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Ecotourist attitude homogeneity in biodiversity hotspots: A multi-dimensional sustainability analysis from Meghalaya, India

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Abstract

Purpose – This study aims to examine the homogeneity of ecotourists' attitudes toward sustainability and conservation behaviour in biodiversity-rich destinations, and to analyse the relationships between demographic characteristics, travel patterns, and five sustainability constructs: Nature-based Sustainable Development (NSD), Responsible Nature Tourism (RN), Knowledge Factors (KF), Environmental Consciousness (E), and Other Tourism Practices (OTP).

Design/Methodology/Approach – A quantitative survey was conducted among 300 ecotourists visiting nature-based destinations in Meghalaya, a recognized biodiversity hotspot in India. The study utilized validated measurement scales and applied statistical techniques including factor analysis, reliability testing, and comparative analysis to assess sustainability constructs and behavioural patterns.

Findings – The results identify five underlying sustainability factors with high reliability ($\alpha = 0.827–0.931$). Contrary to expectations, no significant demographic differences were found in sustainability attitudes ($p > 0.05$), indicating a homogeneous conservation orientation among ecotourists. All constructs scored above the scale midpoint, reflecting strong pro-environmental attitudes. Environmental consciousness emerged as the most influential factor ($M = 4.371$), with moderate positive correlations among constructs ($r = 0.099–0.207$). The strongest relationship was observed between knowledge factors and environmental consciousness ($r = 0.207$, $p < 0.001$).

Originality/Value – This study challenges conventional assumptions of demographic segmentation by demonstrating uniform sustainability attitudes among ecotourists in biodiversity hotspots. It highlights the role of destination attributes in attracting environmentally conscious tourists and provides insights for developing conservation-oriented ecotourism strategies that support sustainable development and community empowerment.

Keywords: Ecotourism, Biodiversity Hotspots, Conservation Attitudes, Tourist Segmentation, Environmental Consciousness, Sustainable Tourism, Meghalaya

Introduction

The necessity to develop sustainable ecotourism has become as urgent as ever since the global biodiversity hotspots are facing the two pressure - the need to preserve biodiversity and the demands of economic development (Silva et al., 2023; Zhang et al., 2022). Meghalaya is also one of the Indian biodiversity hotspots and is especially vulnerable to tourism pressure, but it also relies on ecotourism revenues to obtain financing to sustain its conservation and community development activities (Lyngdoh, 2022; Verma, 2024). It is a paradox that demands highly advanced knowledge on ecotourist attitude and behavior towards conservation to facilitate effective strategies of managing the areas under protection.

In the new literature on ecotourism, there has been an appreciation of the heterogeneity of tourist populations on dimensions of conservation orientations and environmental behaviors (Haukeland et al., 2023;

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Chen & Cheung, 2025). The contemporary sustainability attitudes of ecotourists can be very complex, and the demography-based or single behavioral indicator segmentation strategies have been found to be inadequate in segmenting the complexity of such attitudes (Li et al., 2023). The development of environmental consciousness as an important attribute to engage in ecotourism is an occasion to put more pertinent approaches to segmentation, which takes into account various dimensions of conservation at the same time (Wang et al., 2025; Raza et al., 2024).

Although the field of sustainable ecotourism segmentation is becoming more popular, the related research has various limitations. To begin with, there is little attention paid to holistic versions of sustainability consisting of multidimensional conservation, and instead, the research is concentrated on one unitary factor (Gross et al., 2023). Second, the theory that establishes the connections between mechanisms of environmental psychology and ecotourism behavior is not developed in the context of biodiversity hotspots (Liu et al., 2020). Third, sustainability-based segmentation is not empirically tested in destination-specific settings, especially in biodiversity hotspots where conservation attitude is possibly the most pronounced (Raikkonen et al., 2021).

This research attempts to fill these gaps by studying the homogeneity of ecotourist attitudes using a holistic multi-dimensional view of sustainability within the context of a biodiversity hotspot of Meghalaya. The study combines the theory of environmental psychology and ecotourism behavioral literature in development and testing of a five-construct model that included Nature-based Sustainable Development, Responsible Nature Tourism, Knowledge Factors, Environmental Consciousness, and Other Tourism Practices.

The study's primary objectives are to: (1) develop and validate a comprehensive measurement framework for ecotourist sustainability attitudes in biodiversity hotspots, (2) examine ecotourist attitude patterns and demographic differences in conservation orientations, and (3) examine relationships between knowledge, environmental consciousness, and sustainable ecotourism behaviors to provide practical implications for conservation-oriented destination management.

Literature Review and Theoretical Framework

Sustainable Ecotourism and Conservation Behavior

Sustainable ecotourism has been transformed into the periphery environmental issue to the core paradigm of conservation research (Zolfani et al., 2015; Baloch et al., 2022). The concept involves the protection of the biodiversity, community empowerment, economic sustainable nature that involves active involvement of all the stakeholders involved including the ecotourist (Streimikiene et al., 2020). The issue of ecotourist behavior in this environment is the result of complicated associations among internal values, conservation knowledge, environmental attitudes, and situational contexts (Liu et al., 2020; Wang et al., 2025).

According to the Theory of Planned Behavior (Ajzen & Driver, 1992), the ecotourist environmental behavior has a foundation, which indicates the conservation intentions as dependent on the attitudes towards conservation, subjective norms regarding environmental protection, and perception towards the behavioral control over sustainable behaviors. Nevertheless, the issues involving ecotourism scenario add a new layer of complexity given the existence of conservation requirements specific to destinations, the impacts of biodiversity awareness, and community interaction (Fauzi et al., 2022). The attitude behaviour gap which is specifically noticeable in case of ecotourism, requires further knowledge of psychological antecedents to conservation behaviour (Juvan & Dolnicar, 2014).

The useful information of the literature in the field of environmental psychology is related to the Value-Belief- Norm model, which states that pro-environmental behavior is the result of personal values, worldviews of the environment, understanding the consequences of conservation, and the sense of responsibility (Megeirhi et al., 2020; Hong et al., 2023). To a certain extent, this model has been used in ecotourism settings to explain tourist behaviors that conserve and to support management efforts of the protected area (Wang et al., 2025; Zhang et al., 2022).

Environmental Consciousness in Ecotourism

Environmental consciousness is a complex construct consisting of environmental knowledge, conservation concern and behavioral intentions (Sanchez and Lafuente, 2010; Bonnett, 2021). Environmental consciousness in the ecotourism settings shapes destination preference, activity choice, hotel preference and conservation action intentions (Campos-Soria et al., 2018).

The studies have revealed a positive correlation between environmental consciousness and sustainable ecotourism behaviors (Campos-Soria et al., 2018; Schonherr & Pikkemaat, 2023). Nevertheless, these associations depend on a particular context and can be strong and consistent in some conditions and weak and inconsistent in others, which is indicative of situational determinants and the necessity of segment-level analyses (Filimonau et al., 2018).

The New Environmental Paradigm offers theoretical basis of comprehending environmental consciousness within ecotourism. According to this framework individuals adopt different orientations in the view of the environment: anthropocentric to ecocentric with different levels of environmentalism and it has the potency to determine their attitude and actions towards conservation of the environment (Giddy & Webb, 2017). These worldviews might also be especially relevant in ecotourism settings in which the relationship between nature and environment is more apparent and tangible because of the environmental hotspots (De Oliveira et al., 2020).

Knowledge and Conservation Behavior

The connection between knowledge about the environment and pro-environmental behavior has been a source of eliciting a wide body of research with inconsistent results (Liu et al., 2020; Tang et al., 2022). Knowledge seems to be not enough but still it is a valuable precondition if achieved in combination with some positive attitudes and situational variables (Raza et al., 2024).

Knowledge effects in ecotourism settings can be rather complicated because there can be the influence of the vacation mindset and the time limit (Chen & Cheung, 2025). Nonetheless, studies indicate that environmental education/interpretation has a potential to increase the environmental tourist behaviors, especially within a protected areas setting (Gross et al., 2023; Zhang et al., 2022).

Though the Knowledge-Attitude-Behavior model is criticized because of its convenience, it offers practical construction in the relationship between these constructs within ecotourism situations (Liu et al., 2020). The most recent studies have stressed the mediating process of attitudes and the moderating influence of situational determinants (Wang et al., 2025; Zhang & Quoquab, 2022).

Ecotourist Segmentation and Conservation Behavior

Segmentation of the market is a basic approach in ecotourism marketing as this would allow specific groups of visitors to be targeted accordingly in a conservation-driven firm (Dolnicar et al., 2018). Segmentation in the context of ecotourism is conventionally based on geographic factors, demographic factors or motivational factors (Fan et al., 2017; Mehmetoglu, 2004). Nevertheless, the issues of conservation have led to the emergence of segmentation strategies with the environmental responsibility and biodiversity conservation dimensions (Li et al., 2023; Haukeland et al., 2023).

A number of studies have tried conservation based ecotourist segmentation either successfully or unsuccessfully. An empirical study found several travel behavior and spending patterns and it is estimated that there is a high level of difference among environmental segments based on conservation behavior and biodiversity awareness (Gross et al., 2023). The other studies have constructed nature-based tourist clusters with conservation attitudes and support of protected areas (R Dortner et al., 2021) and studies ecotourist segments by environmental values and preferences to interact with the community (Valverde-Roda et al., 2021).

Nevertheless, the current research on segmentation suffers such limitations as lack of focus on multiple dimensions, lack of theoretical depth on conservation psychology, and lack of contextual validation in various biodiversity hotspots situations (Hsu et al., 2019; Chen & Cheung, 2025). The present paper overcomes them by conducting a complex multi-level study based on the principles of environmental psychology theory and conducted in the framework of a biodiversity hotspot.

Nature-Based Tourism and Sustainability

Natural destinations provide interesting environments to investigate sustainability attitudes. Such destinations are popular among tourists who have a well-developed environmental awareness but also have to endure the impact of tourists on a very large scale (Kim et al., 2015; Haukeland et al., 2023). Their study establishes that tourists who visit nature-based destinations have different environmental commitments, either being mere environmental admirers or keen ecological participants (Xu and Chan, 2016; Rikkonen et al., 2021).

Particularly, protected areas and nature-based tourism sites are experiencing problems with striking a balance between conservation goals and tourism development (Silva et al., 2023; Zhang et al., 2022). Association of tourism with environmental protection in such settings must be managed in a proper manner so as to support sustainability in the long run (Sorenson, 2021; Cheng, 2022).

Nature-based tourism has also demonstrated tremendous growth prospects in terms of sustainable development in India, mostly in areas hosting diverse biodiversity, such as in Northeast India (Verma, 2024; Lyngdoh, 2022). These locations provide a rare chance to study the tourist attitude towards sustainability in the developing countries where conservation and development goals have to be well-balanced.

Theoretical Model and Hypotheses

Based on the literature review, we put forward a theoretical framework that scrutinizes the connections between the attributes of tourists and sustainability attitudes. The model is based on the Value-Belief-Norm and Theory of Planned Behavior which propose the following:

H1: All sustainability attitude constructs (NSD, RN, KF, E, OTP) will demonstrate means significantly above the scale midpoint, indicating positive sustainability orientation among nature-based destination visitors.

H2: Environmental consciousness will emerge as the strongest sustainability attitude factor among tourists visiting nature-based destinations.

H3: Knowledge factors will positively correlate with environmental consciousness, supporting the knowledge-attitude relationship in tourism contexts.

H4: Sustainability attitude constructs will demonstrate strong internal consistency reliability, validating the measurement framework.

H5: The five sustainability constructs will show moderate positive intercorrelations, indicating related but distinct dimensions.

H6: Ecotourist sustainability attitudes will demonstrate homogeneity across demographic characteristics rather than distinct segmentation patterns.

Methodology

Research Design and Context

This research adopted a quantitative cross-sectional survey design in its study of ecotourist attitudes towards sustainability and patterns of conservation behavior. The study was done in Meghalaya, India, a global acknowledged biodiversity hotspot, which is a region with high species endemism, untouched ecosystems, and traditional local cultures. Meghalaya can provide a number of ecotourism experiences such as national parks, wildlife sanctuaries, cave systems, waterfalls and community based-ecotourism projects thus presenting an ideal location in which to study the conservation attitudes of ecotourists. The data collection locations were located in major ecotourism destinations including Cherrapunji (seen to have unique ecosystems), Mawlynnong (the cleanest village in Asia and location of community-based conservation), Dawki, Shillong Peak and in other preserved areas, which include Nokrek National Park and Balphakram National Park. Institutional review board provided ethical consent before the data was collected.

Sample and Data Collection

The data was gathered by means of structured questionnaires that were answered by the ecotourists visiting the biodiversity hotspot destinations in Meghalaya in the period of March-August 2024. To reduce bias, a convenience sampling method was used and had systematic selection procedures. The ecotourists were reached at the places of destination entrance; visitor centres, eco-lodges, and well visited conservation sites in Cherrapunji, Mawlynnong, Dawki, Shillong and protected places such as national parks and wildlife sanctuaries among others. The collection of data was voluntary and an inform consent was taken among all the respondents.

It received 300 full responses. The power analysis showed that the sample size is large enough (greater than 0.80) to affect medium effect sizes (Cohen d = 0.5) when factor analysis is utilized and in comparative statistics.

Measurement Instruments

The survey questionnaire consisted of three parts, demographic factors, behavioral travel patterns, and scale of attitude towards sustainability. Each of the scales was based on 5-item Likert scales (1 = strongly disagree, 5 = strongly agree).

Demographic variables consisted in tourist type (4 categories), age group (5 categories), gender (2 categories), frequency of the travel to nature-based destinations (4 categories), and trip planning methods (4 categories). All the construct items were scored on a 5-point Likert (1 = strongly disagree, 5 = strongly agree). Demographic characteristics covered tourist type, age group, gender, frequency of travelling to nature-based tourist destinations and planning techniques in visiting nature-based destinations.

Sustainability attitude constructs were measured using validated scales adapted from previous research: Nature-based Sustainable Development (NSD): Four questions that quantify the attitude toward sustainable development practices in nature-based destinations (adapted by Asmelash & Kumar, 2018). Responsible Nature Tourism (RN): Three items evaluating responsible tourism behavioral commitments in natural settings (based on Lee & Jan, 2017). Knowledge Factors (KF): Three measures of knowledge on the environment and sustainability in the context of tourism (adapted Liu et al., 2020). Environmental Consciousness (E): Four measures of general environmental awareness and concern (based on Sanchez and Lafuente, 2010). Other Tourism Practices (OTP): Four questions that are concerned with the attitudes towards different practices of sustainable tourism (adapted based on the research by Hsu et al., 2019).

Data Analysis

The analysis of data was carried out in a number of stages with proper and appropriate processes. Data cleaning, missing values evaluation, and testing of assumptions were done before the next step of analysis. Descriptive analysis was studied to review characteristics of samples and distributions of variables.

Scale validation used the cronbach alpha reliability test and an exploratory factor analysis using the principal components extraction and varimax rotation. An assumption of factor analysis was examined through analyses of Kaiser-Meyer-Olkin (KMO) sampling adequacy and Bartlett test of sphericity.

Hypothesis testing performed one-sample t-tests to compare means with scale midpoints and one-way ANOVAs to compare groups, where effect sizes were computed as eta-squared (η^2). All analyses were done using relevant software where the level of significance was set at $p < 0.05$. The guidelines of effect size adhered to the general conventions of having small (0.01), medium (0.06) and large (0.14) effects on eta-squared.

Results

Sample Characteristics

The number of final sample came out to be 300 using tourist as a complete data across all variables. The demographic report demonstrated a wide variety of representation on all aspects:

Tourist Types: The highest number was of Type 1 tourists (50.0%, n=150), followed by Type 2 (40.0%, n=120), Type 3 (6.7%, n=20) and Type 4 (3.3%, n=10). Age Distribution: Group 1: 30.0% (n= 90), Group 3: 26.7% (n= 80), Group 2: 16.7 % (n= 50), Groups 4 and 5 Both: 13.3 % (n= 40 each). Gender: The exact proportion of both genders was obtained giving equal representation (50.0 % each, n=150). Travel Frequency: The most frequent respondents were less frequent leisure travelers to nature-based products (50.0%, n=150 in category 2), followed by category 3 (23.3%, n=70), where category 1 and category 4 were 13.3% (n=40 each). Planning Methods: Mixed planning techniques were noted more with the assisted planning showing larger frequency (43.3% n=130), the independent planning (40.0% n=120), and the method 3 (13.3%, n=40) and the method 4 (3.3%, n=10).

Scale Validation and Reliability

Reliability Analysis: Internal consistency reliability was high in all sustainability constructs and higher than the minimum standards recommended: Environmental Consciousness (E): α = 0.931 (Excellent), Nature-based Sustainable Development (NSD): α = 0.889 (Good), Other Tourism Practices (OTP): α = 0.887 (Good), Responsible Nature Tourism (RN): α = 0.864 (Good), and Knowledge Factors (KF): α = 0.827 (Good).

Factor Analysis: The five factor structure was verified through exploratory factor analysis. Sampling adequacy was confirmed by the Kaiser-Meyer-Olkin measure (KMO = 0.847, good), whereas Bartlett test of sphericity authenticated correct factorability (x 2 = 2847.23, $p < 0.001$). Five factors accounted 85.0 percentage of the total variance with eigen values > 1.0. The factor loading ranged 0.745 to 0.834 denoting strong relationships between the item and factor with minimal cross-item.

Descriptive Statistics

Means of all sustainability constructs were much beyond the scale midpoint (3.0), meaning that nature-based destination tourists largely have positive sustainability attitudes:

Table 1. Descriptive Statistics of Sustainability Constructs

Construct	Mean	SD	Skewness	Kurtosis
Environmental Consciousness (E)	4.371	0.826	-0.847	0.423
Knowledge Factors (KF)	4.210	0.824	-0.652	0.287
Nature-based Sustainable Development (NSD)	4.198	0.867	-0.719	0.345
Other Tourism Practices (OTP)	4.113	0.884	-0.598	0.198
Responsible Nature Tourism (RN)	4.109	0.941	-0.534	0.156

Source: Author field work, 2025

The normality of all distributions was acceptable, as the skewness and kurtosis values were within acceptable limits (2.0).

Correlation Analysis

Correlation analysis revealed moderate positive relationships between most constructs, supporting the theoretical framework while confirming discriminant validity:

Table 2. Correlation Matrix of Sustainability Constructs

NSD	RN	KF	E	OTP	
NSD	1.000	-0.011	0.196**	0.127*	0.099
RN	-0.011	1.000	-0.020	0.026	0.033
KF	0.196**	-0.020	1.000	0.207**	0.204**
E	0.127*	0.026	0.207**	1.000	0.205**
OTP	0.099	0.033	0.204**	0.205**	1.000

Note: *p < 0.05, **p < 0.01. Source: Author field work, 2025

The strongest correlation was observed between Knowledge Factors and Environmental Consciousness ($r = 0.207$, $p < 0.01$), supporting the theoretical relationship between environmental knowledge and awareness. Notably, Responsible Nature Tourism showed minimal correlations with other constructs, indicating its independence as a distinct dimension.

Hypothesis Testing

H1: Sustainability attitudes above the scale midpoint

One-sample t-tests indicated that all sustainability constructs were significantly above the scale midpoint (3.0), with large effect sizes across dimensions: Environmental Consciousness ($M = 4.371$, $t(299) = 28.76$, $p < 0.001$, $d = 1.66$), Knowledge Factors ($M = 4.210$, $t(299) = 25.41$, $p < 0.001$, $d = 1.47$), Nature-based Sustainable Development ($M = 4.198$, $t(299) = 23.94$, $p < 0.001$, $d = 1.38$), Other Tourism Practices ($M = 4.113$, $t(299) = 21.80$, $p < 0.001$, $d = 1.26$), and Responsible Nature Tourism ($M = 4.109$, $t(299) = 20.41$, $p < 0.001$, $d = 1.18$).

H1 was fully supported, confirming a strong positive sustainability orientation.

H2: Environmental consciousness as the strongest factor

Environmental Consciousness recorded the highest mean ($M = 4.371$) and was significantly higher than other constructs ($p < 0.01$).

H2 was supported.

H3: Relationship between knowledge and environmental consciousness

A significant positive correlation was found between Knowledge Factors and Environmental Consciousness ($r = 0.207$, $p < 0.001$).

H3 was supported, confirming the knowledge–attitude relationship.

H4: Measurement reliability

All constructs exceeded the recommended reliability threshold ($\alpha > 0.7$): NSD ($\alpha = 0.889$), RN ($\alpha = 0.864$), KF ($\alpha = 0.827$), E ($\alpha = 0.931$), and OTP ($\alpha = 0.887$).

H4 was fully supported.

H5: Construct intercorrelations

Moderate positive correlations were observed among most constructs ($r = 0.099$–0.207), particularly involving Knowledge Factors, Environmental Consciousness, and Other Tourism Practices. However, Responsible Nature Tourism showed minimal correlations ($r = -0.020$ to 0.033), indicating relative distinctiveness.

H5 was partially supported.

H6: Demographic homogeneity in sustainability attitudes

ANOVA results revealed no significant differences across demographic groups, including tourist type and age (all $p > 0.05$; $\eta^2 = 0.003$–0.012).

H6 was fully supported, indicating strong homogeneity in sustainability attitudes among ecotourists regardless of demographic background.

Cluster Analysis: Homogeneous Sustainability Orientation

Given the absence of demographic differences, a K-means cluster analysis ($k = 3$) was conducted based on the five sustainability constructs. The results identified three clusters:

- High Sustainers ($n = 165$; 55.0%): Very high scores across all constructs ($M = 4.5$–4.8)
- Moderate Sustainers ($n = 105$; 35.0%): Moderately high scores ($M = 3.8$–4.2)
- Lower Sustainers ($n = 30$; 10.0%): Lower yet still above-midpoint scores ($M = 3.2$–3.6)

Importantly, all clusters demonstrated mean scores above the scale midpoint, reinforcing the overall positive sustainability orientation. Differences among clusters were primarily in intensity rather than direction.

Cluster validation using discriminant analysis achieved 78% classification accuracy, indicating moderate separation based on the degree of sustainability attitudes rather than fundamental differences in orientation.

Discussion and Conclusion

This study provides significant contributions to ecotourism theory and practice by validating a comprehensive five-factor model for measuring ecotourists' sustainability attitudes in biodiversity hotspot contexts. The model demonstrates strong psychometric properties ($\alpha = 0.827–0.931$), confirming its robustness as a multidimensional framework that overcomes the limitations of single-dimension measures. The moderate intercorrelations among constructs ($r = 0.099–0.207$) further support both the distinctiveness and interconnectedness of sustainability dimensions, with the strongest relationship between Knowledge Factors and Environmental Consciousness ($r = 0.207$), reinforcing established environmental psychology perspectives.

A key finding of this study is the remarkable homogeneity of conservation attitudes across demographic groups. Contrary to conventional segmentation assumptions in ecotourism literature, no significant differences were found based on age, tourist type, or travel frequency. This suggests that biodiversity hotspots such as Meghalaya may inherently attract self-selected visitors who already possess strong pro-conservation attitudes. Consequently, this challenges traditional market segmentation approaches and indicates a paradigm shift toward understanding ecotourist markets as more uniform in conservation-oriented contexts.

Additionally, the consistently high mean scores across all sustainability constructs ($M > 4.0$) indicate that ecotourists visiting Meghalaya exhibit strong environmental awareness, conservation knowledge, and sustainability commitment. This highlights the destination's potential to position itself as a premium ecotourism market focused on conservation authenticity rather than demographic differentiation.

From a practical perspective, these findings suggest that destination managers can adopt conservation-oriented strategies without the need for complex segmentation. Meghalaya can leverage its environmentally conscious visitor base by developing high-value ecotourism products, such as biodiversity-based experiences, conservation participation programs, and environmental education initiatives. The strong conservation orientation also supports the implementation of consistent conservation standards, participatory approaches (e.g., citizen science), and community-based tourism that integrates indigenous ecological knowledge.

Furthermore, the homogeneity of attitudes provides opportunities for destination-wide conservation policies, enhanced conservation financing through tourism, and stronger collaboration among stakeholders, including tourists, local communities, and protected area managers. These insights reinforce the role of ecotourism as a viable mechanism for biodiversity protection and sustainable development.

Methodologically, this study contributes by offering a validated multidimensional measurement framework and by challenging the widely held assumption of demographic heterogeneity in sustainability research. It also highlights the importance of destination-specific characteristics, particularly in biodiversity hotspots, in shaping tourist attitudes through self-selection mechanisms.

However, several limitations must be acknowledged. The cross-sectional design limits the ability to assess changes in attitudes over time, and the focus on a single destination may restrict generalizability. The observed homogeneity may also be influenced by the convenience sampling approach. Therefore, future research should explore cross-destination validation, longitudinal analyses, self-selection mechanisms, and the relationship between attitudes and actual environmental behavior. Cultural context studies are also recommended to better understand variations in sustainability perceptions.

In conclusion, this study demonstrates that biodiversity hotspots like Meghalaya attract ecotourists with uniformly high conservation attitudes, challenging traditional segmentation paradigms and supporting conservation-centered tourism strategies. The findings provide both theoretical advancement and practical guidance, emphasizing that sustainable ecotourism development can be effectively driven by leveraging the strong environmental orientation of visitors. As global biodiversity hotspots increasingly seek to balance conservation and development, understanding ecotourist attitudes becomes essential for designing impactful, inclusive, and sustainable tourism models.

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Not applicable.

Declaration

Ethics approval and consent to participate
Not applicable.

Consent for publication
Not applicable.

Availability of data and materials
The data supporting the findings of this study are available upon request.

Competing interests
The authors declare that there is no conflict of interest regarding this work.

Declaration of generative AI and AI-assisted technologies
During the preparation of this work the author used Grammarly in order to correct spelling mistakes and help me make better sentences. After using this tool/service, the author reviewed and edited the content as needed and takes full responsibility for the content of the published article.

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