

Review Paper

Multi-Dimensional Responsible Rural Tourism Capacity (RRTC) Framework: A Proposed Environmental Responsibility and Management Model for Malaysia

Vikneswaran Nair,
Taylor's University, Malaysia

Badaruddin Mohamed
Universiti Sains Malaysia, Malaysia

Lo May Chiun
Universiti Sarawak Malaysia, Malaysia

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Abstract: Malaysia is regarded as a heaven for ecotourism and natural resources. Nonetheless, the very concept of ecotourism is confused with massive “greenwashing” that is destroying many pristine destinations especially in the rural settings. Various tourism models emphasising on the environment have been developed in the past in Malaysia with no holistic understanding of their impact to the natural environment. With this challenge in mind, this paper aims to understand and propose an environmental model that is able to balance the natural and economic environment in line with Malaysia’s Economic Transformation Programme where rural tourism is expected to alleviate from a low-yield to a high-yield economy. This will be achieved by developing suitable indicators to make the rural tourism business model sustainable. The first three years of the five year research (2011-2016) were involved in developing the fundamental aspects of the study, with emphasis on the establishment of baseline data and carrying out situational analyses at the ten selected study areas to help develop the indicators. The final two years will evaluate the performance of these sites using the developed indicators. Hence, this fundamental study is necessary to understand the various dimensions that are essential in investigating the relationships between different tourism models and how they are closely linked to the local economies and environments in key “natural” destinations in Malaysia.

Keywords: Rural tourism, responsible tourism, sustainable tourism, environment management, multi-dimensional

Correspondence: Vikneswaran Nair, Taylor's University. Email: vicky.nair@taylors.edu.my

Suggested citation: Nair, V., Mohamed, B. & Lo, M.C. (2015). Multi-dimensional responsible rural tourism capacity (RRTC) framework: A proposed environmental responsibility and management model for Malaysia. *Asia-Pacific Journal of Innovation in Hospitality and Tourism*, 4(1), 93-109.

Introduction

Intense development of tourism across the globe including Asia has resulted in considerable impact to the natural world. According to reports from DEAT (2003), these effects vary from the visual developmental impact of resort and hotel complexes, to air and noise pollution, resulting from augmented traffic, contamination of water supplies and loss of natural habitats. Tourism has to a certain extent played a role in destroying the natural environment (Andereck, Valentine, Knopf & Vogt, 2005). This situation is alarming as tourism establishments that fail to protect their environmental surroundings will lose the very attractions on which the establishment most depend on for their livelihood. This includes clean air, safe water and beautiful surroundings. Thus, any tourism establishment operating in a fragile nature-based ecosystem has a particular responsibility towards its natural environment in terms of ensuring the management and conservation of ecologically-sensitive land, habitat and biodiversity.

Most tourism establishments that embrace good environmental practices inevitably contribute to the quality of their surroundings (DEAT, 2003; Hua & Walla, 2005; Leea, Hsub, Hanc & Kimd, 2010), hence improving the experience for guests and the living standards of local communities. By managing well waste and water treatment, an establishment can create a safer environment for its employees and the surrounding local communities as this reduces illness and enhances the quality of life. Furthermore, good environmental practices translate into direct cost savings by reducing energy and water bills as well as sewage treatment and waste disposal costs (Priego, Najera & Font, 2011; Duim & Marwijk, 2006; Todd & Williams, 1996). In terms of the bottom line, good environmental practices make perfect economic sense (Nair, 2010a). Hence, tourism industries globally have shown interest in becoming “green”.

According to Nair (2003, 2010a), over the past years, the tourism industry’s interest in appearing to be “sustainable” or “green” has increased exponentially. If managed well, tourism is a profitable business, yet the industry is stressing the environment and the local communities in terms of social impact (Andereck *et al.*, 2005). Subsequently, more and more responsible tourists across the globe are demanding for a “green-vacation” (Duum & Marwijk, 2006). Thus, it raises the question if the evolution of the tourism industry has reached the tipping point that is stressing the environment. Can we still consider “eco-tourism” and “green-tourism”

to be sustainable or responsible? Hence, what does “responsible tourism” really mean in the context of a rural setting? How can it be measured and credibly demonstrated in order to build tourist confidence, promote efficiency and high yield as well as fight false claims (greenwashing) in an eco-rich country like Malaysia?

With this challenge in mind, this paper aims to understand and propose an environmental model that is able to balance the natural and economic dimensions in line with Malaysia’s Economic Transformation Programme (PEMANDU, 2010) where rural tourism is expected to alleviate the economy from a low-yield to a high-yield. Clear indicators and measurement for effective control and result-driven tools can be developed to ensure that the model is financially feasible, provides benefits beyond the pockets of the shareholders, sustainable and is effectively informing and educating both the local community and the tourists.

Literature Review

Rural Development in Malaysia

Tourism has played a key role in rural development across the globe (Pakurar & Olah, 2008; Konyves, 2001), including Malaysia. The Ministry of Rural and Regional Development of Malaysia classifies rural areas as an area having less than 10,000 people (Jaafar, 2004). Rural tourism was introduced as a new form of tourism during the Seventh Malaysia Plan (1996 – 2000) (EPU, 1996). This development plan emphasised the national rural development agenda in creating employment opportunities, increasing income levels and reducing poverty among rural people who comprised 37% of the total population.

Rural tourism has indeed contributed significantly in terms of income generation to the country. In 2011, US\$5 million was generated from the homestay programme, which is among the most popular rural tourism offerings in Malaysia (“Tourism for growth”, 2012). The rural tourism products in Malaysia include homestays, eco or nature tourism, agro-tourism, cultural and heritage-based tourism. Among these, the homestay programmes have been a success.

To date, there are a total of approximately 159 villages with 3,424 homestays licensed under the Ministry of Tourism and Culture, Malaysia, spread all over the country in every state (Tourism Malaysia, 2012). According to Borneo Press (“Homestay tourism.....”, 2012), the homestay programme which surpassed its target of 23% occupancy rate, had thus far achieved more than 32% since it was introduced in 1995. In 2012, the total number of tourists who chose homestays increased by 55% in the first six months of the year compared to 2011. The total homestay programme revenue between January and June 2012 was RM8,710,526 million, which is an increase of 45.2% compared to the same period in 2011 (“Homestay tourism.....”, 2012). In 2012, the revenue from the homestay programme increased by 26.78% to

RM15.7 mil in 2011 (“Land of the hornbills...”, 2013). The report further showed that during the same period, tourist participation in the programme also increased by 29.8% to 254,981 people. In terms of tourist arrivals, the programme saw an increase of 21.6% – from 161,561 tourists in 2009 to 196,472 in 2010.

Green Tourism and Responsible Tourism

Pleumarom (1995) reported that green tourism is the fastest growing sub-sector of the tourism industry. Today, two decades later, green tourism is still the catchphrase for all tourism businesses. Similarly, eco-tourism is the fastest growing form of tourism in Malaysia, currently making up about 10% of the country’s tourism revenue (Kaur, 2010).

Nonetheless, there are well-grounded apprehensions that greenwashing is instead slowly overshadowing the fragile eco-tourism industry (Yanarella, Levine & Lancaster, 2009; Friedman, 2008; Greer & Bruno, 1997). Even the concept of responsible tourism still appears to be lacking in adequate scientific fundamentals, and may not be a viable solution to the global environmental problem if not executed well. In principle, responsible tourism simply means vacations that care about local communities and culture as well as wildlife and environmental conservation (Nair, 2010a). This is particularly important where the focus of the tourism sector and activities is the fragile natural environment. Making this fragile natural environment sustainable is a challenge for the industry. Only by underpinning the sustainable environmental practices with responsible tourism development (DEAT, 2002) can the industry truly face its challenges.

Hence, the process of integrating responsible tourism business with environmental management can be done from conceptualisation to decommissioning in the project life cycle. Subsequently, tourism enterprises can be committed to responsible tourism by being selective in purchasing decisions, i.e. by only supporting responsible suppliers and producers and simultaneously, educating clients on their responsible purchasing policy.

In short, the environment is a major dimension that needs to be considered throughout tourism planning and development for responsible tourism. ICRT and GTA (2006) highlighted the principles of environmental management by incorporating the following: (a) identifying environmental problems and threats related to existing tourism developments and (b) assessing alternative strategies and evaluating or quantifying their likely environmental impact. Further to this, the number of studies focussing on the environmental dimension in responsible tourism has increased over the past few years. These studies were scoped based on drivers and barriers (Raviv, Becken & Hughey, 2013); governance (Hall, 2012); implementation plan (Brookes, Altinay & Ringham, 2014); new theories and concepts (Taillon, 2012; Raman, 2014); cost effect (Sirima & Ladslaus, 2012); tourist perception and

attitude (Subramanian & Madasamy, 2013; Fatin, Amirah & Khairani, 2014); and tourist behaviour (Stanford, 2014).

Nonetheless, there are limited studies on the monitoring mechanism for responsible rural tourism destination that focuses on the efficient and effective management of the environment. The lack of a monitoring mechanism may result in major environmental disasters as witnessed in the many landslides that have taken place in eco-sensitive tourist destinations in Malaysia (Hong & Chan, 2010; "Heavy rains....", 2014; "Landslides reported.....", 2014).

In Malaysia, the overuse of the terminology associated with the prefix "eco", which denotes "being green" or "environmental friendly", may not necessarily mean being "hip", "cool" and "friendly" to the environment. Many unscrupulous tourism enterprises merely pay lip service to environmentalism and use it as a marketing and public relations tool (Greer & Bruno, 1997). Nonetheless, with more and more tourists being well-informed of what they can expect from responsible travel, the trend is slowly changing where the market has to respond to these eco-tourists' expectations or face closure.

Redefining Sustainable Tourism and Development Models

Over the last century, nations around the globe fuelled their economic growth using their abundant natural resources (Duim & Markwijk, 2006). Tourism development was no different. Many developing nations bulldozed their way to growth and development at a pace where natural regeneration/recovery was not possible. No thought was put into the consequences of overconsumption or overexploitation of the natural resources that attracted tourists to visit in the first place. Nonetheless, it is critical to understand the environmental impacts that are changing the way the tourism industry functions. Tourism resources are depleting, supplies are running short and the global thermostat is indeed going up (Nair, 2010a). All of this requires rethinking on the various models of sustainable development that should have worked in theory but has failed in reality.

After the failed United Nations Climate Change Summits in Copenhagen, Denmark in 2009, and subsequently in Cancun, Mexico (in 2010) (Nair, 2010b), and the Durban, South Africa summit (in 2011), we have to face the following reality as outlined by Chambers, Simmons & Wackernagel (2000) a decade ago: (1) Mankind must halt the decline in biodiversity and learn to leave in harmony with other species; (2) Mankind must eliminate poverty and inequality whilst providing an acceptable quality of life for all; (3) Mankind must feed the global population predicted to double its size at the turn of this century; and (4) Mankind must harness sufficient energy to power global economies without damaging the environment.

Under the umbrella term of "sustainable development", these four big questions raised by Chambers are still relevant today. As further added by Goore (2000),

living beyond the ecological means will surely lead to the degradation of homes and suffering of human well-being. Over the decade, many scholars have tried in vain to measure the ecological and environmental impact due to intense development. Datschefski (1999) outlined “Six S’s of Sustainability to Save the World” (Figure 1).

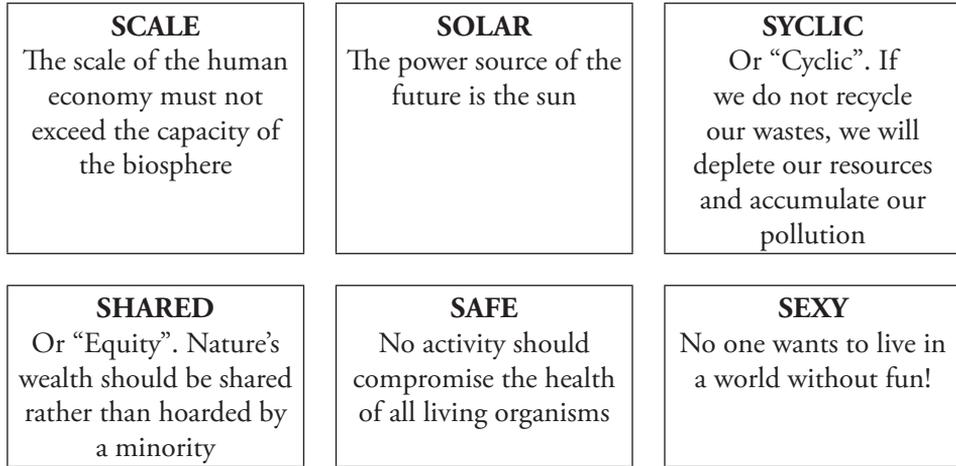


Figure 1. Six S’s to Save the World

The 1970s model developed by Ehrlich and Holdren (as cited in Chertow, 2001) introduced the IPAT Model (Figure 2).

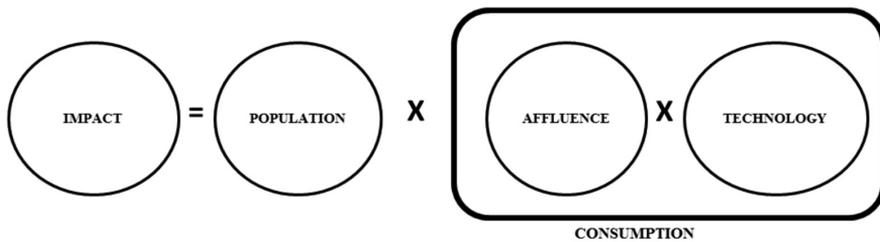


Figure 2. IPAT MODEL

This model outlines the relationship between environmental impact, number of consumers, affluence (or level of consumption) and technological efficiency in delivering a particular product/service, where consumption is the product of affluence and technology. In short, the amount of fuel used to travel a certain distance depends on both the mode of transport and the efficiency of that form of travel.

Many aspects of the human quality of life are also a function of this consumption as indicated in Figure 3 by Chambers et al. (2000).

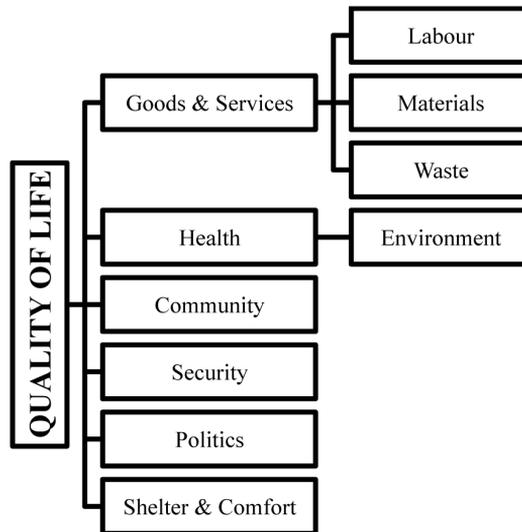
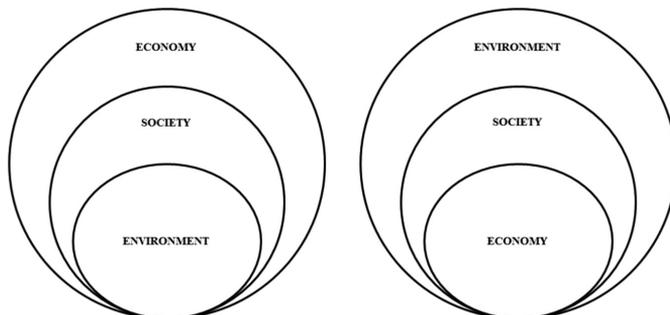


Figure 3. Human Quality of Life is a function of Consumption

Many models of sustainable development tend to focus on the economy being treated as the sole priority “bottom line” in the belief that the society and environment exist to serve the economy rather than the other way around (Figure 4a). On the contrary, the “Russian Dolls” model of sustainability (O’Riordan, 1998), places the economy in a more supportive position with social and environmental factors taking more leading roles (Figure 4b). This model upholds the basic principle that all economic activities should be geared towards social progress and that this must be achieved within environmental limits.



(a) The Traditional model versus, (b) the Russian Dolls model

Figure 4. Environment, society & economy

In short, sustainability is basically the capacity to endure. This is important for achieving quality of life. All progress and development including tourism can only be sustainable if the current state can be understood. Subsequently, the direction to move is decided based upon the previous audit and how a mechanism to indicate the success is measured and monitored closely. Figure 5 represents four possible situations in achieving quality of life within the means of nature.

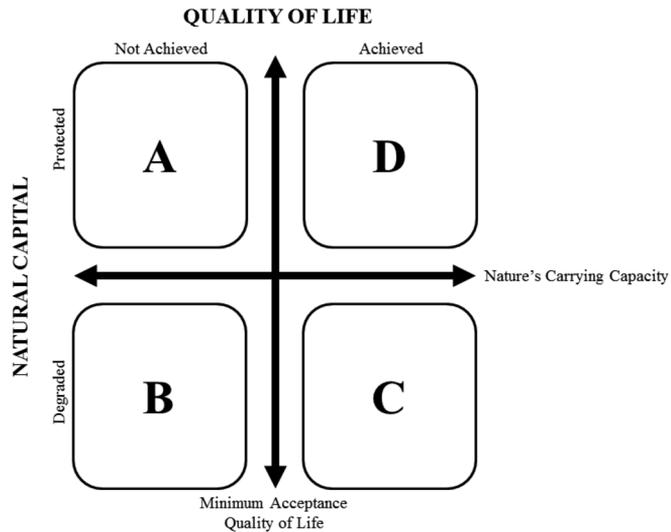


Figure 5. Quality of life versus natural capital

For tourism development, Zone A is depicted when tourism development projects are kept off-limits to the local community. It may be ecologically sustainable but it is unlikely to be socially sustainable. Zone B, on the other hand, is where poverty results in further degradation. Excessive deforestation will lead to the loss of groundwater supplies that communities rely on. This is evident in many developing nations that are exploiting local communities and their natural habitats. Many rich nations fall in Zone C whereby a high standard of living is achieved but the natural capital and environment are degraded. Malaysia needs to manage its tourism industry carefully to avoid falling into the much dreaded Zone C. Finally, Zone D is the equilibrium where high quality of life is achieved with tourism development that does not degrade the natural environment. In summary, successful sustainable tourism development can happen in any move from Zone A, B or C towards Zone D. Hence, the equilibrium Zone D basically ensures that the scale of the economy does not exceed the scale of biosphere. A similar evaluation was carried out by Colladosa

and Duaneb's study in 1999. Hence, the carrying capacity and limit of acceptable change becomes critical in balancing the quality of life and natural capital.

Having a tool to measure the overall use of nature and people's impact on the environment will be useful in gauging the impact of tourism development on mankind (Nair, 2003). Based on these aspirations, the ecological footprint was introduced. Despite all the well-thought models of sustainability and high ideals since 1992, the world has actually regressed in terms of sustainable development. There are many challenges facing developing countries in moving their economies to more environment-friendly ones.

As highlighted by UN Secretary-General, Ban Ki-Moon, at the World Economic Forum in Davos, Switzerland in 2010 (UNEP, 2010):

It is easy to mouth the words sustainable development, but to make it happen, we have to be prepared to make major changes - in our lifestyles, our economic models, our social organization and our political life.

All economic activities have some form of impact on the surrounding environment. Uncontrolled use of finite resources will result in total extinction of ecosystems, flora and fauna. Hence, despite the various evolution of sustainable models across the globe as well as mounting investment and awareness in environmental protection, pressure on ecosystems and natural resources continue to increase rapidly. The indiscriminate exploitation of nature by humans especially in the largest industry of the world, tourism, has reached every corner of the natural world. Intense tourism development has indeed brought massive benefits to human welfare. However, the upshot of this growing human domination of the planet is that there is now no ecosystem that is free from pervasive human influence. Change is vital if our future generations are to experience the environment as we do today.

Developing a Local Framework

Developing a holistic environmental model committed to the conservation of biodiversity and natural heritage, responsible use of natural resources, as well as the prevention of pollution and waste, is essential for an effective local model. The new responsible framework will ensure the optimal use of resources and simultaneously, maintain the balanced ecological processes that can help conserve natural heritage. The fundamental indicators that will be extracted from the current practices will track changes in key environmental components of the tourism industry, report the achievements of sustainability goals and measure environmental impacts of the tourism industry over time. These indicators will provide a snapshot of the impacts of the tourism industry on the environment and the industry's response to environmental issues.

The proposed model is segmented into two subprogrammes – Responsible Tourism Framework (RTF) and Carrying Capacity Framework (CCF). These two frameworks address the three pillars of sustainable development - the economy, social and the environment (Figure 6).

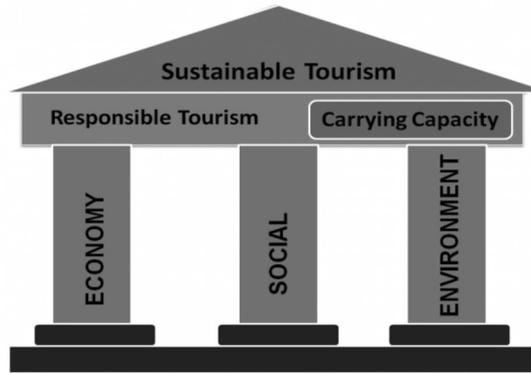


Figure 6. General project framework

For the first subprogramme, the study sought to develop the fundamental knowledge in understanding economic, social and environmental responsibilities, their indicators and models in rural tourism destinations selected as case studies. All stakeholder perspectives are investigated using both quantitative and qualitative approaches. Based on this fundamental knowledge, a tourism barometer to assess and monitor the economic, sociocultural and environmental impacts of rural tourism destinations using an integrated decision support system is structured. The new responsible model will ensure the optimal use of resources and simultaneously, maintain balanced ecological processes that can help in the conservation of natural heritage. The fundamental indicators that will be extracted from the current practices will track changes in key economic, social and environmental components of the tourism industry, report the achievements of the sustainability goals and measure the impacts of the tourism industry over time. Thus, the environmental dimensions play an integral role for both the RTF and CCF as outlined in Figure 7.

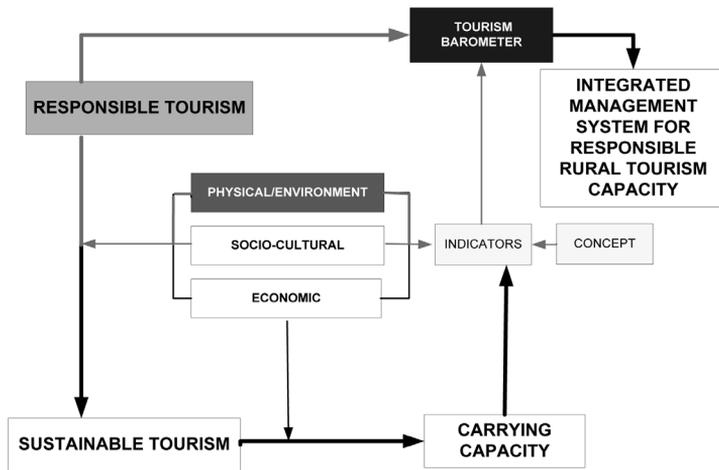


Figure 7. General conceptual framework of project

Thus, this framework will be able to tackle the following research questions: (1) What are the stakeholders’ perspectives on environmental responsibility in rural tourism destinations? (2) What are the environmentally-responsible indicators for rural tourism destinations? (3) What are the environmentally-responsible impacts of rural tourism destinations? and (4) How to monitor and manage the environmental responsibility of rural tourism destinations?

There are a range of methods and analysis for collecting information about outcome systems. Outcome systems are any systems used for identifying outcomes, measuring them and holding relevant parties accountable for their achievement (Duignan, 2003). There are a range of methods for collecting information and monitoring at different phases of the project.

The research design to accomplish environmental responsibility and management framework comprises of 3 phases: (1) The Intelligent phase; (2) Design phase; and (3) Choice phase (Figure 8).

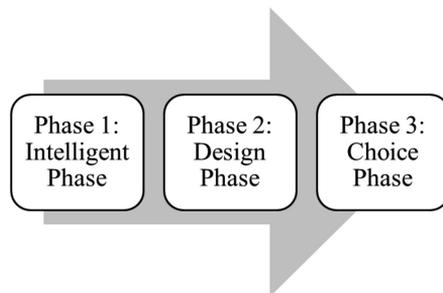


Figure 8. Three (3) phases of the environmental responsibility framework

1. **Phase 1: The Intelligent phase.** In this phase, the decision-making problem is identified based on stakeholders' perspectives and literature review. Some of the tasks that would be carried out in this phase include: (a) Conducting search and scanning procedures; (b) Identifying problems; (c) Determining the ownership of the problem; and (d) Presenting the problem statement. Information gathering for this phase would be done through extant literature search and inductive research techniques to elicit information from the ground. The inductive research will include workshops, focus groups, in-depth interviews (to investigate the *why* and *how* of decision making) and Delphi approach. A thematic analysis using N-Vivo would be carried out to understand stakeholders' perspectives on the environmental responsibilities of rural tourism.

2. **Phase 2: Design phase.** In this phase, the alternatives are identified and criteria are established. The following are the required tasks in this phase: (a) Identify alternatives (have an initial list and later revise the list. Here the various environmental responsibilities for rural tourism options are identified); (b) Data envelopment analysis (DEA) would be used for benchmarking and developing a robust performance index for environmental responsibilities of rural tourism; (c) DEA is generated from the data set of observed operative units, Decision Making Units (DMU) (tourism stakeholders that are involved in businesses, government agencies and non-governmental organizations). The performance index and benchmarking of the environmental responsibilities for rural tourism can be computed through the DEA analysis. The sets of indicators for tracking environmental responsibility are identified and selected based on the analysis above. The selected indicators will be used to index and measure the environmental responsibility of all stakeholders. The indicators used will be classified according to the three levels of priority – low, medium and high.

3. **Phase 3: The Choice phase.** In this phase, all the possible alternatives identified would be evaluated. The evaluation would be based on the decision analysis model selected. In this research, the multi-criteria decision approach would be used to carry out the evaluation. The following are the initial tasks identified for this phase: (a) An exploratory factor analysis will be carried out to develop scales for environmental responsibilities for rural tourism; (b) Self-administered questionnaires will be distributed based on the scales developed; (c) A confirmatory factor analysis would be conducted to confirm the validity of the developed scales; (d) The evaluation would be based on the structural equation model (SEM) developed based on the multi-criteria decision framework; (e) SEM will be used to establish environmental responsibilities for rural tourism framework; (f) The framework derived from the SEM approach is then presented with the validation outcomes.

Field data collection will be carried out in Peninsular Malaysia, Sabah and Sarawak. In-depth data collection will be carried out at locations that are selected based on their compliance to the definition of “rural tourism” - rural location, rural culture, rural resources used, rural activities, local resources used and being managed by the local community (Könyves, 2001; Pakurar & Olah, 2008). Site selection is also done according to the various levels of development, types of ecosystem, tourist type/number and management authority who is responsible for overseeing the rural tourism site. The following 10 sites are selected for the in-depth analyses (Table 1).

Table 1. Ten study sites

Site	Type of ecosystem
1. Bario, Kelabit Highlands, Sarawak.	Montane, terrestrial
2. Lower Kinabatangan River, Sandakan (Sukau, Bilit, Batu Puteh etc.), Sabah	Terrestrial, primary forest
3. Taman Negara, Pahang	Terrestrial, primary rainforest
4. Setiu Wetland, Terengganu	Mangrove, secondary forest
5. Gopeng Ecoadventure Corridor (Gopeng Town, Gopeng Homestay, Sg. Kampar Water Rafting, Ulu Geroh Aboriginal Settlement), Perak	Recreation forest
6. Pulau Mabul/Sipadan, Sabah	Island
7. Pulau Perhentian, Terengganu	Island
8. Sg. Kilim Geopark, Langkawi	Island
9. Royal Belum Temenggor, Perak	Terrestrial, primary rainforest
10. Kuala Selangor, Selangor (Kuala Selangor Firefly, Kuala Selangor Nature Park)	Mangrove, terrestrial, secondary forest

An analytical framework will be developed using various models to assess and monitor the performance of each site. The data created here will be used in developing the tourism barometer which will then produce the necessary input for the integrated management system for managing the multi-dimensional responsible rural tourism capacity framework.

Significance of the Study

In line with Malaysia’s goal to achieve high-income-nation status by 2020 (PEMANDU, 2010), the Tourism Transformation Plan 2020 with 12 New Key Economic Areas (NKEA) in the Economic Transformation Programme (ETP), has a bullish target of achieving 36 million tourist arrivals and RM168 billion (US\$48 billion) in tourism receipt by 2020. By then, it is projected that tourism will be the most important income contributor for the nation.

Hence, the development of a sustainable rural tourism is dependent on fulfilling the objectives of all stakeholders in the system. The proposed framework will be able to balance the natural and economic environments. The three main outcomes that are projected from this study are as follows: (1) Fundamental knowledge on rural tourism that will be collected through the various models and indicators that can be used to measure responsible tourism and carrying capacity; (2) A rural tourism performance index that will be developed based on the sustainability dimensions of economic, sociocultural and environment; and (3) A framework for a national integrated management system for responsible rural tourism capacity. Thus, the interrelationships among the stakeholders will be identified since each stakeholder's needs may be different from others. Thus, it is imperative to have a holistic understanding of the impact of rural tourism development plans on key natural destinations especially small-medium enterprises that make up 75% of the tourism industry in Malaysia. Thus, this proposed study is essential if the tourism industry in Malaysia is to move towards high yield.

Acknowledgement

This research was funded by Ministry of Education (MOE), Malaysia under Long Term Research Grant Scheme (LRGS) Programme 2011, Reference No.: JPT.S (BPKI)2000/09/01/015Jld.4(67).

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