
Climate Change Awareness and Sustainable Tourism Development in Rural Communities: A Moderated-Mediation Model from Nigeria

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Abstract: *Rural tourism destinations are increasingly vulnerable to climate change, yet limited empirical research explains how community-level climate awareness translates into sustainable tourism development outcomes. Drawing on Sustainable Development Theory, Stakeholder Theory, Community-Based Tourism Theory, and the Theory of Planned Behaviour, this study develops and tests a moderated mediation model linking climate change awareness to sustainable tourism development through environmental attitudes, with government support as a moderator. Using survey data from 368 rural tourism stakeholders in Nigeria and Partial Least Squares Structural Equation Modelling (PLS-SEM), results indicate that climate change awareness significantly predicts sustainable tourism development. Environmental attitude partially mediates this relationship, while government support strengthens the awareness–sustainability link. The model explains 46% of the variance in sustainable tourism development. The study advances climate-resilient tourism theory by integrating cognitive, psychological, and institutional dimensions and offers actionable policy implications for rural destinations in emerging economies.*

Keywords: Climate change awareness, rural tourism, environmental attitude, government support, sustainable tourism development, PLS-SEM, Nigeria

INTRODUCTION

Climate change has emerged as one of the most significant global environmental, social, and economic challenges of the 21st century. Rising temperatures, sea-level changes, altered precipitation patterns, and increased incidence of extreme weather events are reshaping ecosystems and human systems worldwide (Massay, Kaswamila, & Peter, 2025). The tourism

sector, which relies heavily on natural and cultural resources, is particularly sensitive to these climatic shifts (Dube & Ezech, 2025). While urban destinations receive substantial research attention, rural tourism communities which often host nature-based, agro-tourism, and cultural heritage attractions are disproportionately vulnerable due to limited infrastructure, weak adaptive capacity, and high dependence on climate-sensitive resources (Nzereogu & Baizan, 2025; Osuagwu, 2025).

In many developing economies, including Nigeria, rural areas contribute significantly to domestic tourism yet remain under-researched in climate change tourism studies. These communities face frequent climate hazards such as flooding, drought, soil erosion, coastal degradation, and biodiversity loss (Massay et al., 2025). Such impacts not only threaten the aesthetic and ecological value of rural tourism attractions but also jeopardize local livelihoods, many of which are intricately linked to tourism and agriculture (Nzomo, Kipkosgei, & Muthengi, 2025). Furthermore, rural households that depend on tourism revenue often lack access to climate information, adaptation resources, and institutional support, compounding their vulnerability (Osuagwu, 2025). Despite growing global policy discourse on climate adaptation under frameworks like the United Nations Framework Convention on Climate Change (UNFCCC) and Sustainable Development Goal (SDG) 13 (Climate Action), community-level translation of climate awareness into sustainable tourism outcomes remains weak and uneven (Massay et al., 2025). This is particularly concerning given that tourism planning and destination resilience require not only technical adaptation strategies but also community awareness, environmental attitudes, and supportive governance mechanisms (Jameel, Hussain, Kanwel, & Guo, 2025; Kar, Wahome, & Njogu, 2025). A growing body of research shows that climate awareness can shape local environmental attitudes and influence sustainable behavioural intentions (Yunindyawati, Arianti, Taqwa, & Rinto, 2024). However, awareness alone may not automatically translate into sustainable practices without supportive institutional frameworks and stakeholder engagement (Jameel et al., 2025). Studies also suggest that government support, through funding, technical assistance, infrastructure, and policy incentives are crucial determinants of rural communities' capacity to adapt and innovate (Massay et al., 2025). Despite the recognised vulnerability of rural tourism destinations to climate change, there is a paucity of empirical evidence explaining how awareness of climate change among rural community stakeholders actually translates into sustainable tourism development outcomes, especially in the context of emerging economies like Nigeria. Existing research focuses on climate impacts in isolation without linking awareness to behavioural and developmental outcomes (Nzereogu & Baizan, 2025); emphasizes macro-level policy frameworks without examining community-level responses (Massay et al., 2025); examines environmental attitudes or adaptation strategies independently, without integrating mediating or moderating mechanisms such as institutional support (Osuagwu, 2025; Jameel et al., 2025). As a result, significant gaps persist which include: limited integration of cognitive and psychological mechanisms. While awareness has been identified as critical, few studies have empirically tested how it influences environmental attitudes that drive sustainable tourism practices, insufficient examination of institutional moderation.

In addition, the role of government support in strengthening or weakening the effects of awareness on sustainability outcomes has not been adequately investigated in rural tourism space, lack of comprehensive, theory-driven models. Previous studies often lack robust theoretical frameworks that integrate sustainable development, stakeholder engagement, and behavioural change mechanisms in a single model, and inadequate context-specific evidence for Nigeria. Therefore, the purpose of this study is to address these gaps by developing and empirically testing a moderated mediation model that explains how climate change awareness influences sustainable tourism development in rural communities, the mediating role of environmental attitude, and the moderating effect of government support.

LITERATURE REVIEW

Climate Change and Rural Tourism Vulnerability

Climate change has emerged as a critical threat to tourism systems, particularly in rural destinations that depend heavily on climate-sensitive natural and cultural resources. Across Africa, climate-related risks such as flooding, drought, biodiversity loss, and land degradation have intensified, undermining tourism infrastructure and local livelihoods (Massay et al., 2025). Rural tourism economies are especially vulnerable due to limited adaptive capacity, weak infrastructure, and high dependence on agriculture-linked and nature-based attractions. In Nigeria, climate variability has altered ecological systems and increased socio-economic instability in rural communities (Nzereogu & Baizan, 2025). These environmental disruptions reduce destination attractiveness and threaten long-term sustainability. Systematic evidence from tourism studies in Africa emphasizes that without proactive adaptation strategies, rural tourism competitiveness may decline significantly (Massay et al., 2025).

Climate Change Awareness and Community Adaptation

Climate change awareness refers to stakeholders' knowledge, perceptions, and understanding of climate risks and adaptation strategies. Awareness is widely recognized as a precursor to pro-environmental behaviour and community resilience. Empirical research indicates that rural residents' perceptions of climate change significantly influence their willingness to adopt adaptation strategies in heritage and nature-based tourism contexts (Osugwu, 2025). Community-level awareness programmes have been shown to improve understanding of mitigation and adaptation strategies, particularly in rural areas where formal climate education may be limited (Yunindyawati et al., 2024). Environmental education initiatives further strengthen tourism sustainability by fostering responsible resource management and conservation-oriented attitudes (Kar et al., 2025). These findings suggest that awareness is not merely informational but transformative, shaping behavioural and strategic responses to climate threats.

Environmental Attitude and Sustainable Tourism Practices

Environmental attitude reflects an individual's psychological disposition toward environmental protection and sustainability. Theoretical perspectives in sustainable tourism suggest that awareness enhances environmental attitudes, which in turn influence sustainable behavioural

outcomes. Studies show that environmental conservation strategies implemented at community levels significantly promote sustainable tourism development (Nzomo et al., 2025). Green spaces and natural attractions are increasingly recognized as economic drivers within sustainable tourism frameworks, contributing to local revenue generation while reinforcing environmental stewardship (Ijatuyi et al., 2025). Moreover, global ecotourism trends emphasize conservation, responsible marketing, and sustainability practices as central pillars of competitive tourism development (Dube & Ezeh, 2025). Together, these studies provide empirical justification for positioning environmental attitude as a mediating mechanism between climate awareness and sustainable tourism outcomes.

Government Support and Institutional Moderation

Institutional support plays a pivotal role in strengthening community adaptation capacity. Government interventions such as funding, training programmes, policy frameworks, and infrastructure development enhance the effectiveness of local sustainability initiatives. Moderated mediation evidence from rural tourism research demonstrates that community support systems and institutional development significantly amplify sustainable tourism outcomes (Jameel et al., 2025). In climate-sensitive rural destinations, government engagement can enhance awareness translation into concrete sustainable practices by providing financial resources, regulatory guidance, and technical expertise. This aligns with stakeholder theory, which emphasizes multi-actor collaboration in achieving sustainable development goals.

Theoretical Framework

To strengthen the analytical foundation of this study, the proposed model is anchored in four complementary theoretical perspectives: Sustainable Development Theory, Stakeholder Theory, Community-Based Tourism (CBT) Theory, and Theory of Planned Behaviour (TPB).

Sustainable Development Theory

Sustainable Development Theory emphasizes balancing environmental protection, social equity, and economic viability. Within tourism, sustainability requires safeguarding natural resources while ensuring long-term community benefits (Dube & Ezeh, 2025; Ijatuyi et al., 2025). Climate change directly threatens this balance by degrading ecological systems that rural tourism depends upon. From this perspective, climate change awareness becomes a strategic sustainability driver because it equips communities with the knowledge necessary to protect environmental assets while maintaining tourism income streams. Thus, Sustainable Development Theory explains the direct relationship between climate awareness and sustainable tourism development.

Stakeholder Theory

Stakeholder Theory posits that sustainable outcomes depend on coordinated interactions among multiple actors: local communities, government institutions, tourism operators, NGOs, and visitors. Effective sustainability initiatives require alignment of interests and collaborative governance structures (Jameel et al., 2025). In rural tourism, government support functions as a critical institutional stakeholder mechanism. Financial assistance, environmental regulation,

infrastructure provision, and climate education programmes strengthen the capacity of communities to transform awareness into sustainable action. Therefore, Stakeholder Theory justifies the moderating role of government support, explaining why awareness may produce stronger sustainability outcomes when institutional backing is high.

Community-Based Tourism (CBT) Theory

Community-Based Tourism Theory emphasizes local ownership, participation, empowerment, and benefit-sharing as foundations of sustainable rural tourism. Research indicates that community participation enhances environmental conservation efforts and resilience to climate shocks (Nzomo et al., 2025). CBT theory suggests that when communities internalize climate risks and perceive direct implications for their livelihoods, they are more likely to adopt adaptive and sustainable practices (Osugwu, 2025). However, awareness alone does not automatically translate into sustainable behaviour; it must influence internal values and attitudes. This theoretical lens supports the inclusion of environmental attitude as a mediating mechanism linking awareness to sustainable tourism development.

Theory of Planned Behaviour (TPB)

The Theory of Planned Behaviour (Ajzen, 1991) provides psychological grounding for behavioural transformation. According to TPB, knowledge influences attitudes, attitudes influence behavioural intentions, and intentions shape actual behaviour. Therefore, applying TPB to climate-resilient tourism shows that climate change awareness shapes environmental attitudes, and environmental attitudes influence sustainable tourism practices. Empirical evidence supports the role of awareness in shaping pro-environmental attitudes and behaviours (Kar et al., 2025; Yunindyawati et al., 2024). Thus, TPB explains the mediating role of environmental attitude in the proposed model.

Hypotheses Development

Climate Change Awareness and Sustainable Tourism Development

Climate change awareness reflects the degree to which rural tourism stakeholders understand climate risks, environmental degradation, and adaptation strategies. Within Sustainable Development Theory, knowledge is a foundational driver of environmentally responsible decision-making that balances ecological protection with economic continuity (Dube & Ezech, 2025; Ijatuyi et al., 2025). Empirical evidence suggests that awareness of climate threats enhances adaptive capacity and encourages sustainable management of tourism resources (Massay et al., 2025). In rural tourism contexts, informed communities are more likely to adopt climate-smart agriculture, renewable energy usage, conservation practices, and disaster preparedness measures. Awareness increases recognition of long-term environmental risks, prompting strategic adjustments in tourism planning and operations (Nzereogu & Baizan, 2025). Therefore, climate change awareness is expected to directly promote sustainable tourism development.

H1: Climate change awareness positively influences sustainable tourism development in rural communities.

Climate Change Awareness and Environmental Attitude

According to the Theory of Planned Behaviour (Ajzen, 1991), cognitive awareness shapes individual attitudes, which subsequently guide behaviour. Awareness enhances understanding of environmental risks and moral responsibility, fostering pro-environmental orientations. Research indicates that rural residents' perceptions of climate impacts significantly influence their environmental concern and adaptive responses (Osugwu, 2025). Furthermore, environmental education initiatives have been shown to strengthen sustainability-oriented attitudes within tourism communities (Kar et al., 2025; Yunindyawati et al., 2024). Thus, climate change awareness is expected to cultivate stronger environmental attitudes among rural tourism stakeholders.

H2: Climate change awareness positively influences environmental attitude.

Environmental Attitude and Sustainable Tourism Development

Environmental attitude reflects the extent to which individuals value ecological protection and sustainability. Within Community-Based Tourism Theory, positive environmental values encourage participatory conservation practices and long-term destination stewardship (Nzomo et al., 2025). Sustainable tourism development depends on behavioural commitment to waste reduction, biodiversity protection, responsible marketing, and community participation (Dube & Ezeh, 2025). Empirical findings show that pro-environmental attitudes significantly predict sustainable resource management and green tourism initiatives (Ijatuyi et al., 2025). Therefore, stakeholders with stronger environmental attitudes are more likely to support and implement sustainable tourism practices.

H3: Environmental attitude positively influences sustainable tourism development.

Mediating Role of Environmental Attitude

While awareness provides knowledge, behavioural transformation often occurs through attitudinal change. The Theory of Planned Behaviour posits that attitudes function as psychological mechanisms translating cognition into action. In climate-sensitive tourism contexts, awareness alone may not produce sustainable practices unless internalised through positive environmental attitudes. Studies show that perceptions of climate risk influence adaptation behaviours indirectly through value-based orientations (Osugwu, 2025). Similarly, environmental education enhances sustainability outcomes by shaping attitudinal commitment (Kar et al., 2025). Thus, environmental attitude is expected to mediate the relationship between climate change awareness and sustainable tourism development.

H4: Environmental attitude mediates the relationship between climate change awareness and sustainable tourism development.

Moderating Role of Government Support

Stakeholder Theory emphasizes the importance of institutional actors in shaping sustainable development outcomes. Government support through training programmes, financial incentives, regulatory frameworks, and infrastructure development enhances communities' capacity to implement climate adaptation strategies (Jameel et al., 2025). In rural tourism destinations, government intervention strengthens knowledge dissemination and provides resources necessary

for sustainable action. Without institutional backing, awareness may not translate into tangible outcomes due to financial or technical constraints (Massay et al., 2025). Therefore, government support is expected to strengthen the positive relationship between climate change awareness and sustainable tourism development.

H5: Government support positively moderates the relationship between climate change awareness and sustainable tourism development, such that the relationship is stronger when government support is high.

METHODOLOGY

A cross-sectional survey design was employed to examine the relationships among climate change awareness, environmental attitude, government support, and sustainable tourism development in rural communities. The design is appropriate for theory testing and mediation–moderation modeling in behavioural and sustainability research. The study follows a positivist paradigm, emphasizing hypothesis testing and empirical validation of theoretically grounded constructs. The research was conducted in selected rural tourism communities in Nigeria, characterized by nature-based tourism attractions, agro-tourism activities, cultural and heritage tourism resources, and exposure to climate-related risks (flooding, erosion, & drought). Communities were selected from both coastal and inland regions to enhance contextual variability and generalizability. The target population include: rural tourism operators (lodges, tour guides, & artisans), community residents involved in tourism-related activities, and local leaders and tourism board members. These stakeholders are directly engaged in tourism production and climate adaptation activities. A multi-stage sampling approach was used where climate-sensitive rural tourism communities were purposively selected and stratified random sampling was also used to ensure representation across stakeholder categories. A total of 412 questionnaires were distributed; 368 usable responses were retained after data screening. All constructs were measured using multi-item scales adapted from validated prior studies and modified to fit the rural tourism context. Climate Change Awareness (CCA) was measured using 5 items assessing knowledge of climate risks, adaptation strategies, environmental consequences, and local climate impacts. Items were adapted from climate perception and awareness studies (Osuagwu, 2025; Yunindyawati et al., 2024). Environmental Attitude (EA) was measured using 4 items capturing commitment to environmental protection, responsibility toward conservation, and willingness to adopt sustainable practices. Items were adapted from environmental education and sustainability research (Kar et al., 2025). Government Support (GS) was measured using 5 items assessing access to funding, climate training programmes, infrastructure support, and environmental regulation enforcement. Scale development was informed by stakeholder governance literature (Jameel et al., 2025). Sustainable Tourism Development (STD) was measured using 6 items reflecting on environmental sustainability, economic resilience, community participation, and long-term tourism planning. Items were adapted from sustainable tourism and conservation literature (Ijatuyi et al., 2025; Nzomo et al., 2025; Dube & Ezeh, 2025). Structural Equation Modeling (SEM) was used to test the hypothesized relationships.

DATA ANALYSIS AND RESULTS

Measurement Model Assessment

The measurement model was evaluated using reliability and validity criteria recommended for PLS-SEM.

Table 1: Reliability

Construct	Cronbach's α	Composite Reliability (CR)
Climate Change Awareness	0.88	0.91
Environmental Attitude	0.85	0.89
Government Support	0.87	0.90
Sustainable Tourism Development	0.90	0.92

All values exceeded the 0.70 threshold, confirming internal consistency reliability.

Table 2: Convergent Validity

Construct	AVE
CCA	0.67
EA	0.68
GS	0.65
STD	0.70

All AVE values exceeded 0.50, establishing convergent validity.

Factor loadings ranged between 0.72 and 0.89 and were statistically significant ($p < .001$).

Discriminant Validity

Fornell–Larcker criterion satisfied (square root of AVE exceeded inter-construct correlations). HTMT ratios ranged from 0.41 to 0.78 (< 0.85 threshold). Thus, discriminant validity was established.

Table 3: Structural Model Results

Bootstrapping (5,000 resamples) was performed to test the hypotheses.

Table 3: Direct Effects

Path	β	t-value	p-value	Decision
CCA → STD	0.32	5.41	< .001	Supported
CCA → EA	0.49	8.17	< .001	Supported
EA → STD	0.27	4.68	< .001	Supported

H1, H2, and H3 were supported.

Mediation Analysis

Table 4: Indirect Effect:

Path	B	t-value	p-value	Decision
CCA → EA → STD	0.13	3.94	< .001	Supported

95% CI [0.07, 0.19]

Since both direct and indirect effects were significant, environmental attitude partially mediates the relationship.

H4 supported (partial mediation).

Table 5: Moderation Analysis

Path	β	t-value	p-value	Decision
CCA × GS → STD	0.18	2.97	< .003	Supported

From Table 5, the interaction effect was positive and significant. Simple slope analysis indicated that the relationship between climate change awareness and sustainable tourism development is stronger when government support is high.

H5 supported.

Table 6: Model Explanatory Power

Endogenous Variable	R ²	Interpretation
Environmental Attitude	0.24	Moderate
Sustainable Tourism Development	0.46	Substantial

Table 6 shows that the model explains 46% of variance in sustainable tourism development, indicating strong predictive power for rural tourism research.

Table 7: Effect Sizes (f²)

Path	f ²	Effect Size
CCA → STD	0.15	Medium
CCA → EA	0.31	Large
EA → STD	0.11	Small–Medium
Interaction	0.07	Small

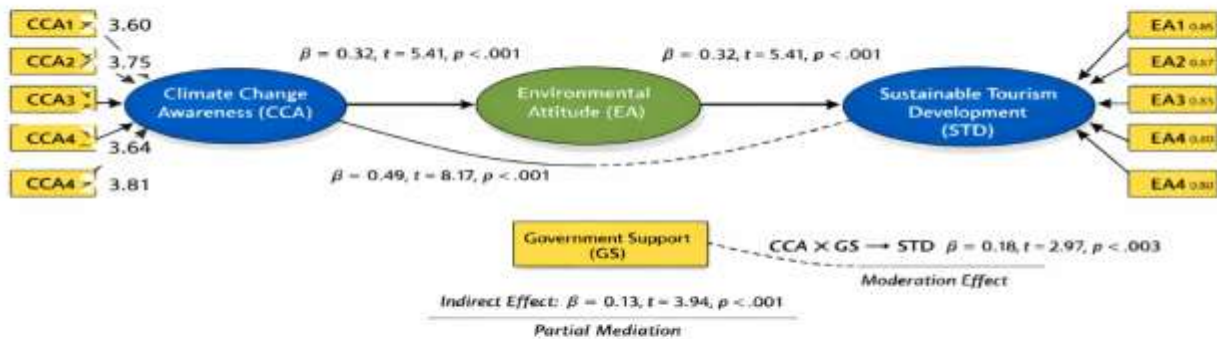


Figure 1: SmartPLS

DISCUSSION OF FINDINGS

This study examined how climate change awareness influences sustainable tourism development in rural communities, incorporating environmental attitude as a mediator and government support as a moderator. The findings provide empirical support for the proposed moderated mediation framework and offer important theoretical and contextual insights for climate-resilient rural tourism in emerging economies like Nigeria.

Climate Change Awareness and Sustainable Tourism Development

The results demonstrate that climate change awareness has a significant positive effect on sustainable tourism development ($\beta = 0.32, p < .001$), supporting H1. This finding confirms that when rural tourism stakeholders understand climate risks and adaptation strategies, they are more likely to engage in sustainability-oriented practices. This result aligns with prior research suggesting that climate knowledge enhances adaptive capacity and sustainability planning in tourism systems (Massay et al., 2025). Similarly, Nzereogu and Baizan (2025) emphasize that climate literacy is foundational for environmental resilience in Sub-Saharan Africa. The present findings extend these studies by empirically linking awareness directly to sustainable tourism outcomes using SEM. Importantly, while previous literature has largely focused on climate impacts and macro-level policy responses, this study provides micro-level behavioural evidence demonstrating that awareness among local stakeholders can directly influence sustainability outcomes.

Climate Change Awareness and Environmental Attitude

Consistent with the Theory of Planned Behaviour, climate change awareness significantly predicts environmental attitude ($\beta = 0.49, p < .001$), supporting H2. This suggests that knowledge of climate risks fosters stronger pro-environmental values among rural tourism actors. This finding is congruent with Osuagwu (2025), who found that rural residents' perceptions of climate change influence their adaptive and conservation-oriented responses. It also corroborates Yunindyawati et al. (2024), who argue that climate education programmes strengthen environmental concern and behavioural readiness. By confirming the awareness–attitude link, this study empirically validates the psychological mechanism underpinning climate-resilient tourism behaviour within rural contexts.

Environmental Attitude and Sustainable Tourism Development

The positive effect of environmental attitude on sustainable tourism development ($\beta = 0.27, p < .001$) supports H3 and reinforces the importance of attitudinal transformation in sustainability transitions. This result aligns with findings by Kar et al. (2025), who report that environmental education fosters sustainable tourism engagement, and Nzomo et al. (2025), who emphasize the role of conservation-oriented community values in promoting sustainable tourism outcomes. Likewise, Ijatuyi et al. (2025) demonstrate that environmental stewardship enhances local tourism economies. Theoretically, this supports Community-Based Tourism Theory, which posits that local commitment and value alignment are essential for long-term sustainability. It confirms that sustainability in rural tourism is not purely structural but deeply behavioural.

Mediating Role of Environmental Attitude

The mediation analysis reveals that environmental attitude partially mediates the relationship between climate change awareness and sustainable tourism development (indirect $\beta = 0.13, p < .001$), supporting H4. This suggests that awareness influences sustainability both directly and indirectly through attitudinal transformation. The partial mediation result indicates that while knowledge can independently drive action, internalised environmental values significantly enhance this process. This finding contributes to the literature by empirically integrating cognitive

and psychological pathways, addressing the limitation in prior studies that examined awareness and sustainability outcomes separately (Massay et al., 2025; Osuagwu, 2025). It strengthens the application of the Theory of Planned Behaviour within rural tourism sustainability research.

Moderating Role of Government Support

The interaction effect between climate change awareness and government support is positive and significant ($\beta = 0.18$, $p = .003$), confirming H5. This indicates that institutional backing strengthens the relationship between awareness and sustainable tourism development. This finding is consistent with Jameel et al. (2025), who demonstrate that institutional systems enhance sustainable rural tourism outcomes through moderated mechanisms. It also aligns with the broader stakeholder governance literature emphasizing collaborative sustainability frameworks. The implication is clear: awareness alone may not be sufficient in resource-constrained rural settings. Government interventions such as funding, infrastructure provision, climate training, and regulatory enforcement amplify the effectiveness of community awareness. This moderation effect extends Stakeholder Theory by empirically demonstrating how institutional actors shape sustainability outcomes in climate-sensitive tourism.

CONCLUSION

This study set out to examine the role of climate change awareness in promoting sustainable tourism development in rural communities, with particular attention to the mediating influence of environmental attitude and the moderating role of government support. Drawing on an integrated theoretical framework and employing PLS-SEM, the findings provide strong empirical evidence that climate change awareness is a critical driver of sustainable tourism outcomes in rural areas. First, the study establishes that climate change awareness significantly enhances sustainable tourism development. This underscores the importance of knowledge and risk perception in shaping adaptive and sustainability-oriented practices among rural tourism stakeholders. In addition, the results confirm that environmental attitude serves as a partial mediator, indicating that awareness translates into sustainable behaviour not only directly but also indirectly through attitudinal transformation. This highlights the centrality of value systems and environmental commitment in achieving long-term sustainability in tourism. Furthermore, the study demonstrates that government support plays a significant moderating role, strengthening the relationship between awareness and sustainable tourism development. This finding emphasizes that institutional backing through policy frameworks, funding mechanisms, infrastructure provision, and capacity-building initiatives is essential for converting awareness into tangible development outcomes. In resource-constrained rural environments, awareness alone is insufficient without supportive governance structures. The study contributes to the tourism and sustainability literature by integrating cognitive (awareness), psychological (attitude), and institutional (government support) dimensions into a unified empirical model. The findings advance theoretical understanding by bridging Sustainable Development Theory, the Theory of Planned Behaviour, Community-Based Tourism Theory, and Stakeholder Theory within a single analytical framework.

Moreover, the study provides context-specific evidence from rural communities in Nigeria, addressing a significant gap in the predominantly Western-focused tourism literature.

From a practical point of view, the study suggests that policymakers and tourism planners should prioritize climate education, strengthen institutional support systems, and foster community-based sustainability initiatives. Enhancing climate literacy, promoting pro-environmental attitudes, and ensuring effective governance mechanisms are critical pathways to building resilient rural tourism systems. Sustainable tourism development in rural communities is not solely a function of environmental resources but also of informed, motivated, and supported stakeholders. Climate change awareness, when reinforced by positive environmental attitudes and strong institutional support, provides a viable pathway toward resilient and sustainable rural tourism development in emerging economies.

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