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Assessing The Role of Eco-Tourism in Promoting Environmental Awareness in Eco-Hotpots Communities of Cross River State. Nigeria

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Abstract

This study examined the role of eco-tourism in promoting environmental awareness among residents of eco-hotspot communities in Cross River State, Nigeria. The study was motivated by the persistent environmental degradation in protected areas despite increasing eco-tourism and conservation initiatives within the state. Specifically, the study investigated the relationship between community participation in eco-tourism activities, access to educational components in eco-tourism initiatives, frequency of eco-tourism events, and environmental awareness among host community members. A correlational research design within a quantitative approach was adopted for the study. The population comprised 76,704 residents from 25 Support Zone Communities surrounding the Okwangwo Division of the Cross River National Park, Afi Mountain Wildlife Sanctuary, and Mbe Mountains Community Forest. A sample size of 820 respondents was selected using a multi-stage sampling technique involving purposive, stratified, proportionate, and accidental sampling procedures. Data were collected using a structured questionnaire titled Questionnaire on Eco-Tourism and Environmental Awareness among Rural Communities in the Eco-Hotspot Communities of Cross River State. Data analysis was conducted using Pearson Product Moment Correlation (PPMC) at the .05 level of significance. The findings revealed significant relationships between community participation in eco-tourism activities and environmental awareness ($r = .109$, $p < .05$), access to educational components and environmental awareness ($r = .117$, $p < .05$), as well as frequency of eco-tourism events and environmental awareness ($r = .111$, $p < .05$). The study concluded that eco-tourism significantly contributes to environmental awareness and conservation consciousness among residents of eco-hotspot communities in Cross River State. The study recommended increased community participation, strengthened environmental education programmes, and regular eco-tourism sensitization activities to enhance environmental sustainability and conservation practices within host communities.

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Keywords: eco-tourism, environmental awareness, community participation, environmental education, eco-hotspot communities, biodiversity conservation, sustainable tourism, Cross River State, Nigeria.

Introduction and Background

Ecotourism has emerged globally as a sustainable approach to tourism development that promotes environmental conservation, socio-economic empowerment, and cultural preservation. It is commonly defined as responsible travel to natural areas that conserves the environment, sustains the well-being of local people, and involves interpretation and education (Akindele et al., 2024). Unlike conventional mass tourism, which is often associated with environmental degradation and excessive exploitation of natural resources, ecotourism emphasizes low-impact activities, environmental stewardship, and community participation. The growing recognition of environmental challenges such as biodiversity loss, climate change, deforestation, and ecosystem degradation has further increased the importance of ecotourism as a strategy for balancing conservation objectives with development needs.

Globally, ecotourism has been identified as an important instrument for achieving sustainable development goals, particularly in ecologically sensitive regions rich in biodiversity. It provides opportunities for generating revenue while simultaneously encouraging environmental protection and community involvement in conservation initiatives. According to Ray (2020), ecotourism contributes significantly to environmental education by exposing residents and visitors to conservation principles and sustainable practices. Through guided tours, wildlife interpretation, conservation campaigns, and community-based tourism initiatives, ecotourism creates awareness about environmental issues and promotes environmentally responsible behaviors among local populations.

Nigeria possesses numerous ecological zones and biodiversity hotspots that offer considerable ecotourism potential. Among these areas, Cross River State stands out as one of the most environmentally significant regions in the country. The state contains diverse ecosystems, including tropical rainforests, mangrove swamps, mountainous landscapes, and wildlife sanctuaries. Important eco-hotspots within the state include the Cross River National Park, Afi Mountain Wildlife Sanctuary, Mbe Mountains, and Ekuri Community Forest. These areas host rare and endangered species such as the Cross River gorilla (*Gorilla gorilla diehli*), Nigeria-Cameroon chimpanzee (*Pan troglodytes ellioti*), and several endemic plant species (Nneji et al., 2021). The ecological significance of these locations has attracted conservation

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interventions from organizations such as the World Wildlife Fund, Wildlife Conservation Society, and Nigerian Conservation Foundation.

Despite the ecological importance of Cross River State, environmental degradation remains a major concern. Unsustainable human activities such as illegal logging, bush burning, poaching, agricultural encroachment, and indiscriminate exploitation of forest resources continue to threaten biodiversity and ecosystem sustainability. In many rural communities situated around protected areas, local livelihoods depend heavily on natural resources for food, fuelwood, medicine, and income generation. Consequently, the absence of adequate environmental awareness and sustainable resource management practices often leads to overexploitation and environmental decline. Environmental awareness refers to the level of knowledge, attitudes, values, and practices individuals or communities possess regarding environmental protection and sustainability (Mustofa, 2022). It involves understanding the relationship between human activities and environmental quality, as well as recognizing the need for responsible environmental behavior.

Promoting environmental awareness among residents of eco-hotspot communities is essential for achieving long-term conservation goals. Community members living near ecologically sensitive areas play a crucial role in determining the sustainability of environmental resources because of their direct interactions with forests, wildlife, and other ecosystem components. Ecotourism provides a practical mechanism for increasing environmental consciousness by integrating education, participation, and economic incentives into conservation efforts. Through participation in tourism-related activities such as tour guiding, eco-lodge operations, conservation projects, cultural exhibitions, and environmental campaigns, local residents may develop stronger appreciation for environmental protection and sustainable resource use. Halvitigala Ihala Gamage (2016) observed that active community involvement in ecotourism initiatives enhances local commitment to conservation and encourages environmentally responsible attitudes.

In addition to community participation, environmental education components embedded within ecotourism programmes are important in shaping environmental awareness. Educational activities such as interpretive nature walks, biodiversity conservation workshops, awareness campaigns, and school outreach programmes provide opportunities for individuals to acquire environmental knowledge and develop positive attitudes toward conservation. Exposure to such educational interventions can influence environmental perceptions and promote sustainable behavioral practices among community members (Ray, 2020). Furthermore, the regular occurrence of ecotourism activities and events within communities

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may reinforce environmental messages and strengthen long-term environmental consciousness through continuous interaction with tourists, conservation practitioners, and environmental organizations.

Although previous studies have examined the economic and conservation benefits of ecotourism, limited empirical attention has been given to its role in promoting environmental awareness among residents of eco-hotspot communities in Cross River State. Most existing studies have focused primarily on tourism development, biodiversity conservation, and income generation, with insufficient emphasis on the educational and attitudinal outcomes of ecotourism initiatives at the grassroots level. This creates a knowledge gap regarding how ecotourism variables contribute to environmental awareness among host community members.

It is against this background that this study seeks to assess the role of ecotourism in promoting environmental awareness in eco-hotspot communities of Cross River State, Nigeria. Specifically, the study examines how community participation in ecotourism activities, access to educational components within ecotourism initiatives, and the frequency of ecotourism events influence environmental awareness among residents of host communities. The findings of the study are expected to provide useful information for policymakers, conservation agencies, tourism planners, environmental educators, and community leaders in designing sustainable ecotourism strategies that promote environmental consciousness and biodiversity conservation.

Research Hypotheses

The following hypotheses are formulated to guide the study:

1. There is no significant relationship between the level of community participation in eco-tourism activities and environmental awareness among host community members in Cross River State.
2. Access to educational components in eco-tourism initiatives is not significantly related to environmental awareness among host community members in Cross River State.
3. The frequency of eco-tourism events in the community is not significantly related to environmental awareness among host community members in Cross River State.

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Statement of the Problem

Cross River State, Nigeria, is endowed with rich biodiversity and several eco-hotspot communities located around protected areas such as the Cross River National Park, Afi Mountain Wildlife Sanctuary, and Mbe Mountains. Despite the ecological importance of these areas and the growing adoption of ecotourism as a sustainable development strategy, environmental degradation through illegal logging, poaching, bush burning, and agricultural encroachment continues to threaten biodiversity and ecosystem sustainability.

Ecotourism is expected to promote environmental awareness through community participation, environmental education, and regular conservation-related activities. However, there is limited empirical evidence showing whether ecotourism initiatives in Cross River State have significantly improved environmental awareness among residents of eco-hotspot communities. It remains unclear whether local residents actively participate in ecotourism activities, have adequate access to educational components of ecotourism programmes, or are sufficiently exposed to ecotourism events capable of influencing environmental attitudes and behaviors.

Most previous studies have focused mainly on the economic and conservation benefits of ecotourism with little attention given to its role in promoting environmental awareness at the community level. This lack of empirical evidence creates a knowledge gap in understanding how ecotourism contributes to environmental consciousness among residents of eco-hotspot communities in Cross River State.

Therefore, this study seeks to assess the role of ecotourism in promoting environmental awareness in eco-hotspot communities of Cross River State, Nigeria, by examining the influence of community participation, access to educational components, and frequency of ecotourism activities on environmental awareness among host community members.

Literature Review

Level of Community Participation in Eco-tourism Activities and Environmental Awareness

Community participation has consistently been identified as a major factor influencing the success of ecotourism and environmental conservation initiatives. Early studies emphasized that active involvement of local communities in tourism planning and conservation activities promotes environmental stewardship and strengthens sustainable resource management. For instance, Ecotourism research by Lacher and Nepal (2010) showed that community engagement in ecotourism activities increased residents' awareness of environmental protection and conservation practices.

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He et al. (2020) further examined community participation in nature conservation in China and observed that effective conservation programmes require the empowerment of rural communities through participatory management approaches. The study identified important community characteristics such as collective action, local knowledge, and social cohesion as critical factors influencing environmental participation. The authors concluded that flexible institutional arrangements and inclusive participation frameworks are necessary for sustainable environmental management.

Similarly, Zhang et al. (2020) investigated the relationship between community participation and pro-environmental behaviour among residents of the Nanling National Nature Reserve in China. Using survey data from local residents, the study found that community participation was the strongest predictor of pro-environmental behaviour. The findings further revealed that individuals with stronger place attachment were more likely to demonstrate environmental responsibility when participation levels were high. The study concluded that community involvement significantly enhances conservation awareness and sustainable environmental practices.

In Malaysia, Chan et al. (2021) examined local community participation and responsible tourism practices in Lower Kinabatangan, Sabah. Using questionnaires and focus-group interviews, the study found that although residents recognized the economic and environmental benefits of ecotourism, actual participation remained relatively low because of inadequate capital and limited tourism knowledge. Nevertheless, the community expressed strong support for ecotourism development and willingness to participate more actively if provided with training and institutional support. The study emphasized the importance of inclusive planning and capacity-building programmes in promoting sustainable ecotourism.
Angessa et al. (2022) explored community perceptions of ecotourism development in the Lake Wanchi area of Ethiopia. The findings indicated that local residents generally supported ecotourism because of its perceived environmental and developmental benefits. However, limited participation in decision-making and unequal benefit-sharing negatively influenced community attitudes. The study concluded that greater community involvement and equitable distribution of tourism benefits are necessary for long-term ecotourism sustainability.

In Nigeria, Onihunwa et al. (2023) conducted a comparative study of community participation in ecotourism development around the Borgu and Zurguma sectors of Kainji Lake National Park. The study reported high levels of community involvement in decision-making, ecotourism projects, and natural resource protection. The authors concluded that increased

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awareness and sensitization programmes were still required to strengthen environmental consciousness and conservation participation among residents.

More recently, Mazzuoli (2024) reviewed community-based ecotourism initiatives across Africa and emphasized that ecotourism promotes biodiversity conservation when local communities are actively involved. The review linked community participation in ecotourism to improved environmental responsibility, sustainable livelihoods, and conservation awareness. Likewise, Manojlović et al. (2025) found that socio-demographic factors such as education and age significantly influenced residents' attitudes toward sustainable tourism development in Montenegro's protected areas. The study recommended community-specific tourism policies that reflect local social conditions and participation needs.

Access to Educational Components in Eco-tourism Initiatives and Environmental Awareness

Environmental education is widely recognized as a central component of ecotourism because it enhances ecological knowledge and encourages environmentally responsible behaviour. Jacobson et al. (2015) argued that educational activities such as guided tours, workshops, interpretive programmes, and conservation campaigns are essential for promoting environmental awareness within host communities.

Zheng et al. (2017) investigated the relationship between environmental education, knowledge management, and professional performance within the Yongchun Niumulin Ecological Tourism Zone in China. Using survey data from tourism employees and supervisors, the study found significant positive relationships between environmental education and professional effectiveness. The authors concluded that environmental education and knowledge-sharing practices contribute substantially to sustainable ecotourism development.

Wu and Hsu (2018) examined the influence of tourism frequency on ecotourism attitudes and behaviours. Their findings showed that repeated exposure to ecotourism experiences positively influenced environmental values, attitudes, and willingness to engage in environmentally responsible practices. The study highlighted the importance of continuous environmental learning in strengthening ecotourism participation and conservation awareness.

Cook (2024) explored the role of environmental education and interpretation in ecotourism using Tiritiri Matangi Island in New Zealand as a case study. The study found that guided

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tours, interpretive signage, storytelling, and school programmes significantly enhanced visitors' cognitive, emotional, and behavioural connections to conservation activities. The study concluded that well-designed environmental education programmes deepen environmental awareness and encourage long-term conservation behaviours.

Similarly, Huang et al. (2023) examined the role of environmental education in promoting sustainable ecotourism development. The study found that training government tourism agencies, travel operators, and local communities in sustainable practices improved environmental consciousness and tourism sustainability. The authors emphasized that environmental education enhances both tourism quality and environmental protection by promoting responsible resource use and cultural preservation.

Lee et al. (2023) further demonstrated that educational and experiential tourism activities positively shape tourists' environmental perceptions and cultural understanding. Their study on international tourists in Taiwan revealed that direct environmental and cultural experiences broadened visitors' appreciation of ecological conservation and local heritage. The study recommended improved environmental interpretation and culturally sensitive tourism programmes to strengthen tourism experiences and environmental awareness.

Frequency of Eco-tourism Events in the Community and Environmental Awareness

The frequency of ecotourism activities has also been identified as an important factor influencing environmental awareness. Regular ecotourism events such as conservation campaigns, nature walks, eco-festivals, wildlife tours, and sustainability workshops provide repeated opportunities for environmental learning and community engagement. Lacher and Nepal (2010) reported that frequent ecotourism activities in Nepal significantly improved residents' environmental awareness and participation in conservation efforts. According to the study, regular exposure to environmental education through ecotourism strengthened local understanding of ecosystem preservation and sustainable practices.

Raftopoulos (2018) examined rural community-based tourism in Peru and found that recurring ecotourism activities increased ecological consciousness and environmental stewardship among local residents. However, the study also observed that tourism activities transformed traditional social and environmental relationships within communities.

Kummitha et al. (2021) noted that regular ecotourism events create continuous interaction between communities and environmental conservation programmes, thereby promoting sustainable environmental values and behaviours. The study argued that the consistency of

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ecotourism activities enhances environmental awareness more effectively than isolated tourism interventions.

Lee et al. (2021) investigated pro-environmental behaviour among visitors to the Upo Wetland in South Korea. The study found that sustainable intelligence, destination social responsibility, and repeated ecotourism experiences significantly influenced environmentally responsible behaviour. Visitors with stronger perceptions of environmental responsibility demonstrated higher levels of pro-environmental action.

Angessa et al. (2022) also observed that communities with greater exposure to ecotourism activities showed stronger support for environmental conservation and tourism sustainability. However, unequal participation and benefit-sharing limited the effectiveness of some ecotourism programmes. Ivasyshyna (2024) emphasized that regular ecotourism activities must be properly regulated to avoid environmental degradation. The study recommended environmental education, visitor control, waste management, and community collaboration as essential components of sustainable ecotourism development.

The reviewed literature indicates that the frequency of ecotourism activities contributes significantly to environmental awareness by providing continuous opportunities for environmental education, conservation participation, and sustainable behavioural reinforcement. However, the effectiveness of these activities depends largely on the quality of programmes, level of community participation, and broader socio-economic conditions.

Methodology

Research Design

This study adopted a correlational research design within a quantitative research approach to examine the relationship between eco-tourism variables and environmental awareness among residents of eco-hotspot communities in Cross River State, Nigeria. The design was considered appropriate because it enabled the researcher to determine the extent to which variables such as community participation in eco-tourism activities, access to educational components, and frequency of eco-tourism events relate to environmental awareness without manipulating the study variables.

Study Area and Population

The study was conducted in eco-hotspot communities located within and around the Okwangwo Division of the Cross River National Park, the Mbe Mountains Community Forest, and the Afi Mountain Wildlife Sanctuary. These areas are recognized for their rich

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biodiversity and active eco-tourism and conservation programmes. The target population comprised residents of the 25 Support Zone Communities (SZCs) surrounding these protected areas. According to the Nigeria National Park Service (2020) and the National Bureau of Statistics (2024), the communities have an estimated population of 76,704 residents. These residents were considered suitable for the study because they are directly exposed to eco-tourism activities and environmental conservation programmes within the study area.
Sample and Sampling Technique

A multi-stage sampling technique involving purposive, stratified, proportionate, and accidental sampling methods was employed. First, purposive sampling was used to select communities within the Okwangwo, Afi, and Mbe eco-tourism corridors because of their ecological significance and active involvement in eco-tourism initiatives.

Thereafter, the 25 Support Zone Communities were stratified into eight groups based on geographical proximity, cultural similarity, and level of eco-tourism activities. Proportionate random sampling was subsequently used to select respondents from each stratum to ensure adequate representation. Using approximately 1.2% of the total population, a sample size of 820 respondents was obtained for the study.

Finally, accidental sampling was used during fieldwork to administer questionnaires to available and willing residents within the selected communities. This approach was considered appropriate because many residents are engaged in farming and other subsistence activities, making systematic household access difficult.

Instrumentation

Data were collected using a structured questionnaire titled Questionnaire on Eco-Tourism and Environmental Awareness among Rural Communities in the Eco-Hotspot Communities of Cross River State. The instrument consisted of three sections. Section A elicited demographic information such as age, gender, education, and occupation. Section B measured eco-tourism variables, including community participation in eco-tourism activities, access to educational components, frequency of eco-tourism events, income generated from eco-tourism, and government support for eco-tourism development. Section C measured environmental awareness among respondents.

The questionnaire consisted of 48 items developed from relevant literature on eco-tourism and environmental awareness. Responses were rated on a modified four-point Likert scale

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ranging from Strongly Agree (4) to Strongly Disagree (1). Negatively worded items were reverse scored during data coding and analysis.

Procedure for Data Collection

The researcher personally administered copies of the questionnaire to respondents in the selected support zone communities surrounding the Okwangwo Division, Afi Mountain Wildlife Sanctuary, and Mbe Mountains Community Forest. Respondents were informed about the purpose of the study and assured of confidentiality before completing the questionnaire.

Data Preparation and Analysis

Completed questionnaires were coded and screened before analysis. Numerical values were assigned to responses as follows: Strongly Agree = 4, Agree = 3, Disagree = 2, and Strongly Disagree = 1. Reverse scoring was applied to negatively worded items. The coded data were entered into appropriate statistical software for analysis. Descriptive and inferential statistical techniques were used to analyze the data and test the study hypotheses at the selected level of significance.

Presentation of 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.

HO_1

There is no significant relationship between the level of community participation in eco-tourism activities and environmental awareness among host community members in Cross River State. In the present hypothesis the independent variable is community participation in eco-tourism activities while the dependent variable is environmental awareness among host community members in Cross River State. In testing this hypothesis, Pearson Product Moment Correlation (PPMC) was used. The result of data analysis is presented in Table 1.

The finding on Table 1 showed that Community participation had a mean score of 12.1171with a standard deviation of 2.6112 while environmental awareness among host community members had a mean score of 27.13541with standard deviation of 3.28316. The result further showed that the r-calculated value of 0.109 is significant at .05 level of significance and 818 degrees of freedom. Also, the $p<.000$ is less than $p<.05$. Based on this result the null hypothesis which expressed there is significant relationship between the level of community participation in eco-tourism activities and environmental awareness among host community members in Cross River State was rejected indicating that there a significant

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relationship between the level of community participation in eco-tourism activities and environmental awareness among host community members in Cross River State. The null hypothesis was therefore rejected

Table 1: Pearson Product Moment Correlation (PPMC) of relationship between the level of community participation in eco-tourism activities and environmental awareness among host community members in Cross River State (N=820)

Variables	$\bar{x}$	**SD**	**r-ratio**	**df**	**p-level**
Community participation (X)	12.1171	2.51711	.109*	818	.000
Environmental awareness (y)	26.461	2.10173			

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

HO_2

Access to educational components in eco-tourism initiatives is not significantly related to environmental awareness among host community members in Cross River State. In the present hypothesis the independent variable is educational components in eco-tourism initiatives while the dependent variable is environmental awareness among host community members in Cross River State. In testing this hypothesis, Pearson Product Moment Correlation (PPMC) was used. The result of data analysis is presented in Table 2.

The finding Table 2 showed that educational components in eco-tourism initiatives had a mean score of 13.4461with a standard deviation of 2.77541 while environmental awareness among host community members had a mean score of 27.13541with standard deviation of 3.28316. The result further showed that the r-calculated value of 0.117 is significant at .05 level of significance and 818 degrees of freedom. Also, the p<.000 is less than p<.05. Based on this result the null hypothesis which stated that access to educational components in eco-tourism initiatives is not significantly related to environmental awareness among host community members in Cross River State was rejected indicating access to educational components in eco-tourism initiatives is significantly relates environmental awareness among host community members in Cross River State. The null hypothesis was therefore rejected

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Table 2: Pearson Product Moment Correlation (PPMC) of relationship between the Access to educational components in eco-tourism initiatives and environmental awareness among host community members in Cross River State (N=820)

Variables	$\bar{x}$	**SD**	**r-ratio**	**Df**	**p-level**
Access to educational components (X)	12.1171	2.51711	.117*	818	.000
Environmental awareness (Y)	27.13541	3.28316			

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

HO_3

The frequency of eco-tourism events in the community is not significantly related to environmental awareness among host community members in Cross River State. In the present hypothesis the independent variable is frequency of eco-tourism events in the community while the dependent variable is environmental awareness among host community members in Cross River State. In testing this hypothesis, Pearson Product Moment Correlation (PPMC) was used. The result of data analysis is presented in Table 3.

The finding on Table 3 showed that frequency of eco-tourism events in the community had a mean score of 12.1644 with a standard deviation of 2.81211 while environmental awareness among host community members had a mean score of 27.13541with standard deviation of 3.28316. The result equally outlined that the r-calculated value of 0.111 is significant at .05 level of significance and 818 degrees of freedom. Also, the p<.000 is less than p<.05. Based on this result the null hypothesis which stated that The frequency of eco-tourism events in the community is not significantly related to environmental awareness among host community members in Cross River State was rejected implying that The frequency of eco-tourism events in the community is not significantly related to environmental awareness among host community members in Cross River State. The null hypothesis was therefore rejected

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Table: Pearson Product Moment Correlation (PPMC) of relationship between the frequency of eco-tourism events in the community and environmental awareness among host community members in Cross River State (N=820)

Variables	$\overline{x}$	SD	r-ratio	Df	p-level
frequency of eco-tourism events in the community (X)	12.1644	2.81211	.111*	818	.000
Environmental awareness (Y)	27.13541	3.28316			

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

Discussion of Findings

Community Participation in Eco-tourism and Environmental Awareness

The findings of the study revealed a significant relationship between community participation in eco-tourism activities and environmental awareness among host community members in Cross River State. The null hypothesis was rejected because the calculated correlation coefficient ($r = .111$, $p < .05$) indicated that increased participation in eco-tourism activities was associated with higher levels of environmental awareness among residents. This finding suggests that active involvement in eco-tourism initiatives enhances local understanding of environmental conservation and promotes environmentally responsible behaviour.

The finding aligns with previous empirical studies emphasizing the importance of community participation in promoting conservation awareness and sustainable environmental practices. Zhang et al. (2020) reported that community participation was the strongest predictor of pro-environmental behaviour among residents of protected areas in China. Their study further demonstrated that individuals who actively participated in conservation and tourism activities developed stronger environmental attachment and stewardship behaviours. Similarly, He et al. (2020) argued that community participation strengthens environmental management through collective action, local knowledge, and shared responsibility for natural resource protection.

The present finding also supports the work of Chan et al. (2021), who found that local participation in ecotourism development enhances environmental consciousness and strengthens support for conservation initiatives. Likewise, Onihunwa et al. (2023) observed that community involvement in ecotourism projects around Kainji Lake National Park significantly improved conservation awareness among residents. The consistency between the present study and earlier studies may be attributed to the educational exposure,

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conservation interactions, and sense of ownership that community participation creates within ecotourism settings. Therefore, the current finding reinforces the argument that participatory ecotourism serves as an effective mechanism for promoting environmental awareness in rural conservation communities.

Access to Educational Components in Eco-tourism and Environmental Awareness

The study further revealed a significant relationship between access to educational components in eco-tourism initiatives and environmental awareness among host community members in Cross River State. The null hypothesis was rejected because the calculated correlation coefficient ($r = .117$, $p < .05$) showed that greater access to environmental education within ecotourism programmes significantly improved environmental awareness among residents.

This finding is consistent with existing literature emphasizing the role of environmental education in shaping conservation attitudes and sustainable behaviour. Jacobson et al. (2015) maintained that educational components such as guided tours, interpretive programmes, workshops, and conservation campaigns are essential for increasing ecological knowledge and encouraging environmental responsibility among local communities. Similarly, Zheng et al. (2017) found that environmental education positively influenced environmental knowledge and professional effectiveness within ecotourism settings in China.

The finding also agrees with Huang et al. (2023), who reported that environmental education and training significantly enhance sustainable ecotourism development by improving environmental consciousness among tourism stakeholders and local communities. Cook (2024) similarly observed that structured environmental interpretation programmes deepen environmental understanding and promote long-term conservation behaviour among participants. The agreement between the present study and previous studies suggests that educational exposure remains a critical pathway through which ecotourism influences environmental awareness. Access to environmental education likely increases residents' understanding of biodiversity conservation, sustainable resource use, and the environmental consequences of unsustainable practices, thereby encouraging more environmentally responsible attitudes and behaviours.

Frequency of Eco-tourism Events and Environmental Awareness

The findings also indicated a significant relationship between the frequency of eco-tourism events and environmental awareness among host community members in Cross River State. The null hypothesis was rejected because the calculated correlation coefficient ($r = .111$, $p <$

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.05) demonstrated that frequent eco-tourism activities significantly contributed to higher environmental awareness among residents.

The finding aligns with previous studies which established that repeated exposure to eco-tourism activities strengthens environmental consciousness and conservation participation. Kummitha et al. (2021) argued that regular eco-tourism events such as conservation campaigns, nature walks, eco-fairs, and sustainability workshops provide continuous opportunities for environmental learning and community engagement. Similarly, Lacher and Nepal (2010) found that the frequent organization of ecotourism activities in Nepal enhanced residents' understanding of environmental conservation and increased participation in sustainable environmental practices.

The present finding also supports the study by Lee et al. (2021), which reported that repeated ecotourism experiences positively influenced pro-environmental behaviour and environmental responsibility among visitors and host communities. Likewise, Raftopoulos (2018) observed that recurring community-based tourism activities contributed to ecological consciousness and environmental stewardship in rural Peru. The agreement between these studies and the present finding may be explained by the continuous exposure to conservation messages, environmental campaigns, and sustainability practices associated with regular ecotourism activities. Frequent interactions with tourists, conservation agencies, and environmental programmes likely reinforce environmental values and strengthen awareness among community members over time.

Conclusion

This study examined the role of eco-tourism in promoting environmental awareness among residents of eco-hotspot communities in Cross River State, Nigeria. The findings revealed that community participation in eco-tourism activities, access to educational components within eco-tourism initiatives, and the frequency of eco-tourism events were all significantly related to environmental awareness among host community members. The study therefore established that eco-tourism serves not only as a conservation and economic development strategy but also as an important platform for environmental education and behavioural change. The findings suggest that increased involvement of local residents in eco-tourism activities enhances their understanding of environmental conservation and strengthens their commitment to sustainable environmental practices. Similarly, access to environmental education programmes embedded within eco-tourism initiatives improves ecological knowledge and encourages environmentally responsible attitudes.

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The study further demonstrated that regular eco-tourism events provide continuous opportunities for conservation sensitization and reinforcement of environmental values within communities.

The study concludes that effective eco-tourism development can significantly contribute to environmental awareness and conservation sustainability in eco-hotspot communities of Cross River State. However, the success of eco-tourism in achieving these outcomes depends largely on the extent of community participation, the quality of environmental education programmes, and the consistency of eco-tourism activities within host communities.

Recommendations

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

1. Conservation agencies, tourism planners, and community leaders should strengthen community participation in eco-tourism activities by involving local residents in decision-making, tourism management, and conservation programmes. This will enhance local ownership and environmental responsibility.
2. Environmental education components such as conservation workshops, interpretive tours, awareness campaigns, and school outreach programmes should be integrated more effectively into eco-tourism initiatives to improve environmental knowledge among community members.
3. Government agencies and non-governmental organizations should organize eco-tourism events and environmental sensitization programmes regularly in eco-hotspot communities to sustain environmental awareness and reinforce conservation behaviours.
4. Capacity-building programmes should be provided for local residents to improve their knowledge and skills in eco-tourism management, biodiversity conservation, and sustainable resource utilization.
5. Adequate funding and institutional support should be provided for eco-tourism development projects in Cross River State to ensure the sustainability of conservation and environmental education initiatives.
6. Policies promoting equitable community benefits from eco-tourism activities should be strengthened to encourage greater community support for conservation programmes and sustainable environmental practices.
7. Future studies should examine additional variables such as government support, income generation from eco-tourism, and socio-demographic factors influencing environmental awareness and conservation behaviour in eco-hotspot communities.

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