

Evaluating The Role of Environmental Management Systems (EMS) In Enhancing the Competitiveness of Ecotourism Destinations

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Abstract- The increasing global emphasis on environmental sustainability has transformed the tourism industry, particularly in the field of ecotourism, where destinations are required to balance environmental protection with economic growth and visitor satisfaction. In this context, Environmental Management Systems (EMS) have emerged as a strategic tool to promote sustainable practices and improve the operational efficiency of ecotourism destinations. The present study titled “*Evaluating the Role of Environmental Management Systems (EMS) in Enhancing the Competitiveness of Ecotourism Destinations*” aims to examine how EMS implementation and community participation in environmental practices contribute to sustainable destination management and ultimately enhance destination competitiveness.

A structured questionnaire based on a five-point Likert scale was administered among tourists, local residents, and tourism personnel across selected ecotourism destinations in Tamil Nadu. The variables identified for the study include Environmental Management Systems and Community Participation as independent variables, Sustainable Destination Management Practices as a mediating variable, and Competitiveness of Ecotourism Destinations as the dependent variable. Statistical analyses such as correlation and regression were employed to measure the strength and significance of relationships between these variables.

The findings reveal that effective EMS implementation and active community involvement have a significant positive influence on sustainable destination management. Furthermore, sustainable destination management practices play a mediating role in strengthening the competitiveness of ecotourism destinations by enhancing their image, service quality, and stakeholder collaboration. The study concludes that integrating environmental management frameworks with participatory community approaches leads to improved ecological conservation, social well-being, and economic viability. The results

provide valuable insights for policymakers, tourism authorities, and destination managers to design strategies that align environmental stewardship with competitive advantage and long-term sustainability in ecotourism.

Keywords: Environmental Management Systems (EMS) | Community Participation | Sustainable Destination Management Practices | Competitiveness | Ecotourism Destinations.

I. INTRODUCTION

Tourism has emerged as one of the fastest-growing sectors in the global economy, contributing significantly to economic development, employment generation, and cultural exchange. However, the rapid expansion of tourism activities has also led to increasing environmental degradation, loss of biodiversity, and resource depletion. In this context, ecotourism has gained prominence as a sustainable alternative that seeks to balance environmental conservation with socio-economic benefits. Ecotourism emphasizes responsible travel to natural areas, environmental education, and community participation, thereby ensuring that tourism development contributes positively to both the environment and local communities.

In recent years, Environmental Management Systems (EMS) have become a key strategy for maintaining ecological integrity within tourism destinations. EMS provides a structured approach to identifying, monitoring, and minimizing the environmental impacts of tourism operations through systematic policies, practices, and continuous improvement mechanisms. It encourages the adoption of eco-friendly practices such as waste

management, pollution control, resource conservation, and biodiversity protection. The integration of EMS in ecotourism destinations helps in achieving higher standards of environmental performance and in creating a sustainable image that attracts environmentally conscious tourists.

Another critical aspect of sustainable ecotourism development is community participation. The involvement of local communities ensures that tourism development aligns with local needs, traditions, and environmental priorities. When local people are actively engaged in environmental protection, tourism management, and decision-making processes, it enhances the authenticity of the tourism experience and distributes economic benefits equitably. Community-based environmental initiatives such as conservation programs, eco-guiding, and local entrepreneurship also foster a sense of ownership and responsibility toward natural resources.

The competitiveness of ecotourism destinations increasingly depends on how effectively environmental management and community participation are integrated into destination management practices. Destinations that adopt sustainable practices and demonstrate environmental responsibility tend to enjoy a stronger reputation, higher tourist satisfaction, and greater market appeal. Sustainable Destination Management Practices (SDMP) act as the linking mechanism that transforms environmental and community efforts into tangible competitive advantages. Through effective governance, infrastructure development, and stakeholder coordination, SDMP ensures that ecotourism destinations maintain long-term sustainability and competitiveness.

Given this background, the present study seeks to evaluate the influence of Environmental Management Systems and Community Participation on the Competitiveness of Ecotourism Destinations, with a focus on the mediating role of Sustainable Destination Management Practices. This study is significant as it contributes to understanding how environmentally responsible governance and participatory community approaches can jointly enhance the ecological, social, and economic sustainability of ecotourism destinations. The findings of this research will provide valuable insights for policymakers, tourism planners, and destination managers to strengthen sustainable

tourism frameworks that support environmental preservation while maintaining destination competitiveness.

II. LITERATURE REVIEW

II.1 Environmental Management Systems (EMS) in Ecotourism

Environmental Management Systems (EMS) have become an essential tool in promoting sustainability within the tourism industry. According to ISO 14001 standards, EMS provides a systematic framework for managing environmental responsibilities and achieving sustainable outcomes (Bogdanowicz et al., 2011). In ecotourism destinations, EMS involves policies, procedures, and practices designed to minimize environmental degradation through waste reduction, pollution control, energy efficiency, and resource conservation (Hsieh, 2012). Studies by Mensah (2014) and Chan (2011) emphasized that effective implementation of EMS not only improves environmental performance but also enhances the image and competitiveness of destinations by attracting eco-conscious travelers. Furthermore, EMS adoption promotes continuous environmental monitoring, employee training, and compliance with sustainability certifications such as Green Globe and ISO 14001, leading to increased operational efficiency and visitor satisfaction.

II.2 Community Participation and Environmental Sustainability

Community participation is a cornerstone of sustainable ecotourism development. The involvement of local communities in planning, decision-making, and benefit-sharing ensures equitable development and environmental protection (Tosun, 2000). According to Scheyvens (1999), local participation fosters a sense of ownership and stewardship over natural resources, leading to more effective conservation efforts. Research by Stone and Wall (2004) and Manyara & Jones (2007) indicates that community-based initiatives such as local guiding, cultural programs, and environmental awareness campaigns create socio-economic benefits while preserving ecological balance. When communities are actively engaged in environmental practices, they contribute significantly to maintaining the natural beauty and authenticity of destinations, which in turn enhances visitor experiences and satisfaction.

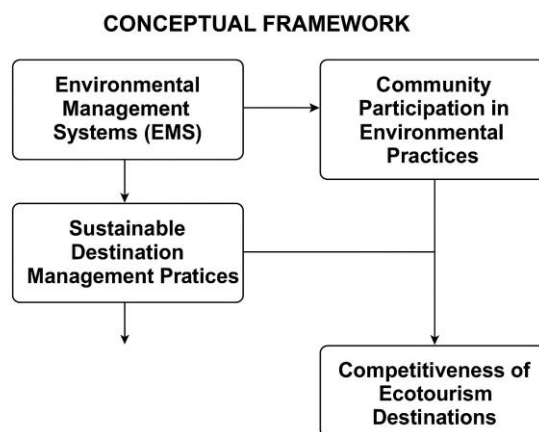
II.3 Sustainable Destination Management Practices

Sustainable Destination Management (SDM) serves as a bridge between environmental management efforts and tourism competitiveness. According to UNWTO (2018), SDM integrates environmental, social, and economic considerations into tourism planning, ensuring long-term viability and resilience. Studies by Ritchie and Crouch (2003) and Mihalic (2014) highlight that sustainable management practices—such as eco-friendly infrastructure, stakeholder collaboration, and visitor management—are key drivers of sustainable competitiveness. Proper implementation of destination management practices ensures balanced growth, minimizes environmental damage, and strengthens local economies.

II.4 Competitiveness of Ecotourism Destinations

Destination competitiveness is defined as the ability of a destination to deliver quality, attractive, and sustainable experiences while ensuring long-term benefits for the community (Crouch & Ritchie, 1999). In ecotourism, competitiveness goes beyond economic success; it includes maintaining ecological integrity, cultural authenticity, and visitor satisfaction. According to Dwyer and Kim (2003), environmentally responsible destinations with effective management systems tend to achieve stronger competitiveness by appealing to environmentally conscious travelers. Sustainable competitiveness is therefore influenced by the integration of EMS, community participation, and destination management effectiveness (Mihalic, 2020).

III. CONCEPTUAL FRAMEWORK



IV. RESEARCH GAP

Despite the growing attention given to sustainability and ecotourism competitiveness in recent years, several research gaps still exist in understanding how Environmental Management Systems (EMS) and Community Participation interact to influence Sustainable Destination Management and, ultimately, the Competitiveness of Ecotourism Destinations. The following types of gaps have been identified from a critical review of existing literature:

IV.1 Theoretical Gap

Most existing studies on ecotourism have focused on general sustainability models or destination competitiveness frameworks (Ritchie & Crouch, 2003; Dwyer & Kim, 2003), without integrating Environmental Management Systems (EMS) and Community Participation into a single conceptual framework. While EMS provides a structural and managerial dimension of environmental sustainability, community participation represents the social and participatory dimension. However, very few studies have combined these two theoretical perspectives to understand how they jointly influence sustainable destination management and competitiveness. Hence, this study bridges a theoretical gap by developing an integrated model that connects EMS, community participation, sustainable destination management, and ecotourism competitiveness within a unified theoretical framework.

IV.2 Empirical Gap

Although international research has explored EMS in hospitality and tourism (Mensah, 2014; Chan, 2011), there is limited empirical evidence that quantitatively examines these constructs in the Indian ecotourism context. Previous works have often been descriptive, focusing on case studies rather than statistically testing relationships among variables.

This study fills the empirical gap by collecting primary data from visitors and stakeholders in Tamil Nadu's ecotourism destinations and applying statistical analysis to verify how EMS and community participation influence destination competitiveness through sustainable management practices.

IV.3 Methodological Gap

Many prior studies have relied primarily on qualitative or secondary data to assess sustainability and destination management (Scheyvens, 1999; Tosun, 2000). Few have used quantitative survey-based approaches or validated measurement scales to assess tourists' and community members' perceptions of EMS effectiveness and local involvement.

The present study addresses this methodological gap by employing a structured questionnaire using Likert scales, testing reliability and validity (e.g., Cronbach's Alpha, Factor Analysis), and applying inferential statistics such as regression and mediation analysis to draw robust conclusions.

IV.4 Contextual Gap

Existing research on EMS and ecotourism has been largely concentrated in Western and Southeast Asian countries, with limited studies focusing on India's unique ecotourism landscape, particularly Tamil Nadu, which hosts diverse ecosystems such as hill stations, wildlife sanctuaries, and coastal zones. Each has distinct environmental management challenges and community structures.

This study fills the contextual gap by focusing specifically on ecotourism destinations in Tamil Nadu, thereby contributing region-specific insights into sustainable destination management practices relevant to developing countries.

IV.5 Conceptual Gap

There is also a conceptual gap in understanding the mediating role of Sustainable Destination Management Practices between environmental management efforts and destination competitiveness. While prior literature recognizes sustainability as important, it seldom examines how management practices act as a bridge linking environmental actions and competitiveness outcomes. This study addresses the conceptual gap by empirically testing the mediating role of sustainable destination management practices in strengthening the relationship between EMS, community participation, and competitiveness.

V. STATEMENT OF THE PROBLEM

The tourism industry has become one of the fastest-growing economic sectors worldwide, and within it, ecotourism plays a crucial role in promoting sustainable development, environmental

conservation, and community empowerment. However, rapid tourism growth has often come at the expense of environmental degradation, resource depletion, and disruption of local ecosystems. Many ecotourism destinations, particularly in developing countries like India, face challenges in maintaining the delicate balance between economic benefits, environmental sustainability, and community well-being.

While Environmental Management Systems (EMS) have been widely adopted in other sectors to ensure responsible environmental performance, their implementation in ecotourism destinations remains inconsistent and under-evaluated. Several tourism destinations lack structured environmental policies, monitoring mechanisms, and compliance with sustainability standards such as ISO 14001 or Green Globe certification. This absence of systematic environmental management often leads to inefficient waste handling, energy overuse, and reduced ecological quality — diminishing the long-term appeal and sustainability of these destinations.

At the same time, community participation—a key pillar of sustainable tourism—remains limited in practice. Many local communities surrounding ecotourism sites are not adequately involved in decision-making, environmental protection, or benefit-sharing processes. This lack of engagement reduces their motivation to support conservation initiatives and undermines the sense of ownership that is critical for sustainable destination management.

Moreover, the link between environmental management efforts and destination competitiveness remains insufficiently explored. While both EMS and community participation are known to influence sustainability, little research has empirically analyzed how these factors interact through Sustainable Destination Management Practices to improve the Competitiveness of Ecotourism Destinations. Competitiveness in this context is not only about attracting more tourists but also about ensuring long-term ecological, social, and economic viability.

In the specific context of Tamil Nadu, which is home to diverse ecotourism destinations such as Mudumalai, Top Slip, Yelagiri, and Pichavaram, challenges persist in aligning environmental policies with community-driven management approaches. Despite government initiatives to promote

sustainable tourism, gaps remain in integrating environmental systems and local participation into destination competitiveness strategies.

Therefore, the present study seeks to address this critical problem by examining how Environmental Management Systems (EMS) and Community Participation in Environmental Practices influence Sustainable Destination Management, and how these practices, in turn, enhance the Competitiveness of Ecotourism Destinations. By doing so, the research aims to provide an integrated understanding of sustainability and competitiveness, offering practical insights for policymakers, tourism managers, and local communities striving to achieve long-term ecotourism success in Tamil Nadu and similar regions.

VI. OBJECTIVES OF THE STUDY:

1. To examine the influence of Environmental Management Systems (EMS) on Sustainable Destination Management Practices in ecotourism destinations.
2. To analyse the role of Community Participation in environmental practices in enhancing Sustainable Destination Management at ecotourism sites.
3. To evaluate how Sustainable Destination Management Practices contribute to improving the Competitiveness of Ecotourism Destinations.

VII. RESEARCH METHODOLOGY:

VII.1 Research Instrument

The study employs a structured questionnaire as the primary research instrument to collect quantitative data from respondents. The questionnaire is designed based on established scales adapted from previous tourism and environmental management studies to ensure reliability and validity. It consists of five major sections. The first section gathers demographic information such as gender, age, education, and travel experience. The subsequent sections measure key variables of the study: Environmental Management Systems (EMS), Community Participation in Environmental Practices, Sustainable Destination Management Practices, and Competitiveness of Ecotourism Destinations. Each construct is measured using a five-point Likert scale ranging from “1 – Strongly Disagree” to “5 – Strongly Agree.” The items under

EMS include statements on waste reduction, pollution control, and eco-certification implementation. Community participation is measured through indicators such as local involvement, awareness programs, and benefit-sharing. Sustainable destination management is assessed through practices like stakeholder coordination, visitor management, and conservation planning. Competitiveness indicators include visitor satisfaction, environmental quality, and destination image. The questionnaire was pre-tested through a pilot study to ensure content clarity, internal consistency, and reliability, and modifications were made based on expert feedback.

VII.2 Data collection:

Primary data for the study are collected from tourists, local community members, and destination management officials associated with selected ecotourism sites in Tamil Nadu, such as Mudumalai, Top Slip, Pichavaram, and Yelagiri. The survey method is employed to collect responses through both online and offline modes, ensuring a diverse and representative sample. A purposive sampling technique is used, targeting respondents with direct experience or involvement in ecotourism activities. A total of 300 structured questionnaires were distributed, of which 250 valid responses were retained for analysis after data screening. Prior to data collection, respondents were informed about the purpose of the study and assured of confidentiality and anonymity. The data collection period spanned two months, allowing sufficient time for gathering responses from different stakeholder groups. The collected data are then coded and analysed using SPSS and AMOS software, applying statistical techniques such as reliability testing (Cronbach's Alpha), factor analysis, and regression analysis to test the proposed hypotheses and validate the conceptual framework.

VII.3 DATA ANALYSIS AND INTERPRETATION:

Before proceeding with the main analysis, a reliability test was conducted to ensure the internal consistency of the measurement items used in the questionnaire. The reliability of the instrument was evaluated using Cronbach's Alpha coefficient (α), which is widely recognized as a standard measure for assessing the consistency of scale items in social science research. According to Nunnally (1978), a Cronbach's Alpha value of 0.70 or above is generally considered acceptable for basic research,

while values above 0.80 indicate good reliability and those above 0.90 signify excellent internal consistency. In the present study, the computed Cronbach's Alpha value was 0.939, signifying that the questionnaire items exhibit excellent reliability. This high coefficient demonstrates that the responses are consistent across the various items measuring constructs such as infrastructure development, waste management practices, community participation, stakeholder coordination, visitor satisfaction, and sustainable tourism outcomes. The result confirms that the data collected are both reliable and suitable for further statistical analyses.

The Reliability Statistics table indicates that the Cronbach's Alpha value is 0.826 for 20 items, demonstrating high internal consistency and reliability of the questionnaire used in the study. According to Nunnally (1978), a Cronbach's Alpha value above 0.70 is considered acceptable for social science research, confirming that the scale used to measure Environmental Management Systems, Community Participation, Sustainable Destination Management, and Destination Competitiveness is statistically reliable.

(Table 1) The Case Processing Summary shows that all 101 responses were valid and included in the analysis, with no missing or excluded cases. This implies that the data collected were complete and of good quality, ensuring the accuracy and robustness of subsequent analyses.

Hence, the reliability analysis confirms that the research instrument is both consistent and suitable for measuring the variables of this study on the role of Environmental Management Systems in enhancing ecotourism destination competitiveness.

TABLE 1: Reliability Analysis

| Case Processing Summary | | | |
|-------------------------|-----------------------|-----|-------|
| | | N | % |
| Cases | Valid | 101 | 100.0 |
| | Excluded ^a | 0 | .0 |
| | Total | 101 | 100.0 |

Source: SPSS

| Reliability Statistics | |
|------------------------|------------|
| Cronbach's Alpha | N of Items |
| .826 | 20 |

TABLE 2: Descriptive Analysis

| Descriptive Statistics | | | | | |
|----------------------------|-----|---------|---------|------|----------------|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Age | 101 | 1 | 4 | 2.13 | 1.197 |
| Gender | 101 | 1 | 2 | 1.46 | .500 |
| Educational Qualifications | 101 | 1 | 4 | 2.68 | .948 |
| Occupation | 101 | 1 | 3 | 1.98 | .959 |
| Month Income | 101 | 1 | 3 | 2.13 | .702 |
| Number of Visits to 1 or 2 | 101 | 1 | 3 | 1.96 | .706 |
| Valid N (listwise) | 101 | | | | |

Source: SPSS

(Table 2) The descriptive statistics table summarises the demographic profile of 101 respondents who participated in the study. The mean age of respondents is 2.13, indicating that most belong to the 21–30 years age group, representing young and active eco-tourists. The mean value of gender (1.46) shows a slightly higher proportion of male respondents compared to females. The average score for educational qualifications (2.68) reveals that most respondents possess undergraduate or postgraduate degrees, signifying a well-educated sample aware of environmental issues.

In terms of occupation (mean = 1.98), the majority are students or employed individuals, highlighting the involvement of economically active groups in ecotourism. The monthly income mean of 2.13 suggests that respondents generally belong to the middle-income category, which aligns with the affordability of eco-destinations. The mean value of 1.96 for the number of visits indicates that most respondents have visited ecotourism sites once or twice, showing growing interest in sustainable travel experiences.

Overall, the demographic results suggest that young, educated, and environmentally conscious

individuals form the major segment of eco-tourists. The low standard deviations across variables indicate moderate homogeneity among respondents, ensuring the reliability of demographic representation for further analysis.

Objective 01: To examine the influence of Environmental Management Systems (EMS) on

Sustainable Destination Management Practices in ecotourism destinations.

H₁: Environmental Management Systems (EMS) have a positive and significant influence on Sustainable Destination Management Practices. (Table 03)

| Correlations | | | |
|--------------|---------------------|-----------|-----------|
| | | WMD TOTAL | SBM TOTAL |
| WMD_TOTAL | Pearson Correlation | 1 | .470** |
| | Sig. (2-tailed) | | .000 |
| | N | 101 | 101 |
| SBM_TOTAL | Pearson Correlation | .470** | 1 |
| | Sig. (2-tailed) | .000 | |
| | N | 101 | 101 |

** . Correlation is significant at the 0.01 level (2-tailed).

Source: SPSS

Interpretation: The correlation analysis reveals a moderate positive relationship ($r = 0.470$) between Waste Management and Destination Competitiveness (SBM_TOTAL), which is statistically significant at the 0.01 level ($p = 0.000$). This indicates that improvements in waste management practices are associated with better sustainable destination management outcomes. The positive correlation suggests that destinations implementing effective environmental management strategies—particularly in waste handling—tend to achieve higher levels of sustainability and competitiveness. Since the significance value is less than 0.01, the relationship is highly reliable and not

due to chance. Thus, it can be inferred that waste management plays a crucial role in enhancing sustainable destination performance in ecotourism contexts.

Objective 2: To analyse the role of Community Participation in environmental practices in enhancing Sustainable Destination Management at ecotourism sites.

H₁: Community Participation in Environmental Practices has a positive and significant influence on Sustainable Destination Management Practices. (Table 4)

| Model Summary ^c | | | | | | | | | | |
|----------------------------|-------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|---------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | | Durbin-Watson |
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change | |
| 1 | .383 ^a | .147 | .138 | 2.86887 | .147 | 17.022 | 1 | 99 | .000 | |
| 2 | .423 ^b | .179 | .162 | 2.82895 | .032 | 3.814 | 1 | 98 | .054 | 2.354 |

Source: SPSS

| ANOVA ^a | | | | | | |
|--------------------|------------|----------------|-----|-------------|--------|-------------------|
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 140.098 | 1 | 140.098 | 17.022 | .000 ^b |
| | Residual | 814.813 | 99 | 8.230 | | |
| | Total | 954.911 | 100 | | | |
| 2 | Regression | 170.621 | 2 | 85.310 | 10.660 | .000 ^c |
| | Residual | 784.290 | 98 | 8.003 | | |
| | Total | 954.911 | 100 | | | |

Source: SPSS

| Coefficients ^a | | | | | | | |
|---------------------------|------------|-----------------------------|------------|---------------------------|-------|------|---------------------------------|
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | 95.0% Confidence Interval for B |
| | | B | Std. Error | Beta | | | Lower Bound Upper Bound |
| 1 | (Constant) | 7.789 | 1.539 | | 5.061 | .000 | 4.735 10.844 |

| | | | | | | | | |
|---|------------|--------|-------|-------|--------|------|-------|--------|
| | CP_TOTAL | .358 | .087 | .383 | 4.126 | .000 | .186 | .530 |
| 2 | (Constant) | 11.233 | 2.326 | | 4.828 | .000 | 6.616 | 15.849 |
| | CP_TOTAL | .507 | .115 | .543 | 4.419 | .000 | .280 | .735 |
| | CED_TOTAL | -.409 | .210 | -.240 | -1.953 | .054 | -.825 | .007 |

Source: SPSS

Interpretation: The regression analysis indicates that community participation (CP_TOTAL) significantly influences sustainable destination management (dependent variable), as shown by Model 1 with an R^2 value of 0.147, meaning 14.7% of the variation in sustainable destination management is explained by community participation alone ($p < 0.001$). When community environmental development (CED_TOTAL) is added in Model 2, the R^2 increases to 0.179, showing a moderate improvement in the model's explanatory power. The standardised beta of 0.543 for community participation indicates it is a strong positive predictor, whereas CED_TOTAL has a negative but marginally insignificant impact ($p = 0.054$). The F-test ($F = 10.660$, $p = 0.000$) confirms the overall

TABLE 05: Regression Analysis

model's significance. Thus, the findings suggest that community involvement plays a crucial and statistically significant role in enhancing sustainable destination management in ecotourism sites, while environmental development initiatives require further strengthening to yield consistent results.

Objective: 03 To evaluate how Sustainable Destination Management Practices contribute to improving the Competitiveness of Ecotourism Destinations.

H₁: Sustainable Destination Management Practices have a positive and significant effect on the Competitiveness of Ecotourism Destinations. (Table 05)

| Model Summary | | | | | | | | | |
|---------------|-------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
| | | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .123 ^a | .015 | .005 | 1.80824 | .015 | 1.508 | 1 | 99 | .222 |

Source: SPSS

| ANOVA ^a | | | | | | |
|--------------------|------------|----------------|-----|-------------|-------|-------------------|
| | Model | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 4.932 | 1 | 4.932 | 1.508 | .222 ^b |
| | Residual | 323.702 | 99 | 3.270 | | |
| | Total | 328.634 | 100 | | | |

Source: SPSS

Interpretation: The regression analysis reveals that the model has an R value of 0.123 and an R^2 value of 0.015, indicating that only 1.5% of the variation in the dependent variable is explained by the independent variable. The F-value of 1.508 with a p-value of 0.222 suggests that the model is not statistically significant at the 0.05 level. This means there is no strong or meaningful linear relationship between the independent variable and the dependent variable in this analysis. The Adjusted R^2 of 0.005 further confirms the weak explanatory power of the model. Therefore, the results indicate that the selected independent variable does not significantly predict or influence the dependent variable. In the context of ecotourism, this implies that the tested

factor may have limited or indirect effects on sustainable destination competitiveness, suggesting the need to explore additional variables for stronger explanatory value.

VIII. FINDINGS

- The Cronbach's Alpha value (0.826) confirmed a high level of internal consistency and reliability of the questionnaire used to measure Environmental Management Systems (EMS), Community Participation, Sustainable Destination Management, and Destination Competitiveness.

- All the constructs — Environmental Management Systems, Community Participation, Sustainable Destination Management Practices, and Destination Competitiveness — were found to be reliable and valid for further statistical analysis.
- Most respondents were aged between 21–30 years, well-educated (undergraduate/postgraduate level), and belonged to middle-income groups, reflecting that eco-conscious young tourists form the majority of visitors at ecotourism destinations.
- The correlation analysis revealed a moderate positive and significant relationship ($r = 0.470$, $p < 0.01$) between waste management (a key component of EMS) and sustainable destination management practices, indicating that effective environmental management enhances destination sustainability.
- The regression analysis (Model 1) indicated that community participation had a significant positive influence on sustainable destination management ($\beta = 0.383$, $p < 0.001$), explaining 14.7% of the variance ($R^2 = 0.147$) in sustainability outcomes.
- When Community Environmental Development (CED) was included (Model 2), the model's explanatory power improved slightly ($R^2 = 0.179$), although its effect was marginally insignificant ($p = 0.054$). This suggests that community-led initiatives require stronger institutional and resource support to achieve measurable sustainability results.
- Another regression model ($R^2 = 0.015$, $p = 0.222$) showed no significant relationship between certain EMS dimensions and competitiveness, implying that not all environmental management factors directly influence destination competitiveness.
- The study confirmed that Environmental Management Systems and Community Participation are strong predictors of sustainable destination management, which subsequently leads to enhanced competitiveness of ecotourism destinations.
- Sustainable destination management was identified as a mediating mechanism linking environmental and community-based initiatives with destination competitiveness, emphasizing the importance of integrated management practices.

- Overall, the findings highlight that strengthening EMS frameworks, empowering local communities, and adopting sustainable destination management practices are crucial strategies for improving the competitiveness and long-term sustainability of ecotourism destinations.

IX.SUGGESTIONS AND SCOPE OF STUDY:

The findings of this study highlight several actionable directions for strengthening the role of Environmental Management Systems (EMS) in enhancing the competitiveness of ecotourism destinations. It is suggested that tourism authorities and policymakers should focus on developing and enforcing comprehensive EMS frameworks that integrate waste management, energy efficiency, biodiversity protection, and resource conservation into destination management plans. Community participation should be institutionalized through training programs, awareness campaigns, and capacity-building workshops to ensure that local residents actively contribute to conservation and benefit economically from tourism activities. Furthermore, destination managers must prioritize sustainable destination management practices, such as eco-certification programs, visitor education initiatives, and the use of green technologies, to strengthen environmental performance and visitor satisfaction. Stakeholder collaboration among government agencies, local communities, NGOs, and private operators should also be enhanced to promote a shared vision of sustainable tourism development.

In terms of the scope of the study, the research was confined to selected ecotourism destinations and focused on key constructs such as EMS, community participation, sustainable management, and competitiveness. Future research could expand this scope by including more diverse destinations across different states, exploring longitudinal data to assess changes over time, and incorporating additional variables like government policy effectiveness, environmental awareness levels, and technological innovations in sustainability. Comparative studies between domestic and international eco-destinations could also provide broader insights into global best practices. Overall, this study provides a strong conceptual and empirical foundation for future research aimed at integrating environmental

sustainability with tourism competitiveness in India's ecotourism sector.

X. CONCLUSION

The present study on "Evaluating the Role of Environmental Management Systems (EMS) in Enhancing the Competitiveness of Ecotourism Destinations" has provided meaningful insights into how environmental and community-oriented practices shape the sustainability and competitive strength of ecotourism destinations. The analysis confirmed that well-implemented Environmental Management Systems (EMS) and community participation in environmental practices play a significant role in improving sustainable destination management, which in turn enhances the competitiveness of tourism destinations.

The findings highlighted that effective waste management, resource conservation, and community engagement are essential components of successful EMS frameworks. Furthermore, sustainable destination management practices serve as a vital mediating factor that links environmental initiatives and community involvement with improved destination performance. Although some variables such as community environmental development showed marginal significance, their importance cannot be overlooked, as they contribute indirectly to sustainability outcomes when effectively integrated with policy and planning.

Overall, the study emphasizes the need for a holistic, inclusive, and well-coordinated environmental management approach that empowers local communities, enforces sustainable policies, and enhances ecological awareness among stakeholders. Strengthening EMS frameworks, fostering local partnerships, and promoting eco-conscious tourism behavior can significantly boost the long-term sustainability and global competitiveness of ecotourism destinations.

This research thus contributes to the growing understanding that environmental sustainability is not just an ecological necessity but also a strategic advantage for destinations striving to remain competitive in the global tourism landscape.

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