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### **SMART TOURISM BAROMETER: A PROTOTYPE ALERT SYSTEM FOR DETERMINING THE HEALTH OF RURAL TOURISM DESTINATIONS**

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*Working Paper Series*

**No. 2, October 2017**

The Office of Graduate Studies & Research of the University of The Bahamas publishes RESEARCH EDGE Working Paper Series electronically.

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# SMART TOURISM BAROMETER: A PROTOTYPE ALERT SYSTEM FOR DETERMINING THE HEALTH OF RURAL TOURISM DESTINATIONS

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## EXTENDED ABSTRACT

The aim of this paper is to benchmark the approach in healthy rural tourism management based on a study that was carried out by the researcher in Malaysia from 2011-2016. In line with Malaysia's goal to achieve high-income-nation status by 2020, the nation set a bullish target to achieve 36 million tourist arrivals and RM168 billion (US\$48 billion) in tourism receipt by 2020 (PEMANDU, 2010). Thus, it is imperative to have a holistic understanding of the impact of these mass tourism developments on key natural destinations where the rural tourism enterprise makes up 75 percent of the tourism industry in Malaysia. "Green-washing" or the unjustified appropriation of environmental and social virtues by operators in the industry to create a pro-environmental image to sell their tourism product is becoming a major issue in Malaysia.

Hence, a fundamental study is required to understand the various multi-dimensions that are essential in investigating the relationships between different tourism models and how they are closely linked to the local economies and environment in key "natural" destinations in Malaysia. These multi-dimensions can be used to develop a smart tourism barometer that will act as an alert system for determining the health of rural tourism destinations in Malaysia.

On the whole, the study looks at three main dimensions of sustainable tourism – physical/environment, social and economics (see Figure 1). Indicators developed for these dimensions will be used in the development of the smart tourism barometer prototype. Indicators for Malaysia were developed based on a series of data testing, both from the literature, qualitative interviews and preliminary testing that finally formed the fundamental indicators to evaluate the health of rural tourism destinations in Malaysia.



<  $Y_m$ , the destination is in “Danger” (Red Zone); and if  $Y_s$  is lower than  $Y_m$  by 20 percent the destination is in “Caution” state (Yellow Zone) (see Figure 2).



Figure 2. Data layering zoning for responsibility index

Thus, the barometer (see Figure 3) will use this model to measure the performance of the rural tourism destination. The officers from the Ministry of Tourism and Culture, Malaysia, will be able to use this alert system to pro-actively carry out enforcement for sites that are in danger or in the state of caution. The barometer will also highlight the indicators that are below the national average that need to be checked on and indicators that are above the national average that can be benchmarked by other destinations.

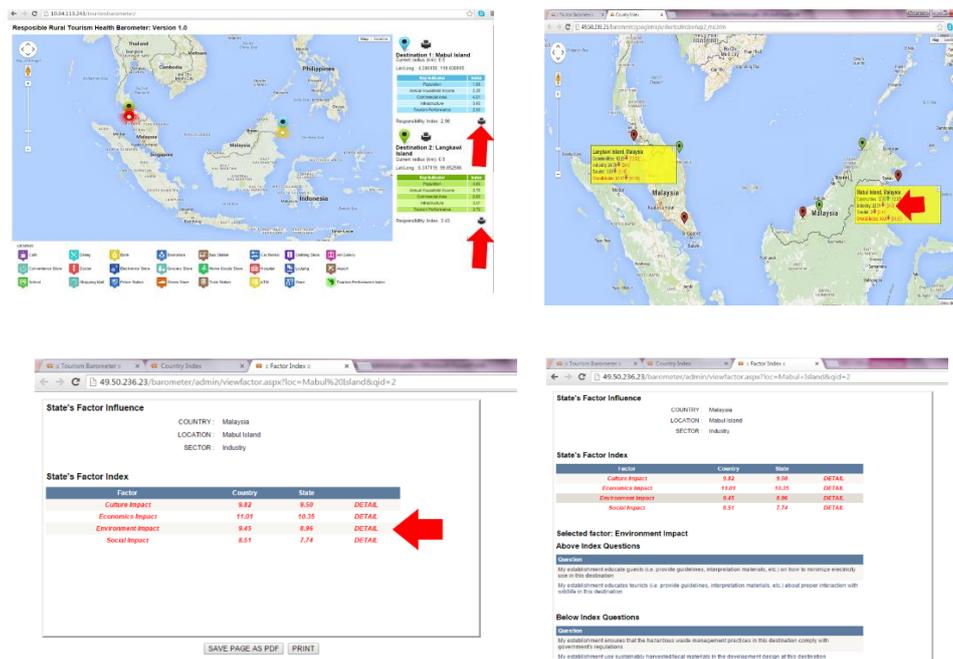


Figure 3. The graphical user interface (GUI) of the barometer.

All of the fundamental constructs and indicators developed for the study for the three stakeholders (tourists, community and industry) and three dimensions (economy, socio-cultural and environment), were generated via a series of qualitative (literature and interviews) and quantitative research methodologies and analysis to determine the valid constructs and indicators/items. The main socio-cultural responsibility constructs for the three stakeholders include:

- Responsible tourist indicators - respect for local culture and values; interest in local way of life; and safety and security.

- b. Responsible community indicators - ability (awareness and financial); perceived benefits; perceived cost; motivation (benefit); opportunity; and willingness.
- c. Responsible industry indicators - social interaction; disruption; delinquent behaviours; demographic changes; new infrastructure; town/region character; and responsible tourism practices.

For economics responsibility, the main constructs include:

- a. Responsible tourist indicators – pricing; and quality of destination.
- b. Responsible community indicators - income opportunity; job opportunity; business opportunity; inflation; and other economic aspects.
- c. Responsible industry indicators – capital; government support; and other economic aspects.

For environmental responsibility, the main constructs comprise:

- a. Responsible tourist indicators – environmental belief; knowledge of environmental code of conduct; resources (water and energy) utilization; environmental purchase behaviour; awareness of environmental policies; natural & built environment protection practices; nature and wildlife conservation practices;
- b. Responsible community indicators – household resources utilization; knowledge of waste management practices; awareness of environmental policies; household waste management behaviour; waste disposal and recycling attitude; support for protection and conservation activities; waste minimization practices; knowledge of natural and built environment practices; and attitude towards waste management.
- c. Responsible industry indicators - hazardous waste and storm-water management; solid waste management (non-hazardous); liquid waste management; sewage management; resource utilization management; waste minimization practices; pro-environmental coaching; tourist management; natural and built environment protection practices; natural and wildlife conservation practices; and support for protection and conservation activities.

In conclusion, the barometer will highlight gaps and shortcomings in rural sites and thus the implications on policy would be interventions in the form of product development, destination management and human resources development. In short, the responsibility index developed for the use of the barometer is not to attract more tourists to the rural tourism destinations. It is meant for the agencies responsible to better manage these rural sites. Sites that are well managed will be better marketed and attract more tourists.

**Keywords:** *Responsible tourism, barometer, alert system, Malaysia, rural tourism*

### **Acknowledgement**

The researcher would like to acknowledge the Ministry of Higher Education, Malaysia, for funding this project under the Long Term Research Grant Scheme (LRGS 2011) via Taylor's University, Malaysia, as the project leading university.

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Dr. Nair was at Taylor's University, Malaysia, for 19 years as a full Professor at the School of Hospitality, Tourism and Culinary Arts; Programme Leader for the Responsible Rural Tourism Network; Associate Research Fellow of the Centre for Research and Innovation in Tourism (CRiT) and the founding Director of the Centre for Research and Development at the University.

Dr. Nair earned a Bachelor of Science in Horticulture (1994), Master of Science in Systems Engineering with a specialisation in Environment (1998) and a Ph.D. in Systems Engineering with a concentration in Ecotourism (2003) from Universiti Putra Malaysia (UPM). He also holds a Diploma in Personnel Management and Industrial Relations from the College of Professional Management (1997), Jersey, UK, and a Licensed Environmental Auditor (EMS-14001).

His research specialisation is in Sustainable and Responsible Tourism, Rural Tourism, Ecotourism Management, Environmental Management, Community-based Tourism and Green Tourism.

A consultant with many national and international projects, Dr. Nair's exceptional research achievements with more than 200 publications to his credit have earned him many awards including the Taylor's Chairman's Staff Excellence Award for Academic Excellence (2002); Research Excellence Award (2007 & 2013); Best Paper Award for Tourism Research in the Third National Tourism Educators Conference for his work in ecotourism (2004); Merit and Honorary Award as the Outstanding Young Malaysian Award respectively for Academic Leadership and Accomplishment in 2006 and 2009 by the Junior Chambers International; and many more accolades.

In 2011, he led one of the biggest national research grants that was awarded to a private university worth USD3million for a 5-year project (2011-2016) entitled, "Multidimensional Responsible Rural Tourism Capacity Framework for Sustainable Tourism" under the Ministry of Education's Long Term Research Grant Scheme (LRGS). The project outcome surpassed the key performance indicators (KPIs) set by the funding body.

Dr. Nair was also the past Vice President of the Malaysia Ecotourism Association (MEA), past President of the Asia-Pacific Council for Hotel, Restaurant and Institutional Education (APacCHRIE) and the past Secretary of the Tourism Educators Association of Malaysia (TEAM). He is a well sought after keynote speaker across the globe and visiting professor for universities in Malaysia, Philippines, Thailand, Taiwan, Hong Kong, Macau, Japan, Myanmar and France.

Dr. Nair joined University of The Bahamas in fall 2017.