

Cultural Festivals and Transportation-Related Activities as Determinants of Environmental Sustainability in the Southern Senatorial District of Cross River State, Nigeria.

By

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Abstract

This research examined the relationship between cultural festivals, transportation-related activities, and environmental sustainability in the Southern Senatorial District of Cross River State, Nigeria, with a population of 1,867,540 residents (NPC, 2024). The study was guided by two key variables of tourism development cultural festivals and transportation-related activities—as predictors of environmental sustainability. These variables were formulated into research questions and hypotheses to guide the investigation. Relevant literature was reviewed in line with the variables of the study. A survey research design was adopted for the study. A sample of 692 respondents was selected from communities within the study area using purposive sampling technique. The instrument for data collection was a structured questionnaire titled “Cultural Festivals, Transportation Activities and Environmental Sustainability Questionnaire” (CFTAESQ). The reliability of the instrument was established using Cronbach Alpha method. Data collected were analyzed using Pearson Product Moment Correlation (PPMC) and tested at 0.05 level of significance. The findings revealed that both cultural festivals and transportation-related activities have significant relationships with environmental sustainability in the study area. Based on the findings, it was recommended among other that sustainable practices should be integrated into the organization of cultural festivals, including waste reduction, energy conservation, and eco-friendly transportation systems.

Keywords: Cultural Festivals, Transportation-Related Activities, Environmental Sustainability

Introduction

The urgent need for human developmental efforts to adhere to principles of environmental sustainability is fundamentally linked to the concept of Earth’s carrying capacity. This idea relates to the environment’s capacity to endure exploitation and pollution of its limited natural resources, as well as the cumulative impact of various pressures, before reaching a breaking point from which recovery is impossible (Zelenka & Kacetl, 2024). In the past, our reckless behavior

toward the environment often ignored the repercussions of our actions. However, as the alarming realities of environmental degradation have surfaced, they have prompted a response characterized by the onset of climate change.

Given the severe consequences of this phenomenon, it has become critical to embrace sustainable development practices to prevent further irreversible harm to our planet. Today, with a heightened awareness of the necessity to preserve the environment's carrying capacity, there is hope that humanity can manage its relationship with nature in a more sustainable manner, ensuring both ecological integrity and human well-being for future generations. In Nigeria and Cross River State in particular, efforts to ameliorate issues of environmental sustainability include conservation of clearly delineated vegetation types to serve as National Parks and establishment of environmental-related institutions. These include the Federal Environmental Protection Agency, Ministries of Environment and Urban Development Agencies, all designed to; checkmate and control urbanisation spread and destruction of sensitive natural landforms/scenery such as wetlands, urban green areas, riparian mangrove forests, lowland forests, etc., (Ngoka, Dike & Mbakwe, 2018; Offiong & Eteng, 2018). In addition, efforts have also been made to ensure that impactful man-made developmental projects follow procedures laid down by "pro-environmental sustainability strategies" such as those specified by Environmental Impact Assessment (EIA). To complement government efforts, non-governmental organisations in the state and the country at large have also contributed their quota to the amelioration of environmental sustainability issues by setting up conservatories and holding awareness campaigns for adherence to pro-environmental sustainability behaviour.

Based on the extent to which both government and non-governmental agencies have endeavoured to ameliorate environmental sustainability issues, it is perceived that the environment is not supposed to contend with prominent/profound issues concerning its sustainability. Within local government areas in Calabar Education Zone, research reports appear to reveal a contrasting scenario concerning the extent to which the environment is being sustained. Ofem, Lifu, Ogar, Eja and Ajadi (2016) reported that human-related developmental activities in proximity of the Oban Division of the Cross River National Park had led to alarming levels of deforestation of the park's buffer zone. Deekor, Iwara, Ogundele, Amiolemen and Ita (2016) observed that in Odukpani (with specific reference to the Adiabo area), land use activities have damaged the soil to the point that it can no longer support the growth of grasses. Still within the same area (Adiabo), Eja and Effiom (2016) revealed a range of an ever rising trend of unchecked debilitating environmental and social consequences threatening the sustainability of the area's environs.

Eja and Eni (2018) also found out that water samples from both water bodies and soil samples around suburbs of Calabar Metropolis were contaminated to such levels that exceeded the accepted global standards. Within Calabar Metropolis, Offiong and Eteng (2016) discovered that within a time frame of 8 years (2004-2012), unchecked urbanisation sprawl had not only increased urbanisation space by 80% but also, certain sensitive ecosystems within the area had been permanently damaged beyond regeneration. Similar to Ukabuilu, Igbojekwe and Uzoho (2018), Eja and Otu (2019) revealed that certain human developmental activities around Calabar Metropolis, Odukpani, Akamkpa and some other areas within Calabar Education Zone were fingered for worrying levels of environmental and social consequences plaguing the area for some time now. Obia, Itam and Archibong (2019) reported that developmental activities within Calabar Metropolis and its adjoining surroundings (including areas in Odukpani, Akpabuyo and Bakassi) had led to a massive loss of wetlands most especially along renowned inland waterways in the area.

Offiong (2020) discovered that human developmental activities had driven environmental degradation to take a massive and irreparable toll on Calabar Education Zone's mangrove, fresh water swamp and tropical rainforest vegetation types by observations recorded from the last decade of the 20th century till 2015. Similarly, Offiong, Agbor and Umoh (2018) revealed that unchecked and unabated human developmental activities had led and is continuously leading to the massive irredeemable loss of unique and rare ecosystems within Calabar Education Zone.

In contemporary times, the trend of human survival appears to be hinged on issues such as adaptation to the phenomenon of climate change, adherence to environmental sustainability, development of green economies, living in line with the principles of the sustainable development goals, etc, (Fulton, Clarke & Albán, 2017). The necessity of the trend stated above has been due to the general perception by mankind that with such, sustaining the environment could be a possibility and also, could ameliorate the impact of the environment's reaction towards stabilising itself on mankind i.e., the impact of the phenomenon of climate change on mankind. On the other hand, without adequate adherence to the tenets of environmental sustainability, could it be that mankind would end up forcing the environment to react with a phenomenon whose effects would be more debilitating than that of climate change?

There are many developmental activity-based factors which could be associated with environmental sustainability within the study area. Based on contemporary developmental strides within the area, inclusive amongst them is tourism development. Research works reveal that indicators of tourism development such as cultural festivals, transportation-related activities, hospitality-related activities, natural attraction site management strategies, and man-made

attraction site management strategies could be positively or negatively associated with environmental sustainability. Cultural festivals is a variable concerned with activities bordering on periodically occurring social occasions such as displays of masquerades, dances, sports, games, etc.,. It has mostly been investigated in line with its association with sustainable tourism development and has been found to have a positive impact on it (Bormann, 2019; Oluwatuyi & Omotoba, 2020). Henderson (2019) stated that cultural festivals can have a significant impact on the environment, from the use of single-use plastics to the generation of waste and pollution. According to the author, many festival organizers are now prioritizing environmental sustainability, implementing initiatives such as reducing waste, conserving energy, and promoting sustainable practices. According to a study published in the *Journal of Sustainable Tourism*, festivals can be a catalyst for environmental change, with 75% of festival-goers reporting a greater awareness of environmental issues after attending a festival. By embracing eco-friendly practices, cultural festivals can not only protect the environment but also preserve the cultural traditions that make these events so special.

Transportation-related activities refer to the activities of the system concerned with carrying people and/or goods from one place to another. For this study, transportation-related activities are only concerned with land transportation. In related studies, this variable has mostly been revealed to have varying effects on the environment (Rabbany, Afrin, Rahman, Islam & Hoque, 2017; Eja & Otu, 2019). Hospitality-related activities as a variable in this study refer to the activities concerned with development of all manners of eateries and fast food joints, including management of their generated waste. Similarly to researches on transportation, studies here have mostly evaluated how hospitality-related activities have aided environmental degradation and the findings have revealed that the activities tend to affect the environment adversely (Eja & Eni, 2018; Offiong, Agbor & Umoh, 2018).

International Energy Agency (2020) stating that the transportation sector is a significant contributor to greenhouse gas emissions, accounting for approximately 27% of global emissions, and its environmental impact is a pressing concern that cannot be ignored. According to the author to make transportation more environmentally sustainable, there are many ways to promote the use of electric and hybrid vehicles, invest in public transportation, and develop innovative technologies such as self-driving cars and biofuels. By working together, governments, industries, and individuals can create a more sustainable transportation system that reduces emissions and benefits both people and the planet

Based on the above stated evidences from research on Cultural Festivals and Transportation-Related Activities as Determinants of Environmental Sustainability in the Southern Senatorial District of Cross River State, Nigeria

Purpose of the study

The purpose of the study is to examine the relationship between cultural festivals, transportation-related activities, and environmental sustainability in the Southern Senatorial District of Cross River State, Nigeria. Specifically, the study seeks to investigate the extent to which;

- 1 Cultural festivals relate with environmental sustainability
- 2 Transportation-related activities relate with environmental sustainability.

Research questions

The following questions will be posed to guide the study;

1. To what extent do cultural festivals relate with environmental sustainability?
2. How do transportation-related activities relate with environmental sustainability?

Research hypotheses

The following research hypotheses were formulated to guide the study:

1. Cultural festivals have no significant relationship with environmental sustainability
2. There is no significant relationship between transportation-related activities and environmental sustainability

Methodology

This study adopted a survey research design to examine the relationship between cultural festivals, transportation-related activities, and environmental sustainability in the Southern Senatorial District of Cross River State, Nigeria. To ensure a well-structured investigation, two hypotheses were formulated in line with the objectives of the study. The population of the study consisted of 1,867,540 residents of the Southern Senatorial District of Cross River State, Nigeria (NPC, 2024). The population included residents from Akamkpa, Akpabuyo, Bakassi, Biase, Calabar Municipality, Calabar South, and Odukpani Local Government Areas. The study focused on both rural and urban dwellers who are directly exposed to tourism-related activities. The sample size for the study was 692 respondents drawn from selected communities within the study area. The sample was selected using purposive sampling technique to ensure that only respondents with relevant knowledge of tourism activities were included. The instrument used for data collection was a structured questionnaire titled “Cultural Festivals, Transportation Activities and Environmental Sustainability Questionnaire” (CFTAESQ). The questionnaire was divided into sections covering cultural festivals, transportation-related activities, and environmental sustainability. The instrument was designed on a four-point Likert scale of strongly agree, agree, disagree, and strongly disagree. The validity of the instrument was ensured through expert review by specialists in tourism studies and environmental management. The reliability of the

instrument was established using Cronbach Alpha method. Data collection was carried out through direct administration of questionnaires to respondents in their respective communities. The researcher ensured proper explanation of questionnaire items to improve response accuracy. Ethical considerations were observed by ensuring voluntary participation and confidentiality of respondents' information. The data collected were coded and analyzed using descriptive statistics such as mean and standard deviation. Inferential statistics using Pearson Product Moment Correlation (PPMC) was employed to test the hypotheses at 0.05 level of significance. The results were used to determine the relationship between cultural festivals, transportation-related activities, and environmental sustainability in the study area

Results

This section presents the data analysis of data based on hypothesis of the study outlined. This is trailed by. The hypotheses were tested at 0.05 degree of freedom.

HO₂

Cultural festivals have no significant relationship with environmental sustainability in Calabar Education Zone, Cross River State. In the present hypothesis the independent variable is cultural festivals while the dependent variable is environmental sustainability. In testing this hypothesis, Pearson Product Moment Correlation (PPMC) was used. The result of data analysis is presented in Table 6.

The finding Table 1 uncovered that Cultural festivals had a mean score of 10.996 with a standard deviation of 1.517 while environmental sustainability had a mean score of 26.460 with standard deviation of 2.10173. The outcome further showed that the r-calculated value of 0.113 is significant at .05 level of significance and 670 degrees of freedom. Also, the $p < .002$ is less than $p < .05$. In light of this, the null hypothesis which expressed that Cultural festivals have no significant relationship with environmental sustainability in Calabar Education Zone, Cross River State was rejected indicating that cultural festivals have a significant relationship with environmental sustainability in Calabar Education Zone, Cross River State

Table 1: Pearson Product Moment Correlation (PPMC) of relationship between Cultural festivals and environmental sustainability in Calabar Education Zone, Cross River State (N=672)

| Variables | \bar{x} | SD | r-ratio | df | p-level |
|----------------------------------|-----------|---------|---------|-----|---------|
| Cultural festivals (X) | 10.996 | 1.51717 | .113* | 670 | .002 |
| Environmental sustainability (y) | 26.460 | 2.10173 | | | |

*Significant at .05 level; $p < .05$.

HO₂

There is no significant relationship between transportation-related activities and environmental sustainability in Calabar Education Zone, Cross River State. In testing this hypothesis, Pearson Product Moment Correlation (PPMC) was used. The result of data analysis is presented in Table 2

Table 2: Pearson Product Moment Correlation (PPMC) of relationship between transportation-related activities and environmental sustainability in Calabar Education Zone, Cross River State (N=672)

| Variables | \bar{x} | SD | r-ratio | Df | p-level |
|---------------------------------------|-----------|---------|---------|-----|---------|
| Transportation-related activities (X) | 12.746 | 1.77570 | .121* | 670 | .001 |
| Environmental sustainability(Y) | 26.460 | 2.1017 | | | |

*Significant at .05 level; $p < .05$.

The finding in Table 2 showed that Transportation-related activities had a mean score of 12.746 with a standard deviation of 1.776 while environmental sustainability e had a mean score of 26.460 with standard deviation of 2.1017. The outcome further showed that the r-calculated value of 0.121 is significant at .05 level of significance and 670 degrees of freedom. Also, the $p < .001$ is less than $p < .05$. With reference to this result, the null hypothesis which stated that there is no significant relationship between transportation-related activities and environmental sustainability in Calabar Education Zone, Cross River State was rejected showing that there is a significant relationship between transportation-related activities and environmental sustainability in Calabar Education Zone, Cross River State

Discussion of the Findings

This part focuses directly on the discussion of discoveries that rose up out of the consequence of study. The conversation was carried out hypothesis-by-hypothesis.

Cultural festivals and environmental sustainability

It was discovered from hypothesis one analysis that the null hypothesis was dropped. This implies that Cultural festivals have no significant relationship with environmental sustainability in Calabar Education Zone, Cross River State. The finding of this study is in consonance with Henderson (2019) who stated that cultural festivals can have a significant impact on the environment, from the use of single-use plastics to the generation of waste and pollution. According to the author, many festival organizers are now prioritizing environmental sustainability, implementing initiatives such as reducing waste, conserving energy, and promoting sustainable practices. According to a study published in the Journal of Sustainable Tourism, festivals can be a catalyst for environmental change, with 75% of festival-goers reporting a greater awareness of environmental issues after attending a festival. By embracing eco-friendly practices, cultural festivals can not only protect the environment but also preserve the cultural traditions that make these events so special.

Transportation-related activities and environmental sustainability

It was discovered from hypothesis two analysis that the null hypothesis was rejected. This implies that there is a significant relationship between transportation-related activities and environmental sustainability in Calabar Education Zone, Cross River State. The result of this analysis is in harmony with the International Energy Agency (2020) stating that the transportation sector is a significant contributor to greenhouse gas emissions, accounting for approximately 27% of global emissions, and its environmental impact is a pressing concern that cannot be ignored. According to the author to make transportation more environmentally sustainable, there are many ways to promote the use of electric and hybrid vehicles, invest in public transportation, and develop innovative technologies such as self-driving cars and biofuels. By working together, governments, industries, and individuals can create a more sustainable transportation system that reduces emissions and benefits both people and the planet.

Conclusion

Based on the result of the study, in conclusion, this study has provided valuable insights into the relationship between cultural festivals and transportation-related activities and environmental sustainability in Calabar Education Zone, Cross River State

Recommendations

Based on the findings of the study, the following recommendations were made:

- 1 Implement sustainable practices in cultural festivals: Festival organizers and policymakers should develop and implement sustainable practices, such as reducing waste, conserving energy, and promoting eco-friendly transportation, to minimize the environmental impact of cultural festivals.
- 2 Promote sustainable transportation options: Public transportation, non-motorized transportation, and electric or hybrid vehicles should be promoted to reduce greenhouse gas emissions and mitigate the environmental impact of transportation-related activities.

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