Archives of Business Research – Vol. 9, No. 4
Publication Date: April 25, 2021
DOI:10.14738/abr.94.10044.
Venugopalan, T. (2021). Sustainable Destination Management in India: Perception of Stakeholders on Sustainability of Kerala Tourism. Archives of Business Research, 9(4). 218-237.

Sustainable Destination Management in India: Perception of Stakeholders on Sustainability of Kerala Tourism

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ABSTRACT

This research paper explores the economic, environmental, and socio-cultural sustainability of tourist destinations in Kerala, a southern state of India, from the perspective of tourists, based on primary research. The exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and structural equation modelling (SEM) are utilized for examining and analysing the sustainability of the tourist destination of Kerala. The research findings on environmental pressure validate that tourism has been exerting huge pressure on the environment. The environment management mechanisms adopted by the government and tourism industry have been effective in mitigating the adverse environmental impacts of tourism. Tourism has been succeeded in achieving economic sustainability by empowering the local communities. Destination governance mechanisms are directly contributing to destinations' sustainability. The research findings also establish that tourism development in Kerala is socially and culturally sustainable. Thus, this research concludes that tourism development is ensuring the environmental, economic, and social sustainability of tourist destinations of Kerala.

Key Words: Development, growth. natural resources, renewable energy, non-renewable energy, environmental impact, pollution, sustainability, commercialisation, heritages, destination management.

INTRODUCTION

Tourism plays a dominant position in the socio-economic development of nations by contributing precious foreign exchange, generating employment opportunities, helping infrastructure development, alleviating poverty, protecting and preserving natural and socio-cultural heritage, and maintaining peace and stability in the tourist destinations [1-4}. However, the massive growth of tourism and the concentration of tourist activities in certain destinations have created perceptible stress and strain on local society and resources [5-7]. The massive level of tourism development and the lack of concerns about the local community in the tourism plans, policies and programmes have led to dissatisfaction and disgruntlement among the local communities, which are striving hard to protect and preserve their distinct culture and heritage [8,9] The reaction and resistance of stakeholders against mass tourism are more organized in all tourist destinations [10,11] Recognising the adverse impacts of tourism on the environment, economy and society, the tourism industry and governments have shifted their focus on making tourism more sustainable [12]. Sustainable tourism has emerged as the most comprehensive approach to mitigate the adverse impact of tourism and to achieve the sustainable development of tourist destinations.

Sustainable tourism is defined as "the tourism development that meets the needs of present tourists and host regions while protecting and enhancing opportunities for the future. It is envisaged as leading to management of all resources in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, and biological diversity and life support systems", UNWTO [13]. Sustainability encompasses the environmental, economic and socio-cultural dimensions of tourist destination development. Sustainable tourism development necessitates the integration of all pertinent stakeholders and powerful political leadership for ensuring extensive involvement and consensus-building. However, achieving sustainable tourism is a relentless process and it requires persistent monitoring of impacts and introduces preventive and corrective measures whenever necessary, UNWTO [14,15].

Sustainable destination management is an important aspect of sustainable tourism development which helps to manage the diverse resources and activities and to support the integration stakeholders through appropriate policies, programmes and actions [16]. Destination management is a comprehensive approach "that involves the strategic organisation and operative decisions to manage the processes of definition, promotion and commercialisation of the tourism products. It also includes the generation of manageable flows of incoming tourists who are balanced and sustainable, and sufficient to meet the economic needs of the stakeholders involved in the tourist destinations" [17]. According to Conaghan et al. [18], sustainable destination management is an integrated approach that contemplates the management of the tourist place operations, administration of the environment and conservation of core natural, cultural and heritage resources, maintenance of safety and security, disaster planning, and development of human resources for sustainable management of destinations. Thus, sustainable destination management encompasses the management of various components of tourism destinations in such a way that it generates economic prosperity without degrading the factors that have created and enhanced the competitive position of the destinations [18].

Tourism encompasses multiple stakeholders such as central government and state governments, host communities, public sector undertakings, private sector including the tourism business operators, who always represent different environmental, economic and socio-cultural interests that complicate the processes of collaboration with each other and the decision making for managing the tourist destinations. Making tourism more sustainable, the destination managers have to address the stakeholders' concerns and fulfil their aspirations and mitigate the impacts of tourism while planning, developing and managing operations at all levels of authority [18,19].

Sustainability has been recognised as the philosophy of the developmental process of Indian tourism. Numerous plans, policies and programmes have been introduced and implemented for enhancing the sustainability of tourist destinations across the country. Kerala, the southernmost state of India, has been recognized as the model of sustainable tourism in India. Kerala tourism offers a wide spectrum of tourism products including beach tourism, adventure tourism, nature tourism, health tourism, rural tourism, MICE tourism, etc. The tourism industry is an important segment of the Kerala economy and the government has integrated sustainable tourism as a developmental strategy and has introduced the concept of responsible tourism for planning, developing and managing destination for achieving inclusive economic growth.

Tourism literature is flooded with conceptual research papers on tourism development. However, there have been a limited number of empirical researches have conducted on sustainable tourism development and the effectiveness of the tourism plans and programmes adopted by the central and state government and the tourist industry. Hence, this research paper is an attempt to examine and evaluate comprehensively the effectiveness of plans and programmes introduced by the government of India and Kerala state for achieving environmental, economic and social sustainability of tourist destinations. Hence, the research findings may contribute to the tourism literature immensely. The research findings may also guide tourism planners while managing tourist destinations.

This research paper has twin objectives. The first objective is to examine the impacts of tourism on the environmental, economic and social spheres of Kerala from the stakeholders' perspective. The second objective is to evaluate the effectiveness of tourism development in achieving environmental, economic and social sustainability of tourist destinations in Kerala. Primary research was conducted for appraising the sustainability of tourist destinations based on a questionnaire survey conducted at various tourist places across Kerala state. This research paper has utilised structural equation modelling (SEM) for examining and analysing the sustainability of tourist destinations of Kerala. The research findings validate that tourism has been putting huge pressure on the environment and the environmental management system implemented by the government has helped to mitigate the adverse impacts of tourism on the environment. The findings unequivocally establish that tourism destination management has ensured the economic sustainability of tourist destinations without compromising the socio-cultural sustainability of Kerala.

This paper is organised as follows. Section 2 provides a discussion on previous researches on sustainable tourism. Section 3, research methodology describes the sample, methods and materials adopted for measuring the variables and analysing the data and interpretation of the results. Section 4, results and discussion, examines the data structure and empirically validating the research hypotheses using descriptive statistics, exploratory factor analysis and structural equation modelling. Section 5, Conclusion, concludes the research paper and discusses future directions for research.

REVIEW OF LITERATURE

Tourism exerts profound and far-reaching consequences on the environmental, economic and socio-cultural aspects of tourist destinations [20]. Tourist destinations endowed with beautiful landscapes, rich biodiversity, unique heritage sites and vibrant indigenous culture provide destination competitiveness in the tourist markets. The environmental impacts of tourism are the degradation of the environment, depletion of natural resources, destruction of biodiversity and the ecological equilibrium of destinations [20-22]. (The tourism industry consumes resources, generates waste and involves large scale infrastructure development, which has been leading to the degradation and devastation of the environment [23]. Water is a precious resource and is being extensively overused by hotels for the personal use of tourists and recreational facilities, which lead to wastage and degradation of water resources [24]. The concentration of tourism activities around the natural and historical heritages and other public places have created a huge amount of waste [12]. The tourism industry is also responsible for air, water and land pollution in many destinations. The development of tourism infrastructure and excessive concentration of tourism activities are exerting huge pressure on land resources,

including forests and coastal regions. [4,20,24] The indiscriminate tourism infrastructure development and construction activities have led to devastating impacts on biodiversity and ecological degradation in these destinations [25].

Sustainable destination management includes the implementation of appropriate mechanisms for conservation of the environment by mitigating the adverse impacts of tourism on environmental pollution, exploitation of land and water resources, and destruction of forests, wildlife and coastal regions. It also includes developing a sustainable transport system, sewage treatment and waste management system, and promoting environmental education and renewable energy [22].

Tourism is an engine of inclusive economic growth and provides huge employment opportunities to all sections of society [26]. Tourism development can bring about improvement in the living standard, generation of employment, reduction in mass poverty, increase in domestic and foreign investment and improvement in infrastructure and recreational facilities. Tourism is an effective mechanism for underdeveloped and developing economies for eradicating eternal poverty, improving living standard and enhancing the quality of life of the resident communities [27].

The adverse economic impacts emerging from tourism are the decline in traditional employment, increase in seasonal unemployment, high inflation, increasing property prices and leakage effect, which restrict the local communities from holding and retaining the gains from tourism [7, 3]. Tourism is a seasonal business for many destinations and those who are completely dependent on tourism may face the problem of unemployment or under-employment during off-seasons [21]. The increased tourism activities shoot up the prices of goods and services, which is a big disadvantage for the local community. [28,29]. Sustainable tourism development is inevitable for bringing about sustainable economic development in the destination. “Sustainable tourism mitigates the adverse economic impacts and warrants viable and long-term economic operations, provides socio-economic benefits to all stakeholders that are fairly distributed, stable employment, income-earning opportunities and social service to host communities, and contributes to poverty alleviation” UNWTO [15].

Tourism brings about favourable socio-cultural impacts. The income generated by tourism helps in improving the infrastructure, protecting and conserving historical and cultural heritages and maintaining public places that attract more tourists [2]. The interaction between tourists and the host population involves a learning process in which people understand the culture, ideas and values of respective countries, and it also helps to reinvigorate cultural pride among the host communities [3,30,20].

The adverse socio-cultural effects associated with tourism are demonstration effect, acculturation, commercialisation of culture, increasing crime and prostitution, health hazards, displacement of communities, commercialisation of culture and cultural clashes between tourists and host communities [31,3,10,20,4]. Tourism leads to commodification and loss of authenticity of culture and identity when local communities change themselves as per the taste of tourists [32]. The increasing antisocial activities such as sex tourism, sexual exploitation of women and children, gambling, drug abuse and alcoholism, lead to host irritation [31,3,10,20,29,4]. Thus, tourism can not only protect and promote historical and cultural

heritage but also damage the social structure, rich and diverse socio-cultural traditions and local livelihood. "Sustainable tourism respects the socio-cultural authenticity of host communities, conserve their built and living cultural heritage and traditional values, and contributes to intercultural understanding and tolerance," UNWTO [15].

Sustainable tourism is a comprehensive approach, which integrates all the stakeholders of tourism for mitigating the adverse environmental, economic and socio-cultural impacts created by the complexity of interactions between the tourism industry, tourists, natural environment and local communities. The destination management system is an important ingredient of sustainable tourism, which encompasses a wide spectrum of functions from framing tourism policies and programmes, creation and maintenance of tourism infrastructure, and marketing of tourism products. General safety and security are the main concern of tourists and the destinations should provide a safe and secure environment for visitors. The tourism policy, efficient law and order system, expediency of the legal system, general safety and security measures provided at destinations, a conducive visa regime, and good behaviour and positive attitude of officials towards tourists are also important destination characteristics that can draw tourists from domestic and international tourist markets. Sustainable destination management envisages the development, management and coordination of various tourism activities and implementation of policies with multi-stakeholder co-operation and collaboration such as tourism business operators, host population and NGOs, for conservation and preservation of the environment, UNWTO [15].

MATERIALS AND METHODS

Research Hypothesis

This research paper has formulated four alternative research hypotheses for empirically verifying the sustainability of tourist destinations of Kerala based on the review of literature, (Figure I). These hypotheses are stated as follows: -

- H1: Environmental pressure (EP) is negatively related to sustainable destination management (SDM).
- H2: Environmental management (EM) is positively contributing to sustainable destination management (SDM).
- H:3 Economic sustainability (ES) is positively related to sustainable destination management (SDM).
- H4: Social pressure (SP) is negatively related to sustainable destination management (SDM).

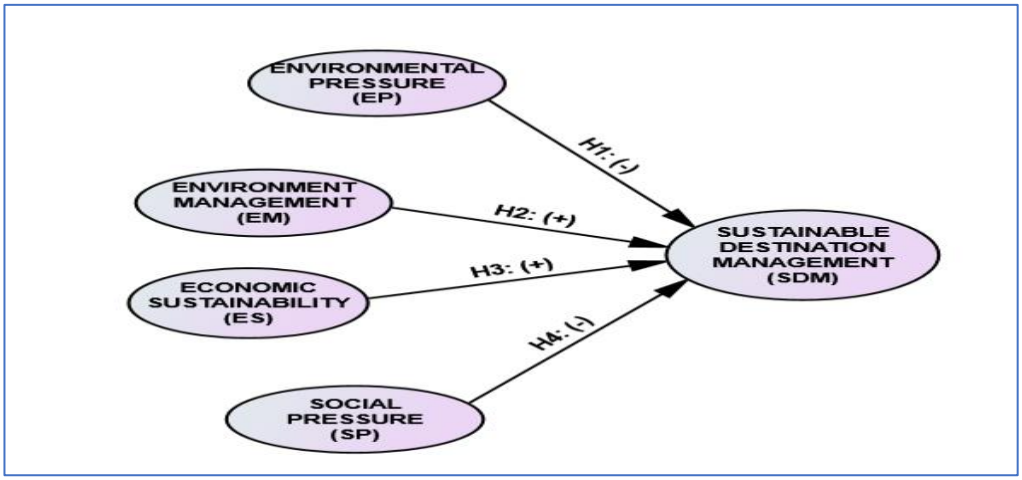


Figure I: Sustainable Destination Management Model for Testing Hypotheses

Scale Development for Sustainable Tourism

Based on "Making Tourism More Sustainable, a Guide for Policymakers" UNWTO [15] and "Sustainable Tourism for Development Guidebook" UNWTO [33], a structured questionnaire was designed as a survey instrument by including 31 indicators that measure the economic, environmental and socio-cultural sustainability, and destination management. (7,22,34] This paper has identified 12 variables for representing environmental sustainability. The environmental sustainability indicators are divided into two groups; environmental pressure (EP) and environmental management (EM). The indicators representing environmental pressure (EP) are tourism increases pollution (EP1), tourism puts pressure on land resources (EP2), Tourism puts pressure on water resources (EP3), tourism development destroys natural vegetation and wildlife (EP4), tourism puts pressure on transportation infrastructure (EP5) and tourism activities increased waste generation (EP6). The variables representing the environmental management (EM) are effective mechanism for protection of natural vegetation and wildlife (EM1), effective mechanism for pollution control (EM2), efficient mechanism for land resource management (EP3), effective mechanism for water resource management (EM4), efficient system for transportation management (EM5) and efficient waste disposal management system (EM6).

Economic sustainability (ES) has measured using 5 variables such as, tourism generates employment opportunities (ES1), tourism reduces poverty (ES2), tourism improves the living standard of the local community (ES3), tourism increases general prices of goods and services in the destinations (ES4) and tourists have a preference for locally made products (ES5). To measure the socio-cultural sustainability of tourism development, 7 variables are identified; tourism increases antisocial activities (SP1), tourism development leads to loss of habitats to local communities (SP2), tourism protects and preserves social and cultural heritages (SP3), tourism protects, promotes and revives local festivals and folklores (SP4), tourism leads to commercialisation of culture (SP5), tourism leads to cultural clashes between tourists and local community (SP6) and tourism creates bad influence on children and juvenile (SP7).

Destination Management (DM) is composed of 7 variables; effectively managed national parks, wildlife sanctuaries, coastal regions (DM1), effectively managed social and cultural heritages (DM2), local community participation in the destination management (DM3), tourism plans and

policies are formulated for promoting tourism development (DM4), the government is ensuring safety and security in the destinations (DM5), friendly attitude of officials towards tourists (DM6), environmental education is effectively promoted (DM7). Thus, a questionnaire with 31 statements was developed for measuring the economic, environmental, socio-cultural sustainability of tourist destinations. Two professors who are specialised in tourism and two eminent persons from the tourism industry examined the questionnaire and confirmed the contentment validity.

Sample, Sample Design and Research Methods

Primary research was conducted for assessing the sustainability of tourist destination through the questionnaire survey conducted in different tourist destination across the Kerala state. Based on the review of literature, a structured questionnaire was constructed by framing 31 statements representing 31 variables, which are attributed to environmental, economic and socio-cultural sustainability, and destination management. The Likert scale was used in this research for designing the questionnaire. A five-point Likert scale was used to measure each variable based on the following scale: 1= strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree [35].

The questionnaire survey was conducted at selected destinations of southern Kerala such as Kochi, Munnar, Alappuzha, Kovalam, Trivandrum and Ponmudi. This research paper has adopted a judgemental random sampling method. The questionnaire survey was executed randomly among the different stakeholders such as tourists, the local community, and tourism business operators. A database of 292 stakeholders were prepared to study the sustainability of destination management of Kerala tourism.

Descriptive statistics, exploratory factor analysis (EFA), confirmatory factor analysis (CFA) and structural equation modelling (SEM) have been performed for analysing and interpreting the perception of tourists about the sustainability of Kerala tourism. This paper has used Excel, SPSS 25, and AMOS 23 for recording and processing data. Exploratory factor analysis (EFA) is applied for determining the dimensions of sustainable tourism development. Confirmatory factor analysis (CFA) is performed for establishing the reliability and validity of measured variables and dimensions or constructs. The structural equation modelling (SEM) approach is adopted for testing the hypothesis and simultaneously examining the structural relationship existing among the proposed constructs using the maximum likelihood estimation (MLE) method [36].

RESULTS AND DISCUSSION

Data Structure Analysis

A questionnaire survey was executed randomly among the different stakeholders like tourists, the local community, and tourism business operators. The data set consisted of 292 stakeholders representing 95 tourists, 95 local community members, and 102 tourism business operators. The variables such as gender, age, education, and income are used for scrutinizing the data structure of the tourists and the local community. Two variables, the size of business and area of specialization are used to study the characteristic data structure of tourism business operators. The number of tourists who participated in the survey was 95, which consisted of 60% males and 40% females. The survey was represented by respondents from all age groups ranging from 18 years old to senior citizens. The tourists who participated in the survey

encompass 25% from the age group of 18-25, 35% from the age group of 25-40, and 25% from the age group of 40-60 and 9% from above 60 years of age. The educational background of the tourist is another demographic characteristic, which states that the tourists in the sample consisted of 45% undergraduates, 35% of graduates, and 20% postgraduates and above. The sample is also represented by tourists from low-income group, middle-income group, and rich people. The collected data shows that respondents with income levels ₹ 0-1,00,000 represent 24%, income between ₹ 1,00,000-5,00,000 represent 49% and income above ₹ 5,00,000 represent 25% of the total tourists. The tourists who participated in the survey were predominantly domestic tourists and the composition of domestic and international tourist was 78% and 22% respectively.

The questionnaire survey was executed among the local community at various tourist destinations. The data collected from 95 people represented 63% males and 37% females. The sample comprised 15% people from the age group of 18-25, 42% from the age group of 25-40, 32% from the age group of 40-60, and 11% from above 60 years of age. The educational background of participants discloses that 27% of people were below matriculation, 23% were undergraduates, 32% were graduates, and 19% had done post-graduation. The data also shows that respondents with monthly income levels below ₹ 10,000 represent 10%, income between ₹ 10,000- 20,000 represent 20% and income between ₹ 20,000-30,000 represent 40% and above ₹ 50,000 represent 30% of the total number of local communities.

The survey was also conducted among tourism business operators. The number of respondents from tourism business operators was 102 and out of which 63% was small-scale business, 32% were medium scale business and 15% were the large-scale business. From the total tourism business operators, 36% represented the food and accommodation sector, 39% represented tourism activities, and 25% represented tourist guides and travel agents.

Before being the structural equation modelling (SEM) was performed, the data was scrutinised for examining the feasibility of the proposed model. Using Microsoft excel 2016, missing values are identified, which do not exceed 5% as suggested by Tabachnick and Fidell [37]. The missing values were substituted with arithmetic mean as suggested by Byrne [38]. For examining the outlier for each case, the Mahalanobis Distance (D2) was used, Byrne [38]. It was found that five cases of extreme scores are farthest from the centroid. These extreme cases were deleted to attain the multivariate normality. The Kurtosis and skewness were also used for checking the normality of the data. The results prove the normality distribution of data as the skewness and kurtosis do not exceed the cut-off values of -2 and +2. The size of the sample used in the analysis is 292, which is acceptable for a complex model with six dimensions [39].

Exploratory Factor Analysis (EFA)

The exploratory factor analysis (EFA) is applied for determining the dimensions of sustainability of tourism using principal component analysis (PCA) with the varimax rotation. The sampling adequacy and normality of the distribution were examined through the Kaiser-Meyer-Olkin measure (0.701) and Bartlett's test (2070.986, df 105, p 0.00) before naming the factors. Nine factors are extracted based on an eigenvalue greater than 1 and these factors together explain 73% of the total variance. These factors are named; environmental pressure (EP), environment management (EM), economic sustainability (ES), social pressure (SP), destination management (DM). The total variance explained by the factors respectively is

environmental pressure (EP) 20%, environment management (EM) 14.84%, economic sustainability (ES) 14.56% and social pressure 13.69% and destination management (DM) 10.12%. Table I shows the reliability test results that reveal both dimensional and general reliability of the measurement model of sustainable tourism development.

Descriptive statistics

Table I presents the descriptive statistics of 15 measured variables, which form the factors or constructs such as, environmental pressure (EP), environmental management (EM), economic sustainability (ES), social pressure (SP) and destination management (DM).

Table I: Descriptive Statistics

Constructs and Measured Variables	Mean	Standard Deviation	Factor Loading	Cronbach Alpha (α)
Environmental Pressure (EP)				**0.884**
EP1: Tourism Increases Pollution	2.82	1.066	0.97	
EP2: Tourism Puts Pressure on Land Resources	2.81	1.101	0.71	
EP3: Tourism Puts Pressure on Water Resources	2.91	1.092	0.89	
EP4: Tourism development Destroys Natural Vegetation and Wildlife	2.76	1.099	0.58	
Environment Management (EM)				**0.808**
EM1: Effective Mechanisms for Protection of Natural Vegetation and Wildlife	3.01	1.089	0.94	
EM2: Effective Mechanism for Pollution Control	2.97	1.088	0.85	
EM3: Efficient mechanisms for Land Resources Management	2.96	1.083	0.51	
Economic Sustainability (ES)				**0.785**
ES1: Tourism Generates Employment Opportunities	3.84	0.872	0.71	
ES2: Tourism Reduces Poverty	3.79	0.882	0.72	
ES3: Tourism Improves Living Standard of Local Community	3.84	0.669	0.98	
Social Pressure (SP)				**0.645**
SP1: Tourism Increases Antisocial Activities	3.07	1.144	0.69	
SP2: Tourism development leads to Loss of Habitats to Local Communities	3.05	1.127	0.64	
Destination Management (DG)				**0.61**
DM1: Effectively Managed National Parks, Wildlife Sanctuaries and Coastal Regions	3.79	0.915	0.86	
DM2: Effectively Managed Social and Cultural Heritages	3.53	1.020	0.47	
DM3: Local Community Participation in the Destination Management	3.27	0.862	0.77	

Source: Results from Primary Data

Descriptive statistics

Table I, presents the mean and standard deviation of 15 measured variables, which form the constructs such as, environmental pressure (EP), environmental management (EM), economic sustainability (ES), social pressure (SP) and destination management (DM). The mean value of 2.82 on tourism increases pollution (EP1) reveals that tourism development is not responsible for pollution in Kerala. The tourism puts pressure on land resources (EP2) has also reported an average value of 2.82 and standard deviation 1.101 which also reject the arguments that tourist is responsible for creating pressure on land resources. The mean value (2.91) and standard deviation (1.092) on tourism puts pressure on water resources (EP3) show that tourism development has not been putting pressure on water resources. The indicator, tourism development destroys natural vegetation and wildlife (EP4) has recorded a mean value of 2.76 with a standard deviation of 1.099, which explain that tourism development has not been leading to the destruction of precious natural vegetation and wildlife.

The descriptive statistics (means 3.01 standard deviation 1.089) show that the stakeholders are indifferent towards the adequacy and efficiency of mechanisms introduced by the government to protect the natural vegetation and wildlife (EM1). The mean value of the effective mechanism for pollution control (EM2) is 2.97, which reveals that the Kerala government has not been taking appropriate measures to control pollution. Similarly, the average score and standard deviation of the effective mechanism for land resource management (EM4) is 2.96, which shows that the government has failed to manage the land resources effectively. Thus, the mechanisms adopted by the government of Kerala for managing natural resources are not sufficient to ensure the sustainable utilisation of resources.

The mean value and standard deviation of tourism generate employment opportunities (ES1) are 3.84 and 0.72 respectively, which establish that tourism is generating huge employment opportunities for the local people. The average score of tourism reduces poverty (ES2) is 3.79 with a standard deviation of 0.882 also establish that tourism is helping in the reduction of poverty in tourist destinations. The mean value and standard deviation of tourism improve the standard of living (ES3) (3.84 and standard deviation 0.669) also reveal that tourism development has immensely increased the living standard of the local community. Thus, the descriptive statistics establish that tourism development is significantly contributing to the economic sustainability of tourist destinations.

The mean score of tourism increases anti-social activities (SP1) (mean 3.07 and standard deviation 1.144), proves that tourism activities have increased the antisocial activities including drugs, prostitution and other crimes. The descriptive statistics also indicate that tourism development is leading to the loss of habitats of local communities (SP2) (mean 3.05 and standard deviation 1.127). Thus, the findings of social pressure prove that tourism development in Kerala is socially unsustainable.

The descriptive statistics on efficiently managed national parks wildlife sanctuaries and coastal regions (DM1) mean 3.79 and a standard deviation of 0.915 reveal that the government is taking the initiative to manage the parks, wildlife sanctuaries and coastal regions. The mean value and standard deviation of effectively managed social and cultural heritages (DM2) are 3.53 and 1.020, which also disclose that tourism has been taking appropriate measures to protect, promote and preserve both social and cultural heritages of the society. The mean score

and standard deviation of local community participation in the destination management (DM3) 3.27 and 0.862 also prove that the government is integrating the local community in the management of tourist destinations. The descriptive statistics prove that the destination management system introduced by the government of Kerala is conducive to sustainable tourism development.

Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) is a method of examining how well a pre-specified measurement theory composed of measured variables and factors fit reality as captured by data. (Haier et al., 2019) Based on the exploratory factor analysis, this paper has identified destination management (DM) as the dependent variable and the independent variables, environmental pressure (EP), environment management (EM), economic sustainability (ES) and social pressure (SP) for studying the structural relationship existing among the economic, environmental and social sustainability with sustainable destination management, through the structural equation modelling. The dependent variable, destination management is re-named as sustainable destination management (SDM), which is composed of measured variables effectively managed national parks (DM1), efficiently managed social and cultural heritages (DM2) local community participation (DM3). Figure: II exhibits the measurement model of sustainable destination management (SDM) based on the constructs derived from the exploratory factor analysis (EFA).

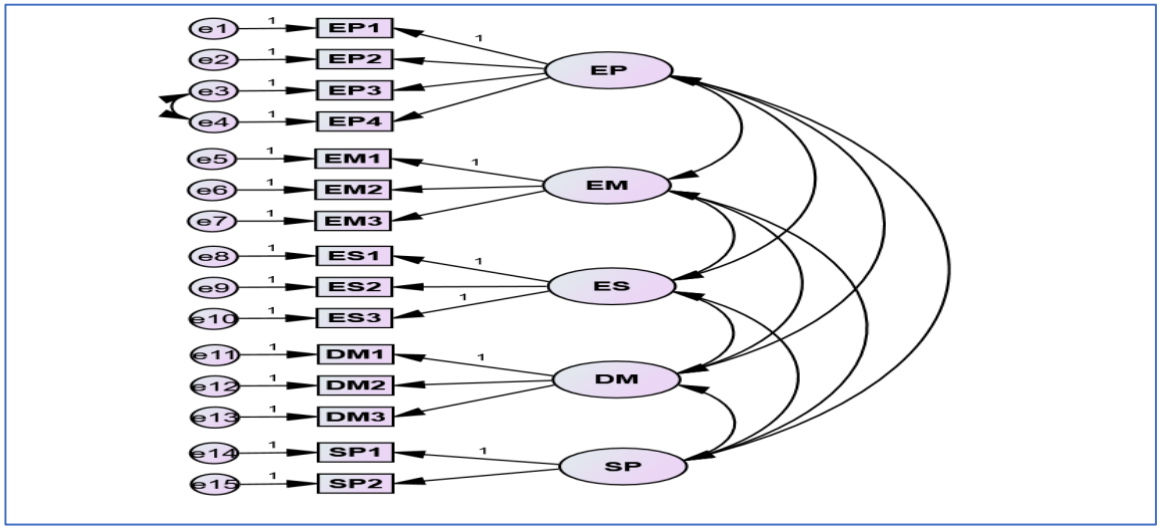


Figure II: Measurement Model of Sustainable Destination Management in Kerala

Note: EP1: Tourism Increases Pollution, EP2: Tourism Puts Pressure on Land Resources, EP3: Tourism Puts Pressure on Water Resources, EP4: Tourism Destroys Natural Vegetation and Wildlife, EM1: Mechanism for Protection of Natural Vegetation and Wildlife, EM2: Effective Mechanism for Pollution Control, EM3: Efficient mechanism for Land Resources Management, ES1: Tourism Generates Employment Opportunities, ES2: Tourism Reduce Poverty, ES3: Tourism Improves Living Standard of Local Community, DM1: Effectively Managed National Parks, Wildlife Sanctuaries and Coastal Regions, DM2: Effectively Managed Social and Cultural Heritages, DM3: Local Community Participation in the Destination Management, SP1: Tourism Increases Antisocial Activities, SP2: Tourism Leads to Loss of Habitats of Local Community, and e1- e15 = error terms in the constructs in the model.
Source: Primary Data

Convergent and Discriminant Validity: A confirmatory factor analysis (CFA) was done to establish the convergent validity and the discriminant validity of the sustainable destination management model, which integrates sustainable destination management as the dependent variable and 4 constructs as independent variables; environmental pressure (EP), environmental management (EM), economic sustainability (ES) and social pressure (SP). The convergent validity signifies the degrees to which the measured variables of a specific construct converge or share the proportion of common variance.

The Cronbach alpha (α) is used to assess the reliability of the scale, which reflects the truthfulness, consistency and stability of objects of investigation. The higher the Cronbach α value, the greater the degree the convergence of investigation results are and the higher reliability the questionnaire has. The Cronbach's alpha (α), which tests the reliability of sustainability indicators, are environmental pressure (EP) 0.884, environmental management (EM) 0.808, economic sustainability (ES) 0.785, social pressure (SP) 0. 0.645, and destination management (DM) 0.61. The Cronbach's alpha (α) values establish that the measured variables are having unidimensionality, relatively high internal consistency and reasonably explain the variations of factors or constructs.

The composite reliability (CR) and McDonald construct reliability (MaxRH) are the alternative multidimensional reliability coefficients that show how well the measured variables can reflect the construct, which is being measured [40]. The composite reliability measure is the most suitable indicator of reliability than Cronbach alpha (α). Table II shows the composite reliability (CR) indices for environmental pressure (EP) 0.876, environmental management (EM) 0.826, economic sustainability (ES) 0.850 and destination management (DM) 0.753, which are falling within the minimum acceptable value (≥0.70) [39]. However, the composite reliability coefficient for social pressure (SP) is 0.653, which is lesser than the prescribed lower limit. The McDonald construct reliability coefficient (MaxRH) measures the relationship between measured variables and constructs. It also explains the size of indicators' proportion in explaining the respective constructs [41]. Table II shows that Max(H) coefficients for all the constructs are greater than the minimum coefficient level of 0.70. These findings indicate the reliability of measured variables in explaining these constructs.

Convergent validity is also tested by using the measure average variance extracted (AVE), which is more conservative than composite reliability (CR) [39]. The minimum cut-off value for the AVE is 0.50 for each construct, represents the capacity of the specific construct to explain more than 50% of the variance of its indicators on an average. Table II shows that each construct has recorded an average variance extracted (AVE) greater than 0.50, which exceeds the cut-off value (AVE ≥0.50), signifying higher convergent validity among the measured variables in the model [39]. However, the AVE for social pressure (SP) is 0.487 which lower than the cut-off rate of 0.50. The standardised factors loadings (FL) of indicators from Table I also show that all the measured variables exceed the cut-off value of 0.50 that signify the presence of strong convergent validity [39].

The discriminant validity denotes the extent to which a construct is divergent from other constructs [39]. The high discriminant validity establishes that a construct is unique and captures some phenomena other measures do not [39]. The discriminant validity may be judged by comparing the average variance extracted (AVE), the maximum shared variance

(MSV), the square root of AVE and the inter-construct correlation coefficients [42]. Table II displays that the AVE is greater than MSV for all constructs, which show that the constructs explain more of the variance in their measured variables that these share with other constructs [42]. Similarly, the square root of the AVE of each construct that is shown on the diagonals in bold numbers is greater than the rest of the inter-construct correlation coefficients given in each column. These results provide strong evidence of discriminant validity among the five latent constructs.

Table 4: CFA Model – Reliability and Validity

CONSTRUCTS	CR	AVE	MSV	MaxR(H)	EP	EM	ES	DM	SP
EP	0.876	0.648	0.086	0.963	**0.805**				
EM	0.826	0.625	0.109	0.907	-0.069	**0.791**			
ES	0.850	0.659	0.033	0.960	0.167**	0.099	**0.812**		
DM	0.753	0.517	0.109	0.818	-0.076	0.330***	0.182**	**0.719**	
SP	0.653	0.487	0.086	0.673	0.292***	-0.204*	0.119	0.089	**0.698**

Note: Constructs are EP: Environmental Pressure, EM: Environment Management, ES: Economic Sustainability (ES), SP: Social Pressure, DM: Destination Management, CR: Construct Reliability, AVE: Average Variance Extracted (AVE), MSV: Maximum Shared Variance, MaxR(H): McDonald construct reliability, Bold numbers are the square root of AVE and below that are inter-construct correlation coefficient in each column. Significant level of correlation: *p <0.50, **p <0.01, ***p<0.001.

The goodness of Fit Indices (GFI): The Chi-square ($\chi 2$) statistic is a traditional measure for evaluating the overall fit, which examines the magnitude of the difference between a sample and fitted covariance matrices. The overall model fit is decided by examining the Chi-square statistic ($\chi 2$) and associated p-value. A good model fit gives an insignificant result at the 0.05 threshold. The Chi-square test reveals either a badness of fit or lack of fit. [43] However, the abandonment of a model is based on the inadequacy of the Chi-square value ($\chi 2$), which is statistically influenced by sample size and model complexity [39]. Hence, other fit indices such as GFI, AGFI, RMSEA, SRMR, NFI, TLI and CFI are also applied to evaluate the model fit. Table II presents the various Goodness of Fit Indices (GFI) for the measurement model of sustainable destination management of Kerala tourism.

Table II: Goodness of Fit Indices (GFI)

Goodness of Fit Indices (GFI)	Threshold Value	CFA Model
Chi-square ($\chi 2$) (CMIN)		211.338*** (df 80)
(CMIN/DF)	<0.30	2.642
Goodness of Fit Index (GFI)	≥0.90	0.914
Adjusted Goodness Fit Index (AGFI)	≥0.90	0.871
Root Mean Square Error Approximation (RMSEA)	≤0.08	0.075
Standardized Root Mean Residual (SRMR)	≤0.08	0.077
Normed Fit Index (NFI) (Delta 1)	≥0.90	0.900
Tucker Lewis index (TLI) (rho2)	≥0.90	0.935
Comparative Fit Index (CFI)	≥0.90	0.935

Source: Results from Primary Data

Table II on Goodness of Fit Indices (GFI) demonstrates the fit of the measurement model. The Chi-square ($\chi 2$) statistic of the CFA model proves that the dimensions of sustainable tourism are statistically significant ($\chi 2$ 211.338 (p .000) (DF 80). The alternative measure to Chi-square is relative/normed chi-square ($\chi 2/df$) that minimises the impact of sample size on the model Chi-square ($\chi 2$). Table II shows that the chi-square value to degrees of freedom is ($\chi 2$ /df = 2.642), which lies lower than the cut-off rate of 3 [39].

The goodness of fit index (GFI) is an alternative to the Chi-square test, which estimates the proportion of variance that is accounted for by the estimated population covariance, Tabachnic and Fidell (2007). The goodness of fit index (GFI) from Table II shows a value of 0.914, which is within the acceptable range of 0.90 to 1.00. However, the adjusted goodness of fit index (AGFI) is 0.871, which is below the cut-off rate. The standardised root mean residual (SRMR) is the square root of the difference between the residuals of the sample covariance matrix and the hypothesised covariance model [39]. The SRMR is 0.077 which is lying below the conservative upper limit of 0.8 [44]. The root means square error approximation (RMSEA) describes how good the model would fit with an unknown, but optimally chosen parameter estimate with the population covariance matrix. The RMSEA of 0.075 falls well between the stringent cut-off value of 0.06 and 0.08 [44].

The normed fit index (NFI) is an incremental or comparative fit index that compares the chi-square value to a baseline model which tests the null hypothesis that all variables are uncorrelated [45]. The normed fit index (NFI) recorded a moderate model fit with a value of 0.900. A good model fit requires an acceptable value greater than 0.90. The non-normed fit index (NNFI) or Tucker-Lewis Index (TLI) rectifies the sensitivity of the normed fit index (NFI) to a small sample. An acceptable value of TLI >0.95 for a good model fit, however, a minimum cut-off value of 0.80 is preferable [44]. Table II depicts the Tucker-Lewis Index (TLI) value of 0.935, which is above the minimum prescribed cut-off value. The comparative fit index (CFI) is a modified form of the normed fit index (NFI), which compares the sample covariance matrix with the null model that assumes all the constructs are uncorrelated [39] A cut-off criterion of CFI>0.90 indicates the preferable goodness of fit of the model [43,44]. Table II shows the comparative fit index (CFI) 0.935, which is within an acceptable range prescribed and reveals a good model fit. Thus, all goodness-of-fit (GOF) indices establish that the structural equation model (SEM) fits well with the empirical data.

Structural Equation Model (SEM) and Hypothesis Testing

The empirical research hypotheses are verified through relationship paths of model elements using SEM. This paper uses five sustainability constructs in the SEM for testing the hypotheses. Figure III exhibits the model on sustainable destination management of Kerala. Table III shows the standardised maximum likelihood parameter estimates from the structural equation model (SEM).

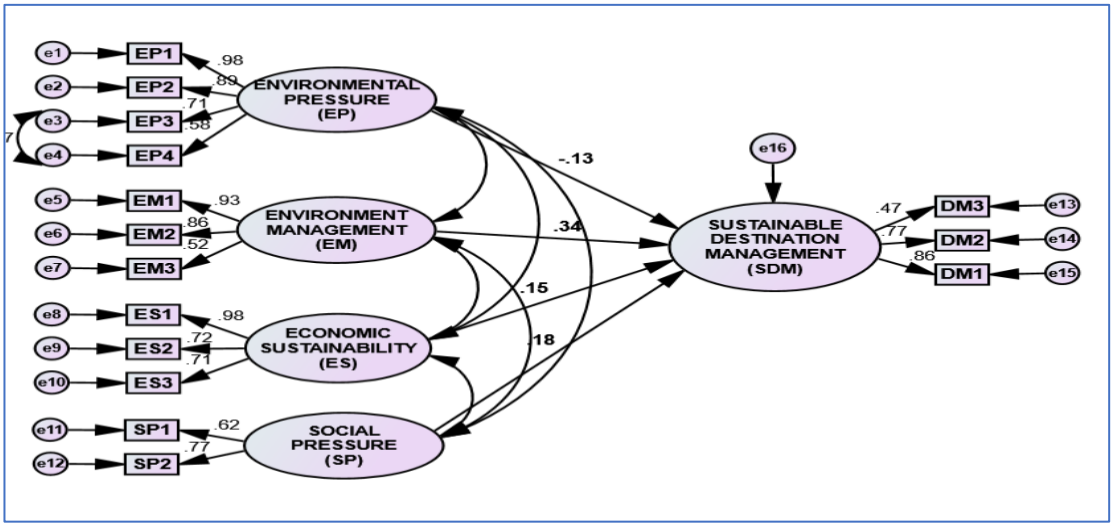


Figure III. Model of Sustainable Destination Management in Kerala
Source: Primary Data

Table III: Standardised Maximum Likelihood Parameter Estimates from Structural Equation Model (SEM)

Hypothesis	Path	Standardized Coefficient	SE	CR	P-value	Support for Hypothesis
H1	Sustainable Destination Management (SDM) → Environmental Pressure (EP) (-)	-.13	.057	-1.911	.056*	Accepted
H2	Sustainable Destination Management (SDM)→ Environment Management (EM) (+)	.34	.060	4.880	***	Accepted
H3	Sustainable Destination Management (SDM)→ Economic Environment (EE) (+)	.15	.085	2.293	.022**	Accepted
H4	Sustainable Destination Management (SDM) → Social Pressure (SP) (-)	.18	.105	2.127	.033**	Accepted

Note: Standardised regression path coefficients, standard errors, critical ratios and p-values, support for coefficients are reported in the parentheses below parameter estimates: p<0.10* p<0.05, ** p<0.01***
Source: Result from Primary Data

Figure III and Table III show the regression path coefficients and test statistics, which prove that 4 hypotheses out of 4 hypotheses have passed the estimated structural model testing. Table III shows that the regression coefficient of environmental pressure (EP) is significant and negative, which is consistent with the empirical hypothesis, H1 that environmental pressure is inversely related to sustainable destination management (SDM). The significance and negative coefficient of environmental pressure (EP) prove that tourism has been exerting a tremendous negative impact on environmental sustainability. The regression path coefficient of environment management (EM) is significant and positive, which support the empirical

hypothesis H2, that environmental management directly contributes to sustainable destination management (SDM). Similarly, the regression coefficient of economic sustainability (ES) is significant and positive. The significant path coefficient strongly supports the research hypothesis H3 that economic sustainability (ES) is directly contributing to sustainable destination management (SDM). The regression coefficient of social pressure (SP) is significant but positive as against the direction of the empirical research hypothesis H4, that social pressure is inversely related to sustainable tourism development. This finding does not provide conclusive evidence to substantiate the argument that tourism is exerting an adverse influence on the social sustainability of Kerala tourism.

Discussion

The mass influx of tourists and indiscriminate exploitation of resources damage the purity of natural heritage. The research findings on environmental pressure (EP) unequivocally establish that tourism development is putting a huge adverse impact on environmental quality, land resources, transportation infrastructure and natural vegetation and wildlife. Tourism development is severely affecting not only the sustainability and competitiveness of the destination but also the safety and security of human beings. Hence, the government should adopt suitable strategies for the conservation of physical integrity, biodiversity, resource efficiency and environmental purity, which are the essential elements of environmental sustainability of tourist destinations of Kerala.

Tourism is a resource-intensive industry and utilises both renewable and non-renewable resources. The research findings validate that unsustainable tourism development leads to environmental pollution, mismanagement of land, excessive pressure on transportation infrastructure and degradation of precious flora and fauna. The rejuvenation of natural resources and environmental purity can be maintained by adopting sustainable conservation and management of natural resources. Sustainable resource management encompasses the activities like the installation of appropriate mechanisms to address environmental pollution, mismanagement of land, pressure on transportation infrastructure and degradation of natural vegetation and wildlife. The research findings on environmental management (EM) establish that the environmental management strategies adopted by the government and tourism industry have been able to mitigate the adverse environmental impact of tourism. The Kerala government has to incorporate appropriate strategies and programmes to make tourism more environmentally sustainable.

Tourism contributes towards overall socio-economic development through accelerated economic growth by improving living standard, generating employment opportunities, promoting locally made products, and reducing mass poverty and hunger. The research findings on economic sustainability (ES) demonstrate that tourism development has been successful in contributing significantly to the economic empowerment of the local community. It appears that the government of Kerala has been utilising tourism as an engine of economic growth by adopting appropriate strategies for the economic empowerment of local communities across the tourist places in Kerala.

Socio-cultural sustainability of tourism is a critical element of sustainable tourism. Tourism helps to conserve and preserve both historical and cultural heritage. Much empirical research has established that indiscriminate mass tourism has increased competition for scarce

resources, which resulted in adverse socio-cultural impacts such as cultural clashes, anti-social activities, and devaluation of traditions, loss of identity and values and social disharmony. The research findings on social pressure (SP) do not lead to the conclusion that tourism is adversely affecting the social and cultural sustainability of Kerala.

Destination management is an important aspect of sustainable tourism, which assimilates the sustainability principles through the integration of various stakeholders of tourism and reinforcement of institutional structures for providing direction to sustainably develop and manage tourism. However, during the survey, the stakeholders especially the local community members expressed strong resentment on the tourism plans and programmes of the government because they are kept away from the process of formulation and implementation of tourism plans and programmes. Hence, the Kerala government and tourism industry must ensure the participation of the local community while planning, designing and implementing tourism plans and policies.

CONCLUSION

This research paper examines the sustainability of tourism and attempts to identify the synergies prevailing among the environmental, economic and socio-cultural sustainability in the development paradigm of Kerala. This paper has used exploratory factor analysis (EFA), confirmatory factor analysis (CFA) and structural equation modelling (SEM) for data analysis and interpretation of results. Exploratory factor analysis (EFA) was conducted, using principal component analysis (PCA) with the varimax rotation for determining the dimensions of sustainable tourism. Having been generated five factors from factor analysis, these factors were labelled as environmental pressure (EP), environmental management (EM), social pressure (SP), economic sustainability (ES) and sustainable destination management (SDM).

Confirmatory factor analysis (CFA) was conducted on extracted factors for verifying the convergent validity and discriminant validity of the final structural equation model with sustainable destination management (SDM) as the dependent variable and four sustainability dimensions (environmental pressure, environment management, socio-cultural sustainability, economic sustainability) as independent variables. The significant and negative association between environmental pressure (EP) and sustainable destination management (SDM) validates that tourism has been exerting huge adverse impacts on the sustainability of tourist destinations. The regression coefficient of environment management (EM) is significant and positive, which supports the research hypothesis that environmental management is directly contributing to sustainable tourism development. The significant and positive regression coefficient of economic sustainability (ES) supports the research hypothesis that tourism is directly contributing to the economic empowerment of the local community in Kerala. The regression coefficient of the social pressure (SP) is significant but positive as against the empirical prediction that social and cultural sustainability is negatively related to tourism development. It implies that tourism development has not been exerting much pressure on the social and cultural domain of Kerala society. The research findings direct to us the conclusion that the tourism plan and policies introduced by the government have somewhat yielded the desired result in the sustainability of destinations in Kerala. However, the government should adopt more proactive measures to make tourism more sustainable by mitigating the adverse environmental impact of tourism on ecology, economy and society. The government should be

more proactive in integrating all the stakeholders, especially the local community while formulating, implementing and reviewing tourism plans and programmes.

Limitations and Scope for Further Research: This research paper provided an opportunity to evaluate the sustainability of tourist destinations in Kerala. The research findings establish that tourism has been somewhat successful in ensuring environmental, economic and social sustainability. This research paper has empirically examined the impact of tourism and the sustainability of destination management of Kerala, especially on the economic, environmental and socio-cultural sustainability of tourist destinations. Therefore, the research findings would be of immense use to the policymakers, environmentalists and academic community who are directly and indirectly involved in the tourism development. This research is subjected to certain limitations too. The focus of the research was limited to the perceptions of stakeholders based on the sample collected from southern Kerala because of time and monetary constraints. The future scope of the research should be in the direction of conducting more comprehensive research by incorporating more variables on different pillars of sustainable tourism and from all important tourist destinations of Kerala. Another important extension of this research would be to examine the economic, environmental and socio-cultural sustainability from the perspectives of different stakeholders such as the local community, tourism business operators, government officials and NGOs.

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