

Sustainable Ecotourism Established on Local Communities and Its Assessment System in Costa Rica

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ABSTRACT

This dissertation chiefly examines the difficulties and principles of establishing sustainable ecotourism based on local communities. Furthermore, mainly address management techniques of sustainability in Costa Rica, a country with a growing reputation as an ecotourist destination; meanwhile, throw light upon that effective management and setting up Green Certification Program could improve efficiency. It have been noted that the importance of establishing ecotourism in promoting sustainable maintenances, cultural preservation, and biodiversity conservation within indigenous communities. However, widely management methods to identify the potential and gauge the progress of ecotourism sites have yet to emerge, which is due to there have been few practical assessments of the status of ecotourism at specific locations. In addition, putting ecotourism theory into practice would be much more complicated than originally thought. As far as I am concerned, practical principles combining the most integrated approach would considerably bring mutual benefits between ecotourism and local communities, as appropriate management could help to achieve a balance between conservation and development. With regard to the overall research approach, a case study in Costa Rica will gain prominence in the establishment of sustainable ecotourism since previous research and experience would be highlighted and explored in depth. To some extent, it could be predicted that some gaps between theory and practice of ecotourism would be improved by promoting its sustainability based on communities, resources and economics. As a whole, establishment of benchmark for assessing sustainable ecotourism would be explored as a broader conservation strategy and offers suggestions for further improving the potential of ecotourism.

Keywords: Biodiversity; Ecotourism; Sustainability; Pollution

1. Introduction

In the past few decades, sustainable tourism has brought about huge economic, environmental and social impacts (Wight, 1993) [1]. Tourism sustainability, to some extent, is the tourism that has satisfied contemporary groups without limiting future generations to meet their own needs (Harris *et al.*, 2002) [2]. Furthermore, McIntyre (1993) [3] highlighted that local community should also be taken into consideration in terms of establishing sustainable tourism. Moreover, it has been supported by Cheong and Miller (2000) [4] that sustainable tourism includes community-oriented methodology, encouraging community involvement and contribution. Evidence has shown that visitors to Costa Rica generally benefit local residents for higher levels of wealth and education, which possibly allow them to advance social and cultural influence at the local level (Honey, 2003) [5]. By and large, ecotourism as a visitor motivation and indirect income source helps Costa Rica become high profile

ecotourism destinations (Weaver, 1999) [6]; most importantly, Lapa Rios in Costa Rica has earned its eco-logo for its efforts.

However, the establishment of sustainable tourism has been questioned as unpredicted future political, economic, social change may pose negative impacts on existing management approaches (Ashley and Roe, 1998) [7]. Likewise, it has been stated that methods of assessing sustainability are difficult to define and quantify, and yet are playing a pivotal role in monitoring progress towards sustainable development (Ness *et al.*, 2007) [8]. Now that Costa Rica fulfills the definitional potential of ecotourism, providing variety and enormosity social, economic, and environmental advantages (Angelica *et al.*, 2010) [9], which could advance sustainable practices of ecotourism as a positive situation to some extent.

1.1. Research Questions

Given the problems of insufficient environmental assessments, many ecotourism destinations tend to be damaged

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and self-destructive; it is of great importance to improve ecotourism planning and management techniques. And therefore the following research questions are identified:

- 1) Why are sustainable ecotourism projects difficult to set up?
- 2) What are the main principles of establishing sustainable ecotourism and what could we learn from the successful management techniques of Costa Rica?
- 3) How to sustain an appropriate balance between conservation and tourism?

1.2. Analysis Based on Local Communities

In light of effective policies sustainable development, economic instruments play an important role. Tourism-related businesses are mainly involved with the authority, tour operator, local community and tourists. Each role player has an important function of development and operation of tourism industry. However, greater amount of money entering communities might not be distributed by tour operators. Additionally, (Honey, 2003) [5] argued that locals and tourists always compete for transportation, food security, space and even cultural integrity. Such shifts should be considered with regard to conservation as they affect the stability of local associations and the prospects for long-term collective action for resource management. Moreover, it has been suggested that a successful ecotourism model is based on stakeholders who could make positive contributions to the others (Weaver, 1999) [6]. Therefore, it is significant to balance the relationship among those participants who are involved in tourism industry.

This literature review, therefore, aims to summarize some of the key literature underlying previous assessment system in Costa Rica. Furthermore, it chiefly examines the principles of establishing sustainable ecotourism based on local communities; meanwhile, throws light upon the potential knowledge gaps of existing assessment approaches and management system. In the end, practical suggestions will be put forward. With regard to the overall research, a case study in Costa Rica would gain prominence in terms of setting up sustainable ecotourism and its assessment system since previous research and experience would be highlighted and explored in depth.

2. Overview of Previous Assessment Methodologies of Sustainability

Research on sustainable assessment has undergone several decades, thus yielding monumental findings, which have exerted significant influence on the improvement of ecotourism. More recent studies focus on the principles of establishing ecotourism and management techniques (Hipwell, 2007) [10]. Nevertheless, fewer studies have

been conducted in launching benchmark for assessing ecotourism sustainability. An influential proposition advanced by Lawrence (1997) [11], shedding light upon assessment of sustainability, basically applying wide-ranging principles to determine what extent various actions might advance the effect of sustainability. Current sustainability assessment methods include ecological footprint, wellbeing assessment, ecosystem health assessment, quality of life (Michelle *et al.*, 2008) [12] and natural resource availability. Furthermore, there are a number of initiatives working on indicators and frameworks for sustainable development (Dikshit *et al.*, 2009) [13]. Moreover, Ness *et al.*, (2007) [8] categorized sustainability assessment tools into three aspects: indicators and indices; product-related assessment; and integrated assessment. As a result, corresponding assessment framework has been established and significant studies have been taken to assess the practicality and sustainability of ecotourism in certain areas.

2.1. Critique in Sustainable Development Indicators

Before evaluating sustainable development level, integrated and efficient indicators should be well-established. Eagles *et al.*, (2002) [14] provided suitable guidelines to monitor sustainable tourism but their guidance remains at the level of describing a checklist. As Stoeckl *et al.*, (2004) [15] suggested that indicators need comprehensive planning, monitoring and managing cycle. However, there are numerous difficulties in creating an assessment system that adequately achieves all these (Richards and Hall, 2000) [16]. Summarizing from Berke and Manta (1999) [17] that sustainable development indicator could be used to evaluate situations and predict trends; in the meantime, prevent economic, social and environmental damage. It was argued by Adinyira *et al.*, (2007) [18] that one major shortage of current developments in the area of sustainability assessment is the relative lack of implementation of developed methods. For the past two decades, many local, national and international efforts have been made to find suitable sustainability indicators (Dikshit *et al.*, 2009) [13].

The United Nations Commission on Sustainable Development constructed a sustainability indicator framework for evaluating governmental progress towards sustainable development goals (Dikshit *et al.*, 2009) [13]. Hence a systematic approach applied that places particular emphasis on stability of sustainable development (**Figure 1**). As shown in **Figure 1**, a four-layer sustainable development index system was proposed, which contains a total number of 19 indicators, of which 12 sub-indices are at the fourth level. Specifically, sustainability assessment methods established on environmental

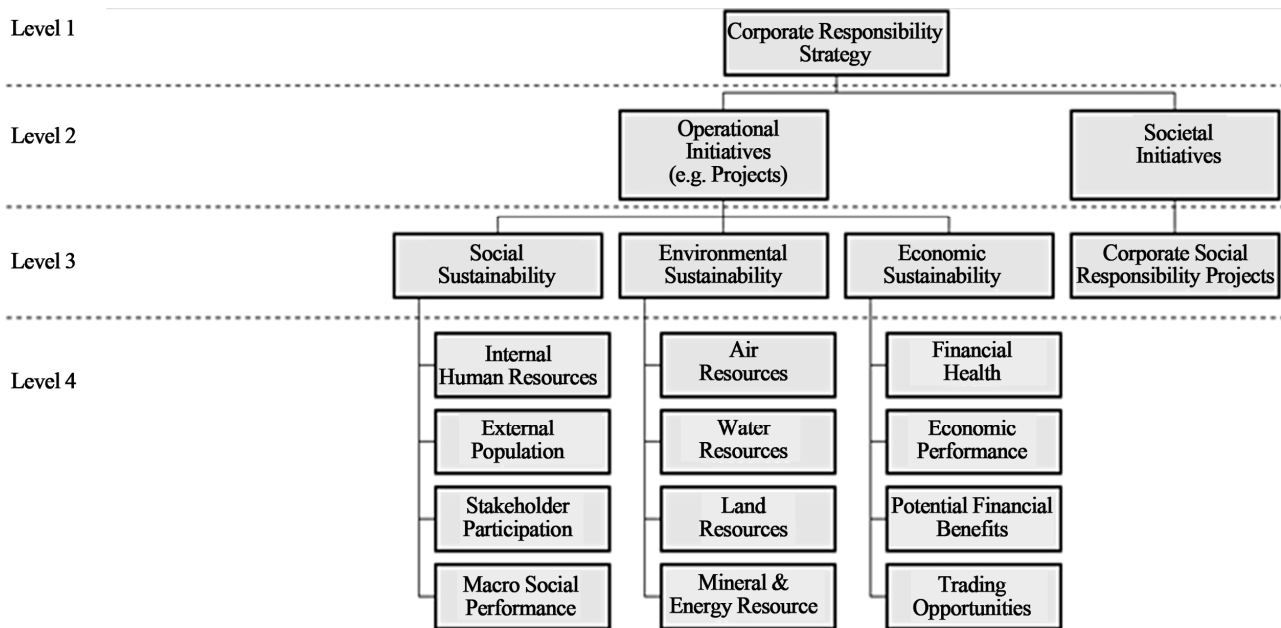


Figure 1. The United Nations Commission for Sustainable Development (UNCSD) theme indicator framework. Sources adapted from Alan and Labuschagne (2007) [19].

assessment mainly emphasize on environmental issues such as resource consumption, pollution and impact on biodiversity (Figure 1). Nonetheless, Michelle *et al.*, (2008) [12] argued that those indicators fail to concern the forms of ecosystem and natural resource use that impact upon regional sustainability. Moreover, such assessment system was mostly limited to applications at the levels of policy planning and program development (Dikshit *et al.*, 2009) [13].

2.2. Debate on Costa Rican Assessment System of Sustainability

Costa Rica, located on the south of America, has gained its reputation in conservation. It has been recorded that it is a unique country with comparison to the rest of the developing world due to its commitment to peace, democracy, and environmental protection and sustainable development (Wilson, 1998) [20]. Correspondingly, relevant assessment approach was established to help the country on its path towards sustainable development. Nonetheless, from what has mentioned above, there is limited research on the effectiveness of environmental assessment in developing countries. Figure 2 shows the ideal Costa Rican environmental assessment system. As can be seen, environmental assessment in Costa Rica has been initiated with the consideration of alternative actions to a project (Figure 2). The assessment process general includes predictions of the type and magnitude of potential impacts, the significance of these impacts, and an outline of monitoring and mitigation plans (Zeremariam, 2007) [21]. The assessment method in Costa Rica

consists of several units that carry out different mechanisms of environmental assessment system (Zeremariam, 2007) [21]. For example, technical and preliminary environmental assessment, environmental monitoring and planning, followed by administrative unit (Figure 2). Although these units function independently while running their respective duties, they are all involved with the final decision-making process (Dikshit *et al.*, 2009) [13]. Nevertheless, there is no previous studies have addressed the effectiveness of the operational aspects of environmental assessment practice in Costa Rica. Furthermore, objective conclusions may limit their usefulness in the development of management strategies in the short term, as such assessments did not have quantitative threshold (Costa Rica, 1997) [22].

2.3. Critical Review of Setting up Community-Based Ecotourism

While community-based planning plays an essential role in academic and rigid approaches with respect to tourism development, it is significant to realize that such an approach does not automatically result in its sustainability (Scheyvens, 2002) [23]. When examining the role of the community in tourism, social, economic and political processes should be combined together to operate within a community from the conflict which occurs between stakeholders. However, problems remain with how participation is conceptualized and practiced by a local community. It was supported by Waldron and Williams (2003) [24] that participation is not always beneficial to a local community. In addition, Hall (2000) [25] also

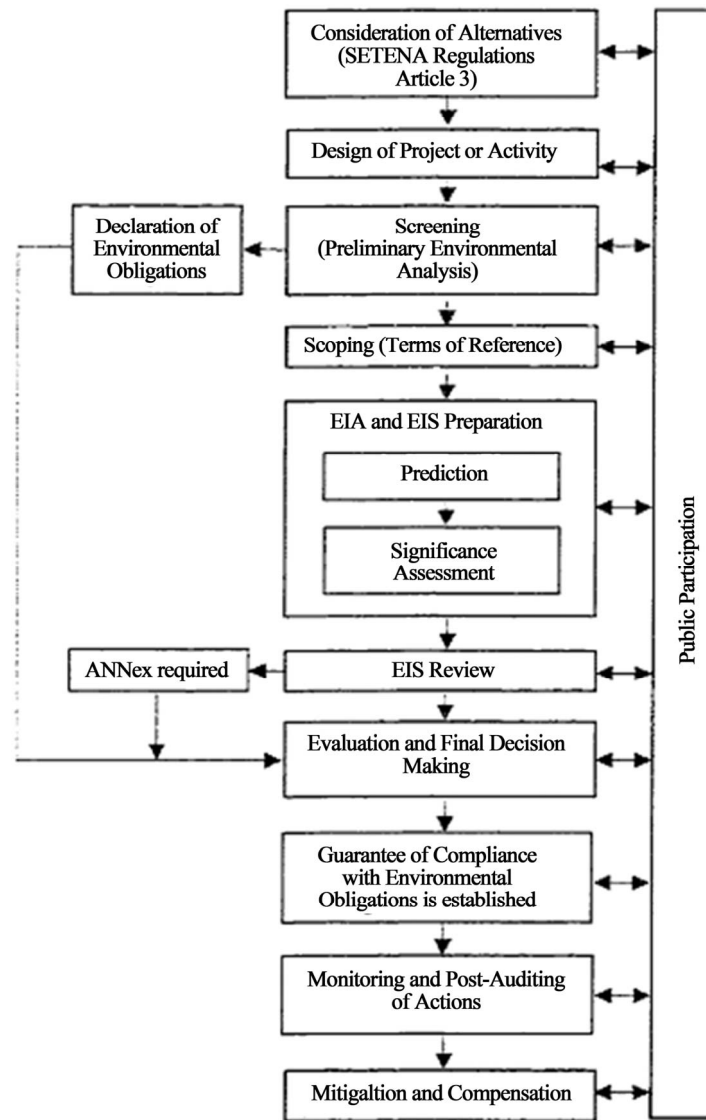


Figure 2. The ideal Costa Rican Environmental Assessment System. Source adapted from Zeremariam (2007) [21].

illustrated that passive involvement, tokenism in the decision making process and low representation of community members may occur when practicing such kind of participation. Furthermore, tourism developers ought to achieve a balance between different stakeholders and interests in tourism development aiming to reach outcomes acceptable to stakeholders within the wider community (Singh *et al.*, 2003) [26]. As far as I am concerned, immediate informing the community about the project theory through various information media might help reduce the lack of information. Involving community members at all levels of participation might also help them gain a clearer understanding about the project. It has been suggested that practical principles combining the most integrated approach would considerably bring mutual benefits between ecotourism and local communities, as Adinyira *et al.*, (2007) [18] indicated that appropriate mana-

gement could help to achieve a balance between conservation and development. Therefore, the basic requirement for the community approach to tourism development is that all members of communities in tourist destination areas should participate in the management and planning of tourism (Ashley and Roe, 1998) [7].

3. Knowledge Gaps and Limitations of Research Approach

Sustainable tourism is a political issue, as it concerns the distribution of resources, both now and in the future. The idea of community involvement as a basis of sustainable tourism is challenging as communities are seldom similar. Moreover, tourism-related businesses are mainly involved with the authority, tour operator, local community and tourists. Each role player has an important function

of development and operation of tourism industry. However, Richards and Hall (2000) [16] argued that locals and tourists always compete for transportation, food security, space and even cultural integrity. Also, these role-players recognize that definitions of sustainable tourism and devising strategies would generally reflect who has the power in any particular situation (Sharpley, 2000) [27]. In addition, sustainable tourism is about stakeholders whose interests have to be balanced. Hence it might be assumed that community involvement may ensure more sustainable forms of tourism. Although there are various international efforts on measuring sustainability, only few of them have an integral approach taking environmental, economic and social aspects into account (Dikshit *et al.*, 2009) [13]. Besides, multiple indicators may send misleading policy messages if they are poorly constructed or misinterpreted (Dikshit *et al.*, 2009) [13]. Likewise, lacking of implementation of practical technique reduced its efficiency of existing sustainability assessment (Adinyira *et al.*, 2007) [18]. For example, data limitations play a critical role in reducing the efficiency of those assessment methods, as the data required are not often collected or aggregated at the regional scale (Michelle *et al.*, 2008) [12]. On the whole, a wide gap still exists between assessment theories and assessment practices.

4. Recommendations on Principles and Criteria of Assessment System

Based on what is considered as best environmental assessment theory and practice according to the environmental assessment literature, a set of normative and evaluative criteria need to be developed. As for basic requirement of sustainability assessment methods, the ability to link economic, social and environmental aspects together within policy strategies has been highlighted (Adinyira *et al.*, 2007) [18]. That is to say, the benchmark of sustainable ecotourism project should be established at all levels, as it must be economically viable, environmentally appropriate, and socio-culturally acceptable. It has been suggested that sub-indicators should be selected strictly and weighting mechanism and treatment of missing value could not be ignored in the establishment of framework as well. Besides, an integrated method has been attached great importance to assess sustainability as it would benefit for decision making and policy development, and raise awareness of sustainability in further ecotourism planning (Michelle *et al.*, 2008) [12]. In terms of the key criteria of selected indicators, they should be simple, calculable, effective, reliable, comprehensive, and systematically sound and independent to each other (Popp *et al.*, 2001) [28]. In addition, Stoeckl *et al.*, (2004) [15] also attached great importance to indicators seeking to

evaluate the past and current situation towards assessing progress of sustainability. This is due to the fact that different types of indicators are relevant for different stages in policy cycles. Besides, Adinyira *et al.*, (2007) [18] also highlighted that the indicators should reflect the structure of the system and be suitable for decision-making purposes. As for the primary principles of establishing ecotourism, the education and training programs set up in Costa Rica would help to improve and manage heritage and natural resources. It was further advanced by setting up Green Certification Programs in Lapa Rios, which aim to measure the impacts of tourism, set concrete standards for environmentally and socially-responsible practices for tourism business (Honey, 2003) [5]. Consequently, future ecotourism is primarily based on two elements, which are conservation and sustainability of ecosystems.

5. Conclusion

On the whole, the literature review focused on different perspectives, to serve as a foundation for understanding the nature of ecotourism, while analyzing the advantages of such sustainable project in Costa Rica may exert positive influence in future improvement of community-oriented ecotourism and its assessment system. Although there is an apparent gap in terms of the actual application of indicators when establishing a suitable sustainable assessment framework, a considerable volume of literature covering methodology and approaches to selecting indicators of sustainable development would help minimize its drawbacks. Hence a reliable and useful set of indicators that correctly reflect the multidimensional nature of sustainable development is urgently needed.

REFERENCES

- [1] P. Wight, "Ecotourism: Ethics or Eco-Sell," *Journal of Travel Research*, Vol. 31, No. 3, 1993, pp. 3-9. [doi:10.1177/004728759303100301](https://doi.org/10.1177/004728759303100301)
- [2] R. Harris, T. Griffin and P. Williams, "Sustainable Tourism: A Global Perspective," Butterworth Heinemann, Oxford, 2002.
- [3] G. McIntyre, "Sustainable Tourism Development: Guide for Local Planners," World Tourism Organisation, Madrid, 1993.
- [4] S.-M. Cheong and M. L. Miller, "Power and Tourism: A Foucauldian Observation," *Annals of Tourism Research*, Vol. 27, No. 2, 2000, pp. 371-390. [doi:10.1016/S0160-7383\(99\)00065-1](https://doi.org/10.1016/S0160-7383(99)00065-1)
- [5] H. Martha, "Protecting Eden: Setting Green Standards for the Tourism Industry," *Environment*, Vol. 45, No. 6, 2003, pp. 8-21.
- [6] D. B. Weaver, "Magnitude of Ecotourism in Costa Rica and Kenya," *Annals of Tourism Research*, Vol. 26, No. 4, 1999, pp. 792-816. [doi:10.1016/S0160-7383\(99\)00044-4](https://doi.org/10.1016/S0160-7383(99)00044-4)

- [7] C. Ashley and D. Roe, "Enhancing Community Involvement in Wildlife Tourism: Issues and Challenges," International Institute for Environment and Development, London, 1998.
- [8] B. Ness, E. Urbel-Piirsalu, S. Anderberg and L. Olsson, "Categorising Tools for Sustainability Assessment," *Ecological Economics*, Vol. 60, No. 3, 2007, pp. 498-508. doi:10.1016/j.ecolecon.2006.07.023
- [9] M. A. Z. Angelica, E. N. Broadbent and H. William, "Social and Environmental Effects of Ecotourism in the Osa Peninsula of Costa Rica: The Lapa Rios Case," *Journal of Ecotourism*, Vol. 9, No. 1, 2010, pp. 62-83. doi:10.1080/14724040902953076
- [10] W. T. Hipwell, "Taiwan Aboriginal Ecotourism: Tanayiku Natural Ecology Park," *Annals of Tourism Research*, Vol. 34, No. 4, 2007, pp. 876-897. doi:10.1016/j.annals.2007.04.002
- [11] D. Lawrence, "PROFILE: Integrating Sustainability and Environmental Impact Assessment," *Environmental Management*, Vol. 21, No. 1, 1997, pp. 23-42. doi:10.1007/s002679900003
- [12] M. L. M. Graymore, N. G. Sipeb and R. E. Ricksonb, "Regional Sustainability: How Useful Are Current Tools of Sustainability Assessment at the Regional Scale?" *Ecological Economics* Vol. 67, No. 3, 2008, pp. 362-372. doi:10.1016/j.ecolecon.2008.06.002
- [13] A. K. Dikshit, R. K. Singh, H. R. Murty and S. K. Gupta, "An Overview of Sustainability Assessment Methodologies," *Ecological Indicators*, Vol. 9, No. 2, 2009, pp. 189-212. doi:10.1016/j.ecolind.2008.05.011
- [14] P. F. J. Eagles, S. F. McCool and C. J. Haynes, "Sustainable Tourism in Protected Areas: Guidelines for Planning and Management," IUCN Publications Unit, Cambridge, 2002. doi:10.1079/9780851995892.0235
- [15] N. Stoeckl, D. Walker, C. Mayocchi and B. Roberts, "Douglas Shire Sustainable Futures: Strategic Planning for Implementation Project Report," CSIRO Sustainable Ecosystems, Canberra, 2004.
- [16] G. Richards and D. Hall, "Tourism and Sustainable Community Development," Routledge, London, 2000. doi:10.4324/9780203464915
- [17] P. Berke and M. Manta, "Planning for Sustainable Development: Measuring Progress in Plans," Lincoln Institute of Land Policy, Cambridge, Massachusetts, 1999.
- [18] E. Adinyira, O.-S. Samuel and A.-K. Theophilus, "A Review of Urban Sustainability Assessment Methodologies," *Journal of Infrastructure Systems*, Vol. 5, No. 1, 2007, pp. 1-10.
- [19] C. B. Alan and C. Labuschagne, "An Appraisal of Social Aspects in Project and Technology Life Cycle Management in the Process Industry," *Management of Environmental Quality: An International Journal*, Vol. 18, No. 4, 2007, pp. 413-426.
- [20] B. M. Wilson, "Costa Rica Politics, Economics and Democracy," Lynne Rienner, Boulder, 1998.
- [21] T. K. Zeremariam and Q. Nevil, "An Evaluation of Environmental Impact Assessment in Eritrea," *Impact Assessment and Project Appraisal*, Vol. 25, No. 1, 2007, pp. 53-63. doi:10.3152/146155107X190604
- [22] R. Costa, "Reglamento Sobre Pmcedimientos de la SETENA, NO. 25705," *La Gaceta*, Vol. 156, 16 January 1997, pp. 12-16.
- [23] R. Scheyvens, "Tourism Development: Empowering Communities," Prentice Hall, Harlow, 2002.
- [24] D. Waldron and P. Williams, "Steps towards Sustainability Monitoring: The Case of the Resort Municipality of Whistler," *Sustainable Tourism: A Global Perspective*, Elsevier Butterworth-Heinemann, Oxford, 2002, pp. 180-194. doi:10.1016/B978-0-7506-8946-5.50015-0
- [25] C. M. Hall, "Tourism Planning: Policies, Processes and Relationships," Prentice Hall, Harlow, 2000.
- [26] S. Singh, D. J. Timothy and R. K. Dowling, "Tourism in Destination Communities," CABI, Wallingford, 2003. doi:10.1079/9780851996110.0000
- [27] R. Sharpley, "Tourism and Sustainable Development: Exploring the Theoretical Divide," *Journal of Sustainable Tourism*, Vol. 8, No. 1, 2000, pp. 1-19. doi:10.1080/09669580008667346
- [28] J. Popp, D. Hoag and D. E. Hyatt, "Sustainability Indices with Multiple Objectives," *Ecological Indicators*, Vol. 1, No. 1, 2001, pp. 37-47. doi:10.1016/S1470-160X(01)00006-1