host communities. Thus, increase in product will bring about a decline in the ecological development of the host communities.

Discussion based on statistical criteria

This subsection applies the R², adjusted R² and the f-test to determine the statistical reliability of the estimated parameters. These tests are performed as follows:

From our regression result, the coefficient of determination (R²) is given as 0.980, which shows that the explanatory power of the variables is extremely high and/or strong. This implies that 98.0% of the variations in the ecological development of the Host Communities are being accounted for or explained by the variations in the development of products, services, hotels, transportation and infrastructure in the host communities. While other independent variables not captured in the model explain just 2% of the variations in the ecological development of the host communities.

The adjusted R² supports the claim of the R² with a value of 0.979 indicating that 97.9% of the total variation in the dependent variable (ecological development of the host communities is explained by the independent variables (the regressors)). Thus, this supports the statement that the explanatory power of the variables that is extremely high and strong.

Test of Hypothesis

H₀2: Tourism consumption has no significant impact on the ecological development of the host communities.

Table 5: Impact of Tourism Consumption on the ecological development of the Host Communities

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	415.853	5	83.171	2848.717	.000 ^b
	Residual	8.584	294	.029		
	Total	424.437	299			
a. Dependent Variable: IMPACT ON ECOLOGICAL						
b. Predictors: (Constant), IMPACT OF INFRASTRUCTURE, IMPACT OF PRODUCT, IMPACT OF TRANSPORTATION, IMPACT OF TOURISM, IMPACT OF HOTELS						

The F-statistic: The F-test is applied to check the overall significance of the model. The F-statistic is instrumental in verifying the overall significance of an estimated model. In our model the F-statistic is significant at 0.000. We therefore reject H₀ and accept H₁ that the model has goodness of fit and is statistically significant. In other words, tourism consumption has significant impact on the ecological development of the host communities.

V. CONCLUSION AND RECOMMENDATIONS

This study has established a cumulative link between Tourism Consumption and Ecological development of the society and Host Communities in particular. This construct was used to measure the impact of Tourism Consumption in the zones. The Research objective of the present study sought to ascertain empirically the effect of Tourism Consumption (TC) on the Ecological Development of the Host Communities under study. Following the descriptive statistics and inferential statistics. The study revealed that – Service, Hotels, Transportation and Infrastructure have positive impact on the Ecological Development of the Host Communities. It is noted that Product has a negative impact on the ecological development of the communities. Thus, increase in product will bring about a decline in the ecological development of the host communities R^2 and adjusted $R^2 = 0.979$ or 98%. The researcher hereby infers that this exposes the fact that if tourism products increase in form of more buildings, sites, recreational facilities; all of these will erode the natural environment. Therefore, in this research, the ecological condition of the host communities as exposed by the findings is unfavourable and unpleasant.

The study therefore recommends that :

- i. The government and policy makers should come up with effective policies that will enhanced the conservation the environment and also attract tourists by setting up “effective” Task Force to monitor the implementation of sustainable tourism policies as stipulated in the Gazette.
- ii. There is need for Cross River State Government to strive and make available data/statistics showing the contribution of Tourism to the Gross Domestic Product (GDP) of the state. Currently there is a seeming dearth of statistics in tourism.
- iii. These Tourism organisations should develop modalities in form of wide varieties of communication techniques to create awareness on how tourist should behave in terms of pro-environmental actions. These techniques include

media, interpersonal, intrapersonal forms of communications. This way, sustainable ecological development will be achieved.

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