



Sustainable ecotourism indicators with fuzzy Delphi method – A Philippine perspective



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ARTICLE INFO

Keywords:

Sustainable ecotourism
Indicators
Fuzzy set theory
Delphi method
Philippines

ABSTRACT

The development of sustainable tourism indicator sets is a popular strategy in current literature in order to plan and manage the sustainability performance of tourism sites. Such development is contextual to the geographic location of tourism sites due to their underlying differences in specific conditions and needs. Although ecotourism lies within the border of the sustainability sphere, current studies are concerned about the negative impacts of ecotourism activities not just to the sites but to the immediate local communities of the sites as well while limited works have been reported on the development of sustainable ecotourism indicators. Thus, this paper attempts to advance the domain literature by (1) establishing sustainable ecotourism indicators from a comprehensive list of sustainable tourism indicators sets, (2) exploring a new case, the Philippines – a developing country where the debate on the efficacy of ecotourism activities is widely pronounced, which has never been studied in the past and (3) presenting a methodology that addresses various stakeholders' interests while capturing uncertainty which is inherent in decision-making process. This work adopts a fuzzy Delphi method in establishing sustainable ecotourism indicators where fuzzy set theory is used to address vagueness and uncertainty of judgments and the group decision-making process is handled by the Delphi method. From the 666 indicators generated from literature, 59 indicators are considered relevant to sustainable ecotourism. Using the fuzzy Delphi approach, the list of 39 sustainable ecotourism indicators for the Philippine perspective is reported in this work. The proposed approach provides greater tractability due to its straightforward approach and flexibility for decision-makers when specific case conditions require an increase or decrease of the number of indicators. The sustainable ecotourism indicators are expected to provide the government sufficient information granules crucial for resource allocation and policy-making in the conservation of the ecotourism sites as well as in improving the welfare and inclusiveness of the local communities. Future works are also identified and reported.

1. Introduction

Several countries consider the tourism industry as a vital contributor to their economies as it generates jobs and can be considered as the perfect avenue of opportunities for development (World Tourism Organization, 2016). Due to the negative impacts brought about by thriving tourism, there is a sense of urgency relating to the issue of sustainable tourism (Wang et al., 2016). It is thus crucial that tourism activities initiated in prospect destinations must meet the tourists' satisfaction while not compromising the sites' natural resources (Blancas et al., 2015). Among several approaches to sustainable tourism, ecotourism emerges with the largest potential following the definition set forth by Blangy and Wood (1993; p. 32) as the “responsible travel to natural areas that conserves the environment and sustains the well-being of

local people”. This definition is consistent with the sustainable development outcomes which include, among others, proper resource management (World Tourism Organization, 2000). This has brought ecotourism at the forefront of sustainable tourism following its impact conservation and development (Wood, 2002). However, Wall (1997) posed that sustainable tourism and ecotourism should not be taken as synonymous concepts such that many forms of ecotourism may not be sustainable. In order for ecotourism to support sustainable development, that is reaping perpetual economic benefits while promoting nature conservation, it must undergo careful planning and management (Wall, 1997; Baral, 2015).

Despite the rich literature on this topic, the current direction of ecotourism poses challenges to sustainable development. In fact, practices that are supposedly carried out to help achieve the goals of

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ecotourism are worsening the situation of the potential ecotourism sites which may be brought about by differences in stakeholders' perspectives (e.g., tourists, entrepreneurs, locals, and government) (Wall, 1997). While excellent frameworks have been proposed attempting to link stakeholders together toward ecotourism in the most effective manner initially explored by Buckley (1994) and refined by Boley and Green (2016), Mathis and Rose (2016) and Thompson et al. (2018), recent debates on the efficacy of ecotourism are pointing out that most practices that are actually implemented tend to neglect the interests of local communities and residents. While recent reports on the impacts of ecotourism on socioeconomic development of local communities have been published in domain literature (Arun et al., 2015; Afenyo and Amuquandoh, 2014; Gezon 2014; Hunt et al., 2015), Cobbinah (2015) observed that local communities are often the most overlooked element while they tend to be at the receiving end of both positive and negative outcomes. As a result, the protection of social well-being of local people, a goal of ecotourism, is compromised. It has been supported by Das and Chatterjee (2015) who argued that local communities receive low net benefits, and sometimes negative, from ecotourism activities. This is due to factors such as the biased distribution of economic benefits in the community, land insecurity, little control of the local people over tourism and an increase of inflow of tourists (Counsell, 2005; Coria and Calfucura, 2012). On the other hand, if not managed sustainably, the impacts of ecotourism on the environment would be devastating such as increasing noise, air, and water pollution, decreasing biodiversity, draining of wetlands, and destruction of coral reefs (Ghorbani et al., 2015). Some organizations listed ecotourism as one of the emerging threats to natural landscapes (Ghorbani et al., 2015). With this, the domain literature increasingly cautioned the growth of ecotourism such that its pattern must conform to the sustainable tourism front (Tepelus and Cordobci, 2005; Balmford et al., 2002). Thus, there is a need to assess the ecotourism activities and their relationships with sustainability which is crucial in planning and managing the development of ecotourism. This need coined the term “sustainable ecotourism” which a kind of ecotourism that conforms to sustainable tourism.

One popular approach in literature to address the assessment process is through the construction of a measurement system through sustainable indicator sets widely known as sustainable tourism indicators (Twining-Ward and Butler, 2002; World Tourism Organization, 2004; Park and Yoon, 2011; Tanguay et al., 2013; Lee and Hsieh 2016). A review of the sustainable tourism indicators focusing on methodological approaches has been recently put forward by Kristjánssdóttir et al. (2018). Sustainable tourism indicators can provide essential guidance for decision-making in terms of developing priority strategies that are essential inputs for resource allocation and medium and long-term planning, among other activities. These sustainable tourism indicators are able to aid in prioritization process, maximization of benefits, and as a measurement to calibrate progress towards sustainability objectives (Chávez-Cortés and Maya, 2010). Hoernig and Seasons (2004) argued that while planning policies and possible outcomes can be achieved through many different ways but establishing indicators is the most appropriate way. Aside from this, when integrated properly with decision-making and policy implementation, establishing indicators nurtures learning with the major stakeholders which is essential in strategic planning (Tsaour et al., 2006; Palme and Tillman, 2008).

Since ecotourism contains some distinct perspectives, sustainable tourism indicators must be contextualized. Recently, Wang et al. (2016), Huang and Coelho (2017), and Kunasekaran et al. (2017) established sustainable tourism indicators for different application and location domains. Note that current literature agrees that the establishment of sustainable tourism indicators is case specific and no general indicator set is available that will be applicable in all cases and conditions (Agyeiwaah et al., 2017). This is brought about by the case-specific conditions and resolutions which necessitate some degree of customization. However, the establishment of sustainable ecotourism

indicators is limited in current literature and only a few heeded the call (Li, 2004; Barzekar et al., 2011; Pasape and Anderson, 2014; Ashok et al., 2017). Thus, this paper attempts to develop a methodology for establishing sustainable ecotourism indicators. In this work, we propose to highlight the Philippine perspective where no previous work has made any attempt to explore such path and where, as most developing countries are, local communities find ecotourism as a largely foreign concept and is only introduced and imposed by international agencies, NGOs and the government (Cobbinah, 2015). Following the practice of most domain studies, the approach is only a matter of choosing which indicators are relevant for the Philippine case. Due to the various indicators that must be considered in the evaluation process a multi-criteria decision making (MCDM) approach is thus proposed. Furthermore, to address the uncertainties associated with data collection and judgment elicitation in MCDM methods, the evaluation process adopts the fuzzy set theory (Zadeh, 1965) which takes into account vagueness and imprecision of data. The sustainable tourism indicators are then sorted out using the fuzzy Delphi Method (FDM) approach which is used in other domain applications, not in the context of evaluating sustainable ecotourism indicators. The contribution of this study is the systematic approach of identifying sustainable ecotourism indicators relevant to the Philippine case.

2. Literature review

2.1. Sustainable tourism

The World Tourism Organization (2004), which is now the United Nations World Tourism Organization (UNWTO), offers the definition of sustainable tourism development as “meeting 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, biological diversity and life support systems.” (Liu, 2003; Chávez-Cortés and Maya, 2010). Essentially, there is a need to develop and manage such activities for tourist destinations which shall not sacrifice its resources – cultural or natural – in order to attain sustainability (Blancas et al., 2015). Hence, the concept of sustainable tourism development cannot be only perceived as a holistically future-oriented system, but also an inward vision which encompasses all aspects relating to the economy, environment, and society, towards reaching its goal (Sharpley, 2000).

One of the emerging types of tourism destination towards sustainable tourism is ecotourism because its definition matches with that of sustainability. Ecotourism emphasizes the provision of opportunities for tourists to learn and develop a positive attitude towards sustainability (Walker and Moscardo, 2014). According to The Ecotourism Society, a non-profit organization dedicated to promoting ecotourism, ecotourism or sustainable ecotourism is defined as “purposeful travel to natural areas to understand the culture and natural history of the environment, taking care not to alter the integrity of the ecosystem while producing economic opportunities that make the conservation of natural resources beneficial to local people” (Sirakaya et al., 2000). Ecotourism is seen as a conventional route to sustainable tourism because it generates revenue for the local communities and to the country which will eventually create incentives for conservation (Fennell, 2009). As part of its goal, conserving ecotourism sites is seen as a preventive measure to prevent further damage to their natural environment and resources. This will also lead to some observable advantages such as job creation, community development, environmental conservation and education, cultural preservation and experience, and other economic benefits (Cobbinah, 2015). However, policies that should have been crafted to enable a positive impact are ill-informed, unclear and not firmly implemented especially in developing countries. This is evidenced by the failure of governments and organizations to do their job of making a positive impact towards sustainability (Cobbinah, 2015). Yfantidou and Matarazzo (2017)

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