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Eco- Tourism Development and Socio-Economic Growth in Cross River State, Nigeria.

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Abstract
This study examines the relationship between eco-tourism development and socio-economic growth in Cross River State, Nigeria. Specifically, it investigates the impact of eco-tourism infrastructure development and tourist arrivals on socio-economic growth. A descriptive survey research design was adopted, targeting 200 respondents, including tourism officials, hospitality business owners, local community members, tour operators, and visitors. Data were collected through structured questionnaires and analyzed using descriptive and inferential statistics, including Pearson's correlation analysis. The findings reveal a strong positive and statistically significant relationship between eco-tourism infrastructure development and socio-economic growth ($r = 0.889$, $p = .000$), indicating that improved infrastructure enhances economic benefits such as employment and income generation. Conversely, a weak but significant positive relationship was found between tourist arrivals and socio-economic growth ($r = 0.264$, $p = .000$), suggesting that while increasing tourist numbers contributes to economic development, other factors such as infrastructure and policy implementation play a more substantial role. Based on these findings, the study rejects the null hypotheses and concludes that eco-tourism infrastructure development significantly contributes to socio-economic growth, whereas tourist arrivals have a limited but measurable impact. The study recommends targeted investments in tourism infrastructure, improved marketing strategies, and community involvement in tourism development to maximize its economic benefits in Cross River State.
Key words: Eco-tourism development, Socio-economic growth, Tourist arrivals, Infrastructure development

Introduction and background
Eco-tourism is a rapidly growing sector that balances environmental conservation with economic development, offering a sustainable approach to tourism. In regions endowed with rich biodiversity, such as Cross River State, Nigeria, eco-tourism has the potential to drive socio-economic growth by creating employment opportunities, generating revenue, and enhancing local infrastructure. The state is home to diverse natural attractions, including the Cross River National Park, the Agbokim Waterfalls, and the Obudu Mountain Resort, which position it as a prime destination for eco-tourism.

Despite its potential, the eco-tourism sector in Cross River State faces significant challenges, including poor infrastructure, inadequate marketing, and policy gaps, which limit its contribution to economic growth. Understanding the relationship between eco-tourism development and socio-economic growth is essential for designing strategies that maximize tourism's benefits while ensuring environmental sustainability. This study investigates how eco-tourism infrastructure development and tourist arrivals influence socio-economic growth in Cross River State, providing empirical insights that can inform policy decisions and sustainable tourism initiatives.

Tourism is a key driver of economic development globally, contributing to employment creation, income generation, and infrastructure development (World Tourism Organization [UNWTO], 2022). Within the broader tourism industry, eco-tourism has gained prominence as an alternative that promotes environmental conservation while supporting local economies (Honey, 2008). Eco-tourism emphasizes responsible travel to natural areas, fostering community participation and sustainable resource management (Fennell, 2021).

Nigeria, with its diverse ecological landscapes, has identified eco-tourism as a potential avenue for economic diversification beyond oil dependence (Ashikodi, 2010). Cross River State, in particular, stands out as a major eco-tourism hub due to its rich biodiversity, cultural heritage, and unique natural attractions. However, despite the state's tourism potential, the sector's contribution to socio-economic growth remains underexplored. Issues such as inadequate infrastructure, low tourist arrivals, and weak policy implementation have hindered the full realization of eco-tourism's economic benefits (Harrison, 2003).

Previous studies on tourism development in Nigeria have focused on general tourism impacts, often overlooking the specific role of eco-tourism in fostering socio-economic growth. Empirical research examining the direct relationship between eco-tourism infrastructure, tourist arrivals, and economic development in Cross River State is limited. Therefore, this study seeks to fill this gap by analyzing how eco-tourism development contributes to socio-economic growth, offering insights for policymakers, stakeholders, and tourism investors. By identifying key factors influencing eco-tourism's role in economic development, this research aims to support evidence-based decision-making that enhances sustainable tourism practices and maximizes socio-economic benefits in Cross River State.

Statement of the Problem

Eco-tourism has been recognized as a vital strategy for promoting sustainable economic growth, environmental conservation, and cultural preservation. Cross River State, Nigeria, is

endowed with rich biodiversity, including national parks, waterfalls, and cultural heritage sites, making it a prime destination for eco-tourism. Despite these natural advantages, the state has not fully harnessed the potential of eco-tourism to drive socio-economic growth. Key challenges such as inadequate infrastructure, low tourist arrivals, weak policy implementation, and limited community involvement hinder the sector's contribution to economic development.

While studies have highlighted the general benefits of tourism, there is limited empirical research on the specific relationship between eco-tourism development and socio-economic growth in Cross River State. It remains unclear how investments in eco-tourism infrastructure and fluctuations in tourist arrivals influence employment opportunities, income generation, and overall economic well-being. Understanding these dynamics is essential for formulating policies that enhance the role of eco-tourism in regional development.

Therefore, this study seeks to examine the impact of eco-tourism infrastructure and tourist arrivals on socio-economic growth in Cross River State, Nigeria, providing insights that can guide sustainable tourism development and economic planning in the region.

Purpose of the study

The primary purpose of this study is to examine the relationship between eco-tourism development and socio-economic growth in Cross River State, Nigeria. Specifically, the study aims to:

1. Analyze the relationship between eco-tourism infrastructure development and socio-economic growth in Cross River State.
2. Investigate the impact of tourist arrivals on socio-economic growth in Cross River State.

Research hypotheses

The following hypotheses were raised to guide the study:

1. There is no significant relationship between eco-tourism infrastructure development and socio-economic growth in Cross River State, Nigeria.
2. Tourist arrivals do not have a significant impact on socio-economic growth in Cross River State, Nigeria.

Literature review

Eco-Tourism Infrastructure Development and Socio-Economic Growth

Eco-tourism infrastructure plays a crucial role in promoting sustainable tourism and driving socio-economic growth. Several studies have examined the impact of tourism infrastructure on economic development, with mixed findings. For instance, Okonkwo and Odey (2018) investigated the relationship between tourism infrastructure and economic growth in Cross River State, Nigeria, and found that inadequate infrastructure, such as poor road networks, accommodation facilities, and tourism services, hinders the full realization of tourism's economic potential. Their study emphasized the need for improved infrastructure investment to enhance the contribution of eco-tourism to local development.

Similarly, Popoola and Adeleke (2020) assessed the challenges and prospects of eco-tourism infrastructure in Nigeria. Their findings revealed that although Cross River State possesses rich eco-tourism resources, inadequate government support and weak infrastructure development have limited its impact on socio-economic growth. The study suggested that increased funding for eco-tourism infrastructure, including transportation, accommodation, and recreational facilities, could significantly improve employment opportunities and income levels for local communities.

Contrary to these findings, Kimbu and Tichaawa (2018) argued that tourism infrastructure alone does not guarantee socio-economic growth. Their study, conducted in selected eco-tourism destinations in Nigeria, suggested that other factors, such as policy implementation, community engagement, and environmental sustainability, play more significant roles in determining the sector's contribution to economic development. They recommended a holistic approach that integrates infrastructure development with broader sustainable tourism strategies.

Tourist Arrivals and Socio-Economic Growth

Tourist arrivals are often considered a key determinant of economic benefits derived from the tourism sector. Several empirical studies have explored the relationship between tourist inflows and socio-economic growth in various contexts. According to Du, Lew and Ng (2016), an increase in tourist arrivals positively correlates with job creation, business expansion, and income generation in local communities. Their study, which focused on Nigeria's major tourist destinations, found that regions with higher tourist visits experienced significant improvements in economic indicators such as employment rates and local revenue generation.

In a study specific to Sri Lanka, Gnanapala and Sandaruwani (2016) examined the impact of tourist arrivals on socio-economic development. Their research revealed that fluctuations in tourist numbers significantly affect local businesses, particularly in the hospitality and service industries. They found that a steady increase in tourist arrivals contributed to the growth of small and medium-sized enterprises (SMEs), improved standard of living, and enhanced government revenue through taxes and tourism-related activities.

However, not all studies support a direct link between tourist arrivals and socio-economic growth. Eyisi, Lee and Trees (2021) argued that while increased tourist arrivals can boost local economies, the absence of effective tourism policies, environmental conservation measures, and community participation can limit the overall benefits. Their study in South- Eastern Nigeria highlighted that unsustainable tourism practices and inadequate reinvestment in tourism infrastructure often lead to short-term gains rather than long-term economic growth.

Empirical evidence suggests a strong relationship between eco-tourism infrastructure development and socio-economic growth, with infrastructure improvements positively influencing tourism's economic benefits. However, some studies argue that infrastructure alone is insufficient without complementary policies and sustainable management strategies. Similarly, while tourist arrivals are generally linked to economic growth, the extent of their impact depends on factors such as policy implementation, environmental conservation, and local community involvement.

Based on these findings, this study seeks to further explore the relationship between eco-tourism infrastructure development, tourist arrivals, and socio-economic growth in Cross River State, Nigeria, to provide empirical insights that can guide sustainable tourism policies and investment decisions.

Methodology

Research Design

This study adopted a descriptive survey research design to examine the relationship between eco-tourism development and socio-economic growth in Cross River State, Nigeria. This design is appropriate because it allows for the collection of quantitative data to analyze trends, relationships, and impacts of eco-tourism infrastructure and tourist arrivals on socio-economic growth.

Study Area

The study was conducted in Cross River State, Nigeria, which is known for its rich eco-tourism resources, including the Cross River National Park, Obudu Mountain Resort, Agbokim Waterfalls, and Kwa Falls. The state has been a major eco-tourism hub in Nigeria, attracting both local and international visitors. However, challenges such as inadequate infrastructure

and fluctuating tourist arrivals have impacted its tourism sector's contribution to economic development.

Population of the Study

The population for this study comprises key stakeholders in the tourism sector, including tourism officials, hospitality business owners, local community members, tour operators, and visitors to eco-tourism destinations in Cross River State. These groups are relevant as they provide insights into the relationship between eco-tourism infrastructure, tourist arrivals, and socio-economic growth.

Sample Size and Sampling Technique

A stratified random sampling technique was used to ensure that different categories of respondents are adequately represented. The sample size was determined using Cochran's formula for calculating sample size in large populations. The study targeted 200 respondents across selected eco-tourism destinations in the state.

Sources of Data

Both primary and secondary data were utilized in the study:
Primary data was collected through a structured questionnaire administered to respondents, capturing information on eco-tourism infrastructure, tourist arrivals, and socio-economic indicators such as employment and income levels. Secondary data were obtained from government reports, tourism statistics, published articles, and records from the Cross River State Ministry of Tourism and related agencies.

Instrumentation for Data Collection

The main instrument for data collection was a structured questionnaire**,** designed using a 5-point Likert scale (ranging from Strongly Agree to Strongly Disagree). The questionnaire was divided into sections covering demographic information, eco-tourism infrastructure, tourist arrivals, and socio-economic growth indicators. A pilot study was conducted to test the validity and reliability of the instrument.

Method of Data Analysis

The collected data was analyzed using descriptive and inferential statistical techniques:
Descriptive statistics (mean, standard deviation, and frequency distributions) summarized respondents' perceptions. Inferential statistics included Pearson'**s** correlation ana**lysis** to test the hypotheses and determine the relationship between eco-tourism infrastructure, tourist

arrivals, and socio-economic growth. The Statistical Package for the Social Sciences (SPSS) software was used for data analysis.

Validity and Reliability of the Instrument

The questionnaire underwent expert review to ensure it adequately measures the research variables. A pilot study was conducted with 30 respondents to assess content validity. The Cronbach's Alpha reliability test was used to assess the internal consistency of the questionnaire, with a reliability coefficient of 0.77 and .87 which were considered acceptable.

Ethical Considerations

The study adhered to ethical research principles, ensuring **informed consent** from all respondents. Participants were assured of **confidentiality and anonymity**, and data will be used strictly for academic purposes. The study also obtained ethical clearance from the relevant institutional review board.

Presentation of results

Ho_1

There is no significant relationship between eco-tourism infrastructure development and socio-economic growth in Cross River State, Nigeria.

Table 1: Result of Pearson product moment correlation analysis of the relationship between eco-tourism infrastructure development and socio-economic growth in Cross River State, Nigeria (N= 200).

Variables	Mean	SD	Cal. r.	p-value
Eco-tourism infrastructure development	10.7400	1.45360		
			.889**	.000
Socio-economic growth	21.8500	2.451303		

Significant at 0.05 level, df = 198

The results of the Pearson product-moment correlation analysis indicate a strong and significant relationship between eco-tourism infrastructure development and socio-economic growth in Cross River State, Nigeria. With a sample size of 200 respondents, the mean score for eco-tourism infrastructure development was 10.74 with a standard deviation of 1.45, while

the mean score for socio-economic growth was 21.85 with a standard deviation of 2.45. These values suggest that respondents' perceptions of eco-tourism infrastructure and socio-economic growth are relatively consistent, with some variability in their responses.

The computed correlation coefficient (r = 0.889) shows a strong positive relationship between eco-tourism infrastructure development and socio-economic growth. This implies that as eco-tourism infrastructure improves, socio-economic growth is likely to increase. Furthermore, the significance level (p = .000) is below the conventional 0.05 threshold, indicating that the relationship is statistically significant. This suggests that the observed correlation is unlikely to be due to chance and that eco-tourism infrastructure development plays a crucial role in driving socio-economic growth.

Given these findings, the null hypothesis, which states that there is no significant relationship between eco-tourism infrastructure development and socio-economic growth in Cross River State, is rejected. Instead, the study supports the alternative hypothesis, affirming that improvements in eco-tourism infrastructure significantly contribute to socio-economic growth. This implies that enhanced tourism-related infrastructure, such as better transportation networks, quality accommodations, and modern recreational facilities, can lead to increased employment opportunities, higher income levels, and overall economic expansion in the state. The study underscores the importance of investing in eco-tourism infrastructure as a strategic approach to fostering socio-economic development. Policymakers, tourism stakeholders, and local communities should prioritize infrastructure improvements to maximize the economic benefits of eco-tourism and promote sustainable growth in Cross River State.

H_{O2}
Tourist arrivals do not have a significant impact on socio-economic growth in Cross River State, Nigeria.

Table 2: Result of Pearson product moment correlation analysis of the relationship between Tourist arrivals and socio-economic growth in Cross river State (N= 200).

Variables	**Mean**	**SD**	**Cal. r.**	**P-value**
Tourist arrivals	12.6000	1.31860		
			.264**	.000
Socio-economic growth	21.8500	2.451303		

Significant at 0.05 level, df = 198

The results of the Pearson product-moment correlation analysis reveal a weak but significant positive relationship between tourist arrivals and socio-economic growth in Cross River State, Nigeria. With a sample size of 200 respondents, the mean score for tourist arrivals is 12.60, with a standard deviation of 1.32, indicating relatively consistent responses regarding the influx of tourists to the state. The mean score for socio-economic growth is 21.85, with a standard deviation of 2.45, showing some variation in perceptions of economic development.

The computed correlation coefficient ($r = 0.264$) suggests a low positive relationship between tourist arrivals and socio-economic growth. While this indicates that an increase in tourist arrivals is associated with some level of economic improvement, the strength of the relationship is relatively weak. However, the p-value (.000) is below the 0.05 significance threshold, confirming that the relationship is statistically significant. This implies that the correlation observed is not due to chance, and tourist arrivals do have a measurable, though limited, impact on socio-economic growth.

Given these findings, the null hypothesis, which states that there is no significant relationship between tourist arrivals and socio-economic growth in Cross River State, is rejected. The results support the alternative hypothesis, suggesting that while an increase in tourist arrivals contributes to socio-economic development, the effect may not be as strong as other factors, such as infrastructure development or tourism policies.

Although tourist arrivals play a role in enhancing socio-economic growth by stimulating local businesses, employment, and government revenue, their impact remains relatively low. This suggests that additional factors, such as improved tourism infrastructure, marketing strategies, and policy interventions, may be needed to maximize the economic benefits of tourism in Cross River State.

Discussion of findings

Ho_1

This finding provides strong empirical evidence that eco-tourism infrastructure development is a significant driver of socio-economic growth in Cross River State, Nigeria. The high correlation coefficient ($r = 0.889$) suggests a robust positive relationship, meaning that as eco-tourism infrastructure improves, socio-economic benefits—such as increased employment, income generation, and improved living standards—also rise. The statistical significance ($p = .000$) reinforces the reliability of this association, ruling out the likelihood of a random occurrence.

The mean scores and standard deviations indicate that respondents generally perceive eco-tourism infrastructure development and socio-economic growth in a relatively consistent manner. However, some variability in responses suggests differences in individual experiences or localized factors affecting tourism development.

These results align with global literature on the economic impact of tourism. As the World Tourism Organization (UNWTO, 2022) emphasizes, tourism plays a crucial role in fostering economic growth through employment creation, revenue generation, and infrastructure improvements. However, structural challenges, including inadequate infrastructure and weak policy implementation, can limit these benefits (Harrison, 2003).

The findings also resonate with previous research in the Nigerian context. Okonkwo and Odey (2018) identified poor infrastructure—such as inadequate road networks and substandard accommodation facilities—as a major impediment to tourism-driven economic growth in Cross River State. Similarly, Popoola and Adeleke (2020) noted that despite the state's rich eco-tourism potential, the lack of government support and weak infrastructure have constrained its contribution to socio-economic development.

Given the strong relationship identified in this study, policy implications emerge. There is a need for targeted investments in eco-tourism infrastructure, including improved transportation networks, quality accommodation, and enhanced tourism services. Additionally, government policies should prioritize eco-tourism as a key sector for economic diversification and sustainable development.

H_{O2}

The finding of hypothesis two suggests that while tourist arrivals contribute to socio-economic growth in Cross River State, the relationship is relatively weak ($r = 0.264$). The positive but low correlation indicates that an increase in tourist numbers is associated with some economic benefits, but other factors—such as infrastructure development, policy implementation, and tourism service quality—likely play a more substantial role in driving economic growth. The statistical significance ($p = .000$) confirms that the observed relationship is not due to chance, reinforcing the notion that tourism does have an impact, albeit a modest one.

The mean scores and standard deviations reveal that respondents' perceptions of tourist arrivals are relatively consistent, while their views on socio-economic growth show slightly greater variability. This could be due to differing regional economic conditions, varying levels of community engagement in tourism, or disparities in how tourism revenue is distributed.

The results align with existing literature. Du, Lew, and Ng (2016) highlight that increased tourist arrivals can stimulate local economies by creating jobs, expanding businesses, and generating income. However, Eyisi, Lee, and Trees (2021) caution that the absence of effective policies, environmental sustainability measures, and active community participation can limit tourism's economic impact. This could explain the weak correlation observed in Cross River State, where challenges such as inadequate tourism infrastructure, seasonal fluctuations in tourist numbers, and weak institutional support may be restricting tourism's full economic potential.

Given these findings, policy interventions are needed to strengthen the impact of tourism on socio-economic growth. Efforts should focus on enhancing tourism infrastructure, improving destination marketing, and implementing policies that encourage longer tourist stays and higher spending. Additionally, fostering community participation in tourism development can help ensure that economic benefits are more widely distributed.

Conclusion

The study findings reveal a weak but statistically significant positive relationship between tourist arrivals and socio-economic growth in Cross River State, Nigeria. While increased tourist arrivals contribute to economic development by stimulating local businesses, employment, and government revenue, the relatively low correlation suggests that other factors—such as infrastructure development, effective tourism policies, and community engagement—play a more substantial role in driving socio-economic growth. These findings underscore the need for a more holistic approach to tourism development to maximize its economic benefits.

Recommendations

Enhancing Tourism Infrastructure: The government and private sector should invest in improving road networks, accommodation facilities, and tourism services to attract more visitors and enhance their experience.

Strengthening Tourism Policies: Clear and effective policies should be implemented to promote sustainable tourism development, including incentives for local businesses and regulations to ensure environmental conservation.

Improving Destination Marketing: Strategic marketing campaigns, both locally and internationally, should be developed to increase tourist arrivals and extend visitor stays.

Encouraging Community Participation: Local communities should be actively involved in tourism planning and management to ensure equitable distribution of economic benefits and long-term sustainability.

Diversifying Tourism Offerings: Expanding tourism beyond eco-tourism to include cultural tourism, adventure tourism, and heritage tourism can attract a broader range of visitors and enhance economic contributions.

Implementing these recommendations can help strengthen the link between tourist arrivals and socio-economic growth, ensuring that Cross River State fully harnesses the potential of its tourism sector for sustainable development.

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